

Handbooks of Sociology and Social Research

*Handbook on*  
**CRIME AND  
DEVIANCE**

Edited by  
**Marvin D. Krohn**  
**Alan J. Lizotte**  
and  
**Gina Penly Hall**



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# *Handbook on* **Crime and Deviance**

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# Preface

The field of crime and deviance is extensive and ever growing. A single collection of articles could not capture the various methods, theories, and issues that comprise the key concerns of the discipline. Faced with the vast array of potential topic areas that could be legitimately included in such a compendium, we decided to use our own lens to focus on areas that we deem to be of continuing importance and those in which important developments have emerged. Although we recognize that much has been excluded from this collection, we think what has been incorporated should be of great interest to scholars working in the field and to those students who are becoming acquainted with it.

The compendium is divided into four major sections: (1) Methodological Issues in Crime Research; (2) Explanations of Crime; (3) Criminal Justice-Related Issues; and (4) Special Topics in Crime. Within each section, we have endeavored to select authors who are major figures in the area on which they write or are among those young scholars who are doing some of the most important work in their areas of expertise. This blend of senior and up-and-coming scholars demonstrates the continuing vitality of the field and we hope that vitality emanates from the selections we have chosen.

Part I titled “Methodological Issues in Crime Research” contains four chapters. The issues that are dealt with range from those that are the source of continuing debate (are longitudinal designs worth the expense and effort, and do the benefits of comparative studies outweigh the difficulties in conducting them) as well as issues that are on the cutting edge of criminological research today (the use of group-based statistical methodology for analyzing developmental trajectories and the use of incident-based reporting systems).

A *Handbook on Crime and Deviance* would certainly not be complete without a Part II titled “Explanations of Crime.” We have not included a chapter on every theoretical perspective that has been part of the disciplinary dialogue. Rather, we have selected some of the theories on which there has been significant development over the past 10 years. The authors who have contributed chapters are clearly among those who are currently doing work to advance either the theoretical development of those perspectives or the research agenda on those theories, or both.

They also were instructed to emphasize the more recent developments of the respective theories in their expositions.

Part III contains chapters addressing “Criminal Justice-Related Issues.” There were a myriad of issues that could have been addressed in this part. We chose to seek contributions on issues that relate theory to practice. Although we separate them from our theory section, these selections could have easily been included there. We also included essays on two issues that continue to be among those that are of continuing concern, capital punishment, and the influence of race and sex in the processing of offenders in the criminal justice system.

Part IV of the *Handbook*, “Special Topics in Crime and Deviance”, is a compilation of issues that continue to be or have become ‘hot topics’ in our field. They range from gangs, guns, peers, and drugs to issues such as child abuse and domestic violence, cybercrime, and hate crime. There are exciting theoretical and research developments in these areas, many of which have been forwarded by the authors of these chapters.

When representatives of Springer asked us to assemble a compendium, they specifically instructed us to select articles based on our vision of what was happening in the field today. We have endeavored to do that. More importantly, in soliciting chapters from the contributing authors, we asked them to rely on their view of what was of particular current interest in their area of expertise. We further encouraged them to incorporate their own work in these areas in order to take full advantage of their expertise. The result is a compendium that includes an up-to-date assessment of the state of the field on a number of extremely important topics in crime and deviance. We think it will be a valuable resource to established scholars as well as students who are being introduced to the field.

**MARVIN D. KROHN**

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## **PART I**

# **METHODOLOGICAL ISSUES IN CRIME RESEARCH**

**ALAN J. LIZOTTE**

Several methodological issues have come to the foreground in crime and deviance as new and more dynamic data have become available. Traditional data sources continue to be important in addressing issues at the individual, temporal, and spatial levels. However, the distinctions between these levels of measurement have become blurred as new nontraditional data have become available. For example, longitudinal data on individuals collected over their life course can blend individual, temporal, and spatial data. Similarly, the National Incident-Based Reporting System (NIBRS) provides much more potent data than the traditional Uniform Crime Reports (UCR). These data sets provide opportunities for much more dynamic analyses that answer more rigorous and detailed research questions.

As is the case in chapters that follow, we have only addressed a few of the more recent methodological issues. We chose issues with which we are most familiar and that have fundamentally changed the way data analysis is conducted in our field. To include all of the important issues would easily fill several volumes. The contributors to these chapters are well known for their contributions to the topics covered. They include both young and more seasoned scholars.

International terrorist activities and the global illegal drug trade are reminders of the practical importance of comparative cross-national research in criminology. However, as Janet Stamatel demonstrates, the value of cross-national research in criminology goes beyond international crime networks. She establishes the scope of cross-national research, discusses its contributions to the larger field of criminology, and points to future challenges.

Very little has changed in the way the FBI reports data from the UCR since the 1930s. This seriously limits the types of analyses that could be conducted using these data. The NIBRS has and will continue to change all of that. As Lynn Addington demonstrates, NIBRS moves us

from a static to a more dynamic data set allowing much more detailed and sophisticated research questions to be addressed.

Twenty-five or so years ago, there were serious questions about the value of collecting and analyzing longitudinal data over long periods of the life course. Cross-sectional surveys seemed to have done the trick all along and were far less costly. Of course the longitudinal studies were funded and we have the data. Alan Lizotte and David McDowall have been actively involved in longitudinal research for a long time. Much of this work involves illegal gun ownership and use. They join with Nicole Schmidt to analyze data from the Rochester Youth Development Study both longitudinally and as a flat cross section. They show how longitudinal data accurately and informatively can address a variety of different research questions that are clouded when the data are used as a cross section.

Finally, Daniel Nagin has pioneered sophisticated methodological techniques in the discipline. His work on group-based statistical methodology for analyzing developmental trajectories of longitudinal data has been revolutionary. In this chapter, he clearly and concisely walks the uninitiated reader through logic and uses of this creative and dynamic way of thinking about and analyzing longitudinal data.

## CHAPTER 1

# Contributions of Cross-National Research to Criminology at the Beginning of the 21st Century

JANET P. STAMATEL

## INTRODUCTION

Although the study of crime did not originate in the United States, for much of the 20th century the discipline had a distinctively American flavor. Describing the state of criminology at the beginning of the 21st century, one scholar declared that “the American criminological enterprise is the largest in the world. Measured by the number of people who focus on the study of crime, law and social control, the number of university courses, the number of scholarly and professional publications and books, the number of research projects and the amount of funding, there is no question that the US takes the cake” (Marshall, 2008, p. 50). American criminologists have been responsible for developing many popular criminological theories, fostering methodological advancements for studying crime, and institutionalizing the discipline within academia. It is not surprising, then, that “for most American scholars, criminology is *American* criminology” (Marshall, 2008, p. 49, original emphasis).

However, cross-national criminologists are quick to point out that not only do the roots of criminology lie outside of the United States, but also that early criminologists were often comparativists. They often cite 18th century Enlightenment scholars like Jeremy Bentham and Adolphe

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Quetelet or 19th century positivists like Emile Durkheim as proponents of cross-national comparisons of social phenomena, including crime (Hardie-Bick, Sheptycki, & Wardak, 2005; Howard, Newman, & Pridemore, 2000; van Dijk, 2008). Yet despite these early influences, the popularity and impact of cross-national crime research on the larger field of criminology has waxed and waned, and it often has been overshadowed by intra-national, predominantly American, research. In fact, one scholar famously characterized the development of cross-national criminology as “lengthy silences broken by the occasional indulgences of great men [*sic*]” (Bierne, 1983, p. 20).

In just about every decade since the 1960s, optimistic cross-national criminologists have proclaimed a surge or resurgence of interest in this area (e.g., Evans, LaGrange, & Willis, 1996; Glueck, 1964 [1961]; Hippchen, 1977; Johnson & Barak-Glantz, 1983), and the new millennium is no exception (e.g., Dammer, Reichel, & He, 2005; Howard et al., 2000; Robertson, 2006). In light of other social changes over the last few decades, it is possible that this latest upturn in momentum surrounding international and cross-national crime research may be a sustained shift in focus rather than just a passing phase. “The globalization of the economy, opening of previously restricted borders, the exponential growth in information technology, and widespread transcontinental mobility all helped crime transcend national boundaries” and, therefore, put cross-national crime research back into the spotlight (Dammer et al., 2005, p. 20). Notable international criminal activities, such as the 2001 terrorist attacks against the United States, have also challenged criminologists to think globally. “What was once the province of relatively small interest sections at annual meetings of scholarly organizations became front page copy in the news media” (Bennett, 2004, pp. 1–2).

Given these developments, the aim of this chapter is to show that the value of cross-national research for the field of criminology lies not only in its ability to address specialized crime types like terrorism, but also in its capacity to expand the breadth and depth of the larger field. After briefly defining the scope of cross-national criminology as used in this book, this chapter presents several ways in which cross-national research contributes to the epistemology of criminology. Next, it addresses some of the challenges of cross-national crime research with respect to both methods and theory and then highlights new developments in those areas that have the potential to solidify a place in criminology for cross-national research that is more than an “occasional indulgence.”

## WHAT DOES CROSS-NATIONAL CRIMINOLOGY MEAN?

Several terms are used to label crime and justice research that is not focused solely on the researchers’ native country. There is no consensus about the meanings of these terms and many of them are used interchangeably. This chapter intentionally adopts the label “cross-national criminology” to emphasize research on the phenomenology and etiology of crime, its actors, and its victims across two or more countries. The usage of this term here does not include comparative studies of the agents, organizations, administration, and processes of criminal justice systems, simply due to the author’s training and expertise.

Many researchers use the term “international criminology” to refer to any research involving a country other than their own, thereby typically implying countries other than the United States. Other scholars argue that this term should be reserved for research on violations of international law, such as genocide or war crimes (Yacoubian, 2003). Despite these differences in emphasis,

the term international criminology has been used to refer to research on a single country or multiple countries.

Single-country studies contribute greatly to our basic knowledge about crime volumes, trends, and causes within different countries. While these studies are often *implicitly* comparative, this chapter emphasizes the value of *explicitly* comparative studies. Research that is specifically *designed to compare* crime across two or more countries clearly articulates commonalities and differences among countries, which is valuable for criminology in ways discussed below. “[C]omparative research forces researchers to treat their own nations or cultures as the unit of analysis. Researchers who limit their work to a single nation can do little to study such issues as the impact of economics and politics on legal systems because they have only one case” (LaFree, 2007, p. 15).

Traditionally, the label “comparative criminology” has been used to characterize research that analyzes variations in criminal activity across national boundaries (Glueck, 1964 [1961]; Johnson & Barak-Glantz, 1983; Mannheim, 1965). It is also the term most often used for complementary research in other social science disciplines (e.g., comparative politics, history, and sociology). While this label is popular, it is confusing for two reasons. First, the term “carries a methodological instead of a substantive label. . . . [It] indicates *how* but does not specify the *what* of the analysis” (Lijphart, 1971, p. 682). Second, as a methodology, comparative criminology can refer to a wide range of comparisons among individuals, groups, organizations, or geographic entities (Mills, van de Bunt, & de Bruijn, 2006; Vagg, 1993). The term “comparative criminology,” therefore, does not *uniquely* identify comparisons across countries, even though that is often how the term is used.

The label “cross-national criminology” explicitly emphasizes substance over method. The defining characteristic of this subfield is the study of crime across countries. Regardless of the unit of analysis (individuals, cities, nations, etc.) or the specific method of data collection and analysis, the goal of cross-national criminology is to specify the extent to which national-level structures and cultures affect the levels, types, distributions, and characteristics of criminal activity both within and across countries.

## THE VALUE OF CROSS-NATIONAL CRIMINOLOGY

Proponents of cross-national research have often argued that the main benefit of this work is that it allows for the assessment of the generalizability of criminological theories, which are typically developed to explain crime within one country, predominantly the United States (e.g., Farrington, 2000; Howard et al., 2000; Johnson & Barak-Glantz, 1983). For example, Wolfgang, Figlio, and Sellin’s (1972) classic study of delinquency has been replicated in other countries, such as England (Farrington, 1995), Puerto Rico (Nevares, Wolfgang, & Tracy, 1990) and China (Friday, Ren, Weitekamp, Kerner, & Taylor, 2005), in order to identify both common correlates of juvenile delinquency across settings and specific national conditions related to differences in levels of offending and reoffending. More recently, researchers have taken advantage of new access to countries seldomly studied to see how well criminological theories hold up in different settings. For example, new research in Russia conducted at both individual and aggregated units of analysis has shown mixed support for self-control (Tittle & Botchkovar, 2005), reintegrative shaming (Botchkovar & Tittle, 2005), and institutional anomie (Kim & Pridemore, 2005) theories in this particular context.



While criminologists have certainly learned much about the boundaries of their theories through such tests, this approach of exporting American ideas to non-American settings has been criticized for imposing Western paradigms on non-Western countries as opposed to using national conditions to generate theories (e.g., Agozino, 2004; Cohen, 1982; Karstedt, 2001). It is precisely the range of experiences found in different countries around the world that allows cross-national research to push the boundaries of criminology. This section highlights three ways in which cross-national research adds value to the broader field of criminology. In particular, cross-national research (1) asks fundamentally different questions about the social phenomena of crime and social control than intra-national criminology, (2) emphasizes the role of large-scale structural and cultural social conditions and changes that could facilitate or discourage criminal activity, and (3) explicitly incorporates time and space into criminological inquiry.

### Asking Different Questions

Cross-national crime researchers expand the breadth of criminology by asking different research questions than intra-national researchers. They are typically sensitive to the historical, cultural, political, and economic contexts of the countries that they study and they utilize those unique contexts to generate research questions. For example, in a study of sex tourism, Wonders and Michalowski (2008) asked what characteristics of two seemingly different cities – Amsterdam, Netherlands and Havana, Cuba – facilitate this type of crime. Their answer emphasizes the similar positions that these two cities occupy in the global economy, the changing nature of the tourism industry, and increasing global migration. In another example, Stamatel's analyses of correlates of homicide (2009) and property crime (2008a) in Eastern European countries included not only common predictors found in mainstream criminological literature, but, more importantly, they incorporated elements specific to the socio-historical context of these countries. In particular, she asked whether the post-communist political and economic transformations of the 1990s affected crime rates in these countries. Her results showed that democratization and marketization reforms had a negative effect on homicide rates, but a positive effect on property crime rates. Similarly, Fajnzylber, Lederman, and Loaza (2002) argued that conditions specific to the historical development of countries in Latin America, such as civil wars and repeated economic crises, must be taken into consideration in any study of violence in this region. In all of these examples, national characteristics shaped the scope of the research questions asked.

Cross-national crime researchers also ask different questions than do intra-national criminologists because of their comparative perspective. If certain factors are related to crime within one country, cross-national researchers ask whether they are also relevant factors in other countries. If they are, then they articulate the national-level similarities producing these consistent results. If they are not, then they ask why certain relationships exist under some conditions, but not others.

A classic example of this line of questioning is found in analyses of the rises and declines of the violent crime rate in the United States over time. When crime rates were rising dramatically in the United States in the 1970s and 1980s, cross-national researchers noticed that the United States was not the only developed democracy to experience an increase in crime after World War II. In order to understand the larger social forces contributing to this trend in several countries, Gurr (1977) asked "what demographic, economic, and cultural changes, distinctive to

which countries, have contributed to the apparent decline in public order in Western society?" (pp. 41–42). He analyzed crime data from 18 economically developed democracies from 1945 to 1974 and concluded that "rising common crime had become a pervasive phenomena [*sic*] in Western societies" (Gurr, 1977, p. 83). Although Gurr's descriptive analysis did not explain why these common trends existed, it nonetheless shifted the focus of rising crime rates from looking exclusively at conditions within one country to considering broader social changes affecting many countries with similar characteristics.

Likewise, when crime rates in the United States began to fall in the 1990s, American researchers proposed a variety of explanations related to demography, economics, imprisonment, policing strategies, drug markets, etc. (Blumstein & Wallman, 2000; Zimring, 2007). However, cross-national crime researchers pointed out that it would be difficult to develop a theory about declining national crime rates based solely on the experience of the United States. "The 'real' problem is that one case – the United States – does not make a sample, and that it is very hard to assess the validity of any theory with data from only one country" (Killias & Aebi, 2000, p. 44). Other developed democracies, such as Canada, France, Germany, and Switzerland, also experienced declining crime rates during the same period, but they had very different social conditions than the United States, thereby warranting different explanations for the crime drop (Sprott & Cesaroni, 2002; Tonry, 2005). Additionally, other developed countries, most notably Japan, experienced rising crime rates during this same period (Zimring, 2007). Given these varying experiences, cross-national crime researchers did not ask simply what caused the crime decline in the United States but whether the United States was unique in this respect. As one recent convert to cross-national crime research explained, "the notion of American exceptionalism is itself based on assumptions that only comparisons can test" (Zimring, 2006, p. 615).

### Macro-level Explanations

Social scientists have long recognized that micro-level behaviors, such as criminal activity, are shaped by macro-level conditions. Criminologists most often link these levels by examining neighborhood effects on individual criminal activity. Cross-national researchers simply consider higher units of aggregation and larger social forces. Regardless of the actual unit of analysis, cross-national crime researchers acknowledge that macro-level factors, such as national legal, political, economic, and cultural systems, shape the conditions, volume, distribution, patterns, and trends of crime across countries. Cross-national research acknowledges the role of "big structures" and "large processes" on social phenomena and often makes "huge comparisons" (Tilly, 1984).

Examples of such consideration of macro-level forces abound in the cross-national crime literature. Gartner (1990) categorized national-level conditions into four context areas, namely material, integrative, demographic, and cultural, and showed how each had an effect on cross-national homicide variation in developed democracies. More recently, Antonaccio and Tittle (2007) explored the extent to which national capitalist economies contributed to increased homicide rates by creating a demoralizing atmosphere conducive to criminality. LaFree and Tseloni (2006) looked at how the type of political regime – democratic, autocratic, or transitional – affected cross-national homicide variation over time. Although much of the extant cross-national crime research, particularly studies employing quantitative methods, focuses on structural correlates of crime at the macro level, primarily due to the availability of such data, Karstedt (2001,

2006) has argued that culture is an equally relevant macro-level factor shaping cross-national crime variation.

### Contextualizing Crime in Time and Space

In an article explaining the continuing relevance of the Chicago school, which was instrumental for the development of criminology in the United States in the early 20th century, Abbott (1997) argued that the legacy of this tradition for the social sciences is that it takes time and place seriously.

In a single sentence, the Chicago school thought – and thinks – that one cannot understand social life without understanding the arrangements of particular social actors in particular social times and places. Another way of stating this is to say that Chicago felt that no social fact makes any sense abstracted from its context in social (and often geographic) space and social time. Social facts are *located* (Abbott, 1997, p. 1152, emphasis in original).

By recognizing that macro-level forces shape human behavior and that nations create conditions conducive to or prohibitive of crime, cross-national crime researchers are uniquely positioned to seriously consider time and space in their explanatory and methodological frameworks. Although it has been acknowledged that cross-national crime researchers, particularly those employing quantitative methods, have not utilized spatial and historical context to their full analytical potential (Stamatel, 2006), there have, nonetheless, been several examples in this literature that have demonstrated the value of taking time and space seriously.

Time is a key concept for cross-national criminology because a nation's historical development is necessary for understanding contemporary macro-level conditions and variations across countries. Additionally, as discussed below, important theoretical concepts, such as modernization, industrialization, urbanization, and democratization, emphasize change over time, so historical and developmental trajectories of nations are fundamental contextual factors. For example, Stamatel (2008b) showed that homicide patterns and trends across East-Central European nations are related to the communist and post-communist histories of these countries. LaFree and Drass (2002) examined how post-World War II crime booms were more likely to occur in industrializing rather than industrialized nations because *transitions* from traditional to modern societies were associated with breakdowns of normative order. It is precisely changes in countries over time that are central to these arguments.

In a similar vein, physical space, geography, and political boundaries are important to cross-national criminology. With the adoption of geographic information systems by criminologists, the growth of environmental criminology, and the proliferation of neighborhood-level studies of crime, place has become a key concept in criminology (e.g., Ceccato, 2007; Morenoff, 1997; Weisburd, Bushway, & Lum, 2004). Cross-national crime researchers contribute to this literature by focusing on larger geographies. Political boundaries delineate legal systems, national boundaries define the physical space of many criminal activities and social control mechanisms, and geographic boundaries facilitate or constrain certain criminal activities.

One example of how space can be relevant to cross-national crime research specifically, but also to criminology more generally, comes once again from explanations of the 1990s crime drop in the United States. Zimring noted that some comparable nations, such as Japan and the United Kingdom, did not experience similar declines in crime rates, but that the crime trends in Canada were quite similar to the United States. Not only did Zimring utilize cross-national

comparisons to better understand the case of the United States, but he specifically incorporated physical proximity and temporal variation into his analysis. In particular, he stated that “there are in the joint crime declines of these *two contiguous nations* during the 1990s strong indications of powerful *cyclical forces* that are not obviously tied to variations in governmental actions or to social phenomena that depress crime rates” (Zimring, 2007, p. 130, emphases added).

As shown in these examples, cross-national criminology is more than just describing the frequency of crime in different countries or testing American crime theories in various settings. It is an approach to studying crime that acknowledges the role of national structures for producing conditions conducive to or prohibitive of crime and that employs comparative methods to identify commonalities and differences across countries. As such, it produces different insights into the phenomenology and etiology of crime than intra-national criminology.

## METHODOLOGICAL CHALLENGES AND NEW DEVELOPMENTS

Although cross-national criminology has the potential to greatly inform the broader field of criminology, as discussed above, and to address pressing, contemporary crime problems, its ability to make deep and sustained contributions depends largely on its ability to overcome some methodological challenges. While many of these issues are not unique to cross-national criminology (e.g., the need for valid and reliable measures, representative coverage of the population, appropriate analytical techniques), the same elements of cross-national criminology that make it valuable also make it more difficult to conduct this kind of research. Gathering information about crime and related social conditions across national boundaries introduces a variety of challenges that intra-national researchers do not necessarily face, such as uncooperative data suppliers (typically foreign governments), inadequate infrastructures for national-level social science data collection, and language and cultural barriers. These limitations have constrained cross-national crime research, but the research landscape is changing and creating more opportunities for such work.

### Quantitative Approaches

Quantitative analyses of crime variation across a large number of countries “allow consideration of properties of a culture or society that affect [criminal] behavior but that can neither be reduced to individual or small-group characteristics nor uniquely identified in single-society studies” (Gartner, 1995, p. 7). Cross-national crime researchers have used quantitative methods to identify significant predictors of differing crime rates across countries. Due to data availability, these studies have focused heavily on conventional crime types, especially homicide. Two challenges for quantitative cross-national crime researchers have been obtaining quality data and finding analytical techniques that address the peculiarities of cross-national research.

**DATA AVAILABILITY AND QUALITY.** One challenge of conducting quantitative cross-national crime research is obtaining timely, reliable, and comparable data for both dependent and independent variables. Much has already been written about the limitations of cross-national crime indicators from international organizations such as the International Criminal

Police Organization (Interpol), the United Nations Surveys of Crime Trends and Operations of Criminal Justice Systems (also known as the United Nations Crime Surveys), and the World Health Organization, which provides mortality data by cause of death, including homicide. The major concerns regarding these data are the comparability of crime definitions across countries, differences in reporting and recording practices across countries, sporadic reporting across both time and countries, and crime categories that focus exclusively on conventional crimes (see Neapolitan, 1997; Stamatel, 2006; van Dijk, 2008 for further discussion).

While some have argued that cross-national crime data from official sources, particularly from police agencies, are fundamentally flawed, others have taken an empirical approach to the problem, delineating the strengths and weaknesses of these data sources (e.g., Bennett & Lynch, 1990; Gottschalk, Smith, & Howard, 2006; Huang & Wellford, 1989; Marshall & Block, 2004; Messner, 1992). Still others have sought to improve the quality of existing data collections. Most notably, the United Nations Crime Surveys regularly update their data collection techniques and quality control measures.

Perhaps more promising for this area of research is the appearance of several new cross-national data collections, some of which have been designed to specifically address the limitations of the older ones. For example, the *European Sourcebook of Criminal Justice Statistics* began collecting crime data in 1990 for European countries in response to the growing demand for more accurate and timely information (Killias & Rau, 2000). Additionally, cross-national surveys have been conducted to provide alternate sources of information to official records data. Most notably, the International Crime Victim Survey (ICVS) has been conducted at least once in 78 countries, including nationally representative samples in 35 countries and capital cities of 43 developing or transitional countries (van Dijk, 2008). Other cross-national surveys have also been developed to fill knowledge gaps about certain kinds of crime. The International Self-Report Delinquency Study (ISRDS) (Junger-Tas & Klein, 1994) collects information about juvenile delinquency. The International Crime Business Survey (ICBS) gathers data on business victimization, including extortion and corruption (Alvazzi del Frate, 2004; van Dijk, 2008). The International Violence against Women Survey (IVAWS) asked women in a variety of countries about their victimization experiences, particularly with respect to domestic violence and sexual assault (Johnson, Ollus, & Nevala, 2007). These newer surveys have not been conducted as frequently or in as many countries as the ICVS, but they have contributed greatly to our knowledge about cross-national crime. They have also been methodologically rigorous, not only adhering to solid survey methodology, but also directly addressing the challenges of collecting data cross-nationally.

Despite these positive developments with respect to cross-national crime indicators, data availability and data quality problems apply to independent variables as well as dependent variables. Cross-national crime researchers often rely on data collected by international agencies, such as the United Nations, World Bank, International Labor Organization, Freedom House, to measure national-level characteristics such as wealth, inequality, demographics, unemployment, political systems, which are then used as predictors of cross-national crime variation. Very few cross-national criminologists have critically examined the measurement issues surrounding independent variables, although they parallel those of cross-national crime indicators. Two notable exceptions are Messner, Raffalovich, and Shrock's (2002) evaluation of the quality of income inequality data and Pridemore's (2008) discussion of the notable absence of poverty measures in cross-national crime research.

**ANALYTIC TECHNIQUES.** When using countries as subjects, quantitative cross-national researchers face two problems that are specific to this unit of analysis: small and non-representative samples. Due to the data limitations discussed above, cross-national researchers do not have much control over sample size and composition. They typically have to utilize whatever data happen to be available at a given time period. This means that samples are conveniently selected and, therefore, they are not representative of the population of countries. In fact, they tend to over-represent developed democracies, which are more likely to participate in international data collection efforts than less developed or politically isolated countries. This limitation makes it difficult to generalize results from cross-national studies, although the greater availability of data in recent years has allowed cross-national crime researchers to be more inclusive in the composition of their samples (see Stamatel, 2006).

The second challenge is how to adequately analyze quantitative cross-national crime data given small sample sizes. With approximately 195 nation-states around the world, in addition to dozens of other territories, complete worldwide coverage would result in a sample size that is still much smaller than most individual-level studies or smaller units of aggregation, such as cities or counties within the United States. Given the limited participation of countries in international data collection efforts, many cross-sectional studies have sample sizes averaging 40 cases (Stamatel, 2006). This seriously limits the types of analyses that can be conducted, the number of independent variables that can be considered in multivariate analyses, and the power of the estimation.

Traditionally, quantitative cross-national crime researchers relied on simple ordinary least squares regression models of these small convenience samples. However, more recently they have adopted a wider range of analytical techniques to study cross-national crime variation. In particular, pooled time series analyses allow cross-national crime researchers to combine country data across multiple years, thereby increasing sample size. Savage, Bennett, and Danner (2008) used this technique to study the relationship between social welfare spending and crime in a sample of 52 countries across 13 years. Similarly, Sung (2004b) used it to study the relationship between state failure and organized crime in 59 countries. This technique is also popular in comparative politics, and recent developments in that field have been adopted by cross-national crime researchers. For example, Stamatel used pooled time series models to analyze correlates of homicide (2009) and property crimes (2008a) among post-communist Eastern European countries with adjustments for time-invariant variables, which are a particular problem for national-level studies. While methodologists caution that pooling is not a panacea for the problem of “too many variables chasing too few cases” (Shalev, 2007, p. 278), it does offer some analytical alternatives for quantitative cross-national analyses (Beck, 2007). In addition to offering one solution for the methodological challenge of small sample sizes, pooled time series analyses also encourage explanations that consider change over time. The method does not directly model this change, but it acknowledges differences in national characteristics across time, which are central to most cross-national crime theories, as described in the next section.

Cross-national crime researchers have not utilized traditional time series models much because they often do not have a sufficient number of time points for a large number of countries due to the data limitations discussed above. One exception was a time series analysis of the effect of age structure on homicide in a sample of five nations over 70 years (Gartner & Parker, 1990). While the proportion of young males in a population was related to homicide rates in the

United States, this was not the case for all of the developed democracies in the sample. More recently, LaFree and Drass (2002) used time series analyses to determine crime booms in a sample of 34 nations and LaFree (2005) used this technique to show that crime rates among highly industrialized nations were converging over time.

Cross-national crime researchers are also adopting other methods used in intra-national criminology for their analyses. For example, LaFree and Tseloni (2006) used hierarchical linear models to assess the effect of democratization on homicide rates over time in a sample of 51 countries. Additionally, Piquero and Piquero (2006) used trajectory analysis to identify how groups of nations varied in terms of software piracy rates. It is not surprising that many of the new techniques that quantitative cross-national crime researchers have adopted emphasize studying change over time, since this is a central concept of many cross-national crime theories, as discussed below.

## Qualitative Approaches

Most international crime research adopting qualitative methods, such as ethnographies, participant observation, or unstructured interviews, focuses on crime within one country rather than cross-nationally, often because of the significant resources that such intensive research strategies require. For example, Robertson (2006) detailed the challenges of language and culture in cross-national crime research and Liang and Lu (2006) provided examples of the difficulties of collecting primary data in China.

There have been a few studies that have employed qualitative methods, sometimes in conjunction with quantitative ones, to study crime cross-nationally. In a classic example, Adler (1983) used qualitative methods to determine the commonalities among ten countries with low crime rates. She did so primarily because her research questions could not be answered with the quantitative data and analytical techniques available at that time. As she explained

the 'hard' data produced little in the way of meaningful information on the relationship between socio-economic and cultural indicators and crime rates. . . . It became clear, then, that the search for explanations of low crime rates had to be conducted by different methods and on the basis of different data (Adler, 1983, p. 11).

After comparing criminal justice systems and other social control mechanisms across these ten countries, Adler concluded that the common characteristic found in these diverse societies that could account for low crime rates was *synnomie*, meaning a shared normative system reinforced by informal social control institutions, such as families and schools.

More recently, Quraishi (2005) used a combination of interviews, observations, historical analysis, and socio-demographic data to study differences in criminal offending and victimization of South Asian Muslims in Britain and Pakistan. While criminal offending has generally been low among South Asians, imprisonment rates for this group appear to be increasing. Quraishi also argued that victimization in South Asian Muslim communities is complex because it includes traditional criminal victimization, as well as victimization by police and paramilitary officers, and negative consequences of Islamophobic constructions of and discourse about criminals. Barak (2000, 2001) creatively combined the case study and cross-national approaches. He first collected detailed case studies from experts from 15 nation-states and then analyzed the relationships among development, globalization, and crime across these countries. He argued that the end of the Cold War seems to have increased crime worldwide through the opening of national

borders and the internationalization of markets for illegal goods. While countries of different levels of development are all experiencing this negative effect of globalization, their responses to crime control and criminal justice are quite varied.

Many comparative social scientists have discussed different approaches to studying countries, particularly focusing on the “large-N” versus case study debate (e.g., Mahoney & Rueschemeyer, 2003; Mills et al., 2006; Mjoset & Clausen, 2007). While some criminologists have also written about this topic (e.g., Arthur & Marenin, 1995; Gartner, 1995), there has generally been much less discussion about comparative methods within cross-national criminology than other social sciences. Recently, special issues of journals have tackled this subject (Barberet, 2006; Stamatel forthcoming), but more dialogue among cross-national crime researchers is needed on this topic.

One set of analytical techniques that is noticeably missing from the cross-national crime literature is the conjunctive analysis of case configurations, such as qualitative comparative analysis (QCA) and fuzzy set analysis. These methods examine combinations or configurations of characteristics of countries related to a specific outcome. These attributes of nations are coded into binary categories (QCA) or more refined intervals (fuzzy set analysis) and analyzed using Boolean algebra. These techniques were specifically developed to bridge the gap between case-oriented and variable-oriented strategies in cross-national research.

The key to a proper synthetic strategy is the idea of qualitative comparative analysis – the notion of comparing wholes as configurations of parts. This is the *via media* between complexity and generality, between the radically analytic variable-oriented strategy and the highly personal case-oriented strategy (Ragin, 1987, p. 84).

These techniques have only been used in a handful of criminological studies (see Miethe, Hart, & Regoeczi, 2008 for a review). They appear to have the potential to inform many interesting cross-national criminological questions, while also addressing some of the data and analytical limitations commonly found in this line of research.

In summary, while cross-national crime research has had many challenges with respect to data availability, data quality, and analytical approaches, they have by no means crippled the field. Research access to new countries, innovative data collection efforts, and the adoption of rigorous analytical techniques have contributed greatly to the methodological development of cross-national criminology. While more work still needs to be done in this area, the methodological advancements of the last two decades have been very promising.

## THEORETICAL CHALLENGES AND NEW DEVELOPMENTS

Cross-national crime theories have not received the same kind of scrutiny as cross-national methods, although some have called the field “theoretically lean” (Evans et al., 1996, p. 25). In some respects, cross-national theory development has stagnated – relying on decades-old grand theories, loosely borrowing from US theories, or practically abandoning theory in favor of identifying simple correlates of cross-national crime. While each of these approaches has nonetheless produced some important insights, comprehensive theoretical frameworks of macro-level variations in crime commission and control that are relevant to contemporary social conditions are needed for cross-national criminology to live up to its potential.



## Grand Theories

Grand theories, or metanarratives, are highly abstract theories that emphasize one major theoretical construct for explaining cross-national crime (Howard et al., 2000; Neapolitan, 1997). They are appealing to cross-national researchers because they are conducive to explaining macro-level variation. Although the three main metanarratives used in cross-national criminology were developed in the 1980s, they are still used frequently in contemporary research.

Modernization theory is rooted in Durkheim's (1933) theory of anomie. It posits that as countries develop from traditional into modern societies – typically characterized by high levels of industrialization and urbanization – the rapid social changes break down traditional values and norms, thereby increasing crime rates. Variations in crime rates across countries can thus be explained by differences in speed and level of modernization (Clinard & Abbott, 1973; Shelley, 1981). This theory has been used to study changes in crime within single countries, such as China (Liu, 2006), as well as cross-nationally. For example, Arthur (1991) found that modernization theory only weakly explained crime rates in 11 African nations and advocated for a more comprehensive framework that considered important aspects of these particular countries, such as political instability and informal social controls. More recently, LaFree (2005) examined whether modernization theory could explain homicide trends over time for 34 nations and found modest support for the argument among the most industrialized nations.

Civilization theory focuses on the aggregated personality changes of individuals in societies undergoing modernization. It contends that as countries become more modern, their citizens become more civilized, exercising more self-control and exhibiting fewer violent tendencies. While violent crime is expected to decrease as countries modernize, other self-inflicted crimes, such as drug abuse and suicide, may increase as people repress their outward aggressions and internalize constraint (Elias, 1982). Gillis (1989) found support for this theory in a study of homicide decline in 19th century France.

Lastly, world systems theory relies on the works of Marx (1976 [1867]) and conflict theorists like Bonger (1916), Quinney (1977), and Wallerstein (1983). It contends that cross-national crime variation is the result of uneven economic development within and across nations leading to inequality, exploitation, and eventually crime. The exploitation of less developed countries by more developed countries leads to “cultural alienation, a spiritual malaise, values of selfishness, and political oppression – all of which contribute to criminal behavior” (Neapolitan, 1997, p. 75). There have not been a large number of empirical tests of world systems theory on cross-national crime variation, largely due to difficulties operationalizing key concepts, and the existing studies provide, at best, only minimal support for this theory. For example, Neapolitan (1995) found that world systems theory did not explain variation in theft rates across less-developed countries. Antonaccio and Tittle (2007) only found partial support for Bonger's Marxian theory of crime looking at homicide rates in 100 countries.

Despite the fact that these grand theories are dated and the empirical support for them has been mixed they have nonetheless remained influential. For example, LaFree and Tseloni (2006) recently tested the extent to which these three grand theories could explain the relationship between democratization and homicide rates in a sample of 44 countries over 50 years. They found the strong support for modernization theory and partial support for conflict theory.

### **Adapting Intra-national Theories to the Cross-National Setting**

Critics of grand theories have argued that their focus on a single, abstract concept is too simplistic to explain criminal activity in a variety of settings and instead they advocate for multicausal, complex explanations. Grand theories have also been criticized for implying universality across countries and not allowing for a diversity of historical contexts. As a result, many cross-national researchers have adapted crime theories that were developed to explain crime within one country, particularly the United States, and applied them to the cross-national setting. Since these applications have been fully described elsewhere, this chapter will only highlight three of the more popular ones (see Howard et al., 2000; Neapolitan, 1997).

Opportunity or routine activities theory (Cohen & Felson, 1979) has often been applied to the cross-national setting, particularly to study variations in property crimes. Opportunities for criminal activity are typically operationalized at the macro level by demographic characteristics of countries (e.g., level of urbanization, percentage of young population, population density) and measures of the availability of desirable goods. For example, Bennett (1991) found considerable support for this theory for explaining property crime variation among a sample of 52 countries over 25 years. Additionally, van Dijk and Mayhew (1993) used this theory to explain burglary and car theft in developed countries. However, some researchers have shown that these opportunity structures vary depending on the sample composition. As mentioned above, the percentage of teens and young adults in a population are often used to measure the pool of potential offenders and it is typically associated with the age-crime curve in the United States, but cross-national researchers have not found consistent support for this relationship in other countries (Gartner & Parker, 1990; Stamatel, 2009).

Strain theory is also quite popular in cross-national crime research. Rooted in Durkheim's (1933) theory of anomie and Merton's (1938) theory of relative deprivation, cross-national crime researchers have examined how variations in material deprivation, whether absolute or relative, are associated with crime rates. While this has been measured in numerous ways, one of the strongest findings in the cross-national crime literature is the positive association between income inequality and homicide rates, although there is less support for this relationship with property crimes (see LaFree, 1999 and Neapolitan, 1997 for reviews of the literature). Recently, however, this important finding has been challenged on two fronts. Methodologically, Pridemore (2008) asked whether the empirical results are the result of model misspecification, particularly the curious lack of a poverty measure in most studies. Substantively, Stamatel (2009) questioned whether this relationship is only true in some contexts, as she did not find empirical support in an analysis of homicide data from East-Central European countries, where inequality is a particularly salient concept given the unique communist histories of these countries.

Institutional anomie theory (IAT) is the newest theoretical variant from the anomie tradition. Originally developed by Messner and Rosenfeld (2007) (also see Chapter 11) to explain high rates of violent crime in the United States, it has since been applied internationally and cross-nationally. The theory posits that an institutional imbalance of power, where the economy dominates other social institutions, coupled with a culture that values achievement, competitive individualism, and material success, will create conditions conducive to high crime rates. In the United States, for example, an overemphasis on the value of monetary success and competitive individualism contributes to increased criminal motivations. At the same time, the American market economy dominates the institutional landscape, undermining the ability of other institutions, such as education, family, and polity, to exert social control and thereby inhibit criminal

activity. Although only a few studies have tested this theory cross-nationally, the empirical results have generally supported the theory (Karstedt & Farrall, 2006; Messner & Rosenfeld, 1997; Savolainen, 2000). This theory is promising for cross-national criminology, particularly because it nicely incorporates both culture and structure; however, Chamlin and Cochran (2007) warn that it may be best suited for understanding crime only in advanced capitalist nations.

## New Directions for Cross-National Crime Theories

Given the lukewarm empirical results from most tests of existing cross-national crime theories and the difficulties operationalizing many theoretical constructs cross-nationally, some researchers have argued for integrating existing theories into a comprehensive framework (e.g., Gartner, 1990; Heiland & Shelley, 1992; Pratt & Godsey, 2003), while others have backed away from rigorous theory testing and focused more on identifying cross-national correlates of crime (see Neapolitan, 1997; van Dijk, 2008). While the development of cross-national crime theories seems to have stagnated at the end of the 20th century, new research, particularly that covering new countries and new crime types, has opened avenues for theoretical development. Three lines of inquiry appear to be especially promising in this respect – culture, democratization, and globalization.

As discussed earlier, culture has been noticeably missing from many cross-national crime studies, particularly those employing quantitative methods, because of difficulties finding appropriate measures. Karstedt (2001) explained that existing criminological

theories differ with regard to the way how [*sic*] culture is integrated into the model: they explicitly incorporate cultural and value patterns into the causal mechanism, they allow for a high cultural variability of the basic variables in the model, or they come with a claim to be universal and culture-free (p. 292).

She argued that cultural variability should be the starting point of research strategies and cross-national crime researchers should seek indigenizing theories, where “concepts, problems, hypotheses and methods emanate from, represent, and reflect back on the cultural context in which crime and social control are observed” (Karstedt, 2001, p. 295). Karstedt (2003) provided an example of such an approach in a study of the relationship between inequality and homicide in Eastern Europe that emphasized the communist legacy in creating inequalities specific to these countries. Similarly, Hajar (2004) examined how cultural norms regarding women’s rights and public versus private spheres explained domestic violence across Muslim societies.

Quantitative researchers are also creatively utilizing international public opinion data to construct measures of national culture. For example, Chamlin and Cochran (2006) used data from the World Values Survey to measure public perceptions of the legitimacy of the country’s economic order and whether that mediated the relationship between economic inequality and homicide rates in a sample of 33 nations. While they did not find empirical support for this relationship, they did find that the relationships among inequality, legitimacy, and homicide were conditioned by levels of economic development. Interestingly, Stack, Cao, and Adamczyk (2007) asked whether there was a reciprocal relationship between crime and culture. Analyzing public opinion data from 14 countries, they found that people living in high crime countries were more likely to support law and order ideologies than people living in countries with lower crime rates.

The second new theoretical direction in cross-national criminology comes from literature examining the relationship between democracy and crime. Recently, criminologists have begun

to study the relationships among types and changes of governments, interpersonal violence, and other criminal activity. Particular attention has been focused on democracies, since this form of governance has proliferated globally in the last several decades. Karstedt and LaFree (2006) argued that we need to examine the relationship between democratization and crime cross-nationally in order to understand why the latest wave of democratization around the globe was “accompanied in many cases by an abrupt and extraordinary rise in crime” (p. 8). Examples of empirical work in this area have examined the cross-national relationship between democracy and homicide (LaFree & Tseloni, 2006; Stamatel, 2009), corruption (Sung 2004a), property crimes (Stamatel, 2008a), and intellectual property rights (Piquero & Piquero, 2006).

More work needs to be done in this area to fully theorize the relationships among regime types, efficacy and legitimacy of governments, and criminal activity, but this line of inquiry is especially promising because it addresses some of the deficiencies of existing cross-national crime theories. In particular, it incorporates political factors, especially the role of the state, in maintaining law and order, whereas the grand theories tended to over-emphasize economic conditions. It also expands the scope of studying the effects of social change on crime to include forces of change that reflect contemporary social conditions, as opposed to focusing exclusively on processes, such as urbanization and industrialization, which for many countries are no longer primary mechanisms of social change. Lastly, this area does not assume that all countries share the same historical trajectories and it has incorporated a diversity of experiences with political regimes.

The third promising area of cross-national crime theory is globalization, which is particularly appealing because it naturally encompasses macro-level processes and multi-national perspectives. Globalization refers to “the intensification of worldwide social relations” (Giddens, 1990, p. 64) based on the free-flowing movement of people, goods, information, and cultures (Aas, 2007). Within cross-national criminology, this has been reflected in growing attention to transnational or global crime, meaning criminal activities that physically or virtually cross-national boundaries, such as human trafficking, drug trafficking money laundering, cybercrime, terrorism, and other organized crime.

Some have argued that globalization is making nations irrelevant as units of analysis. “[O]ne can no longer study, for example, Italy simply by looking at what happens inside its territory, but rather one needs to acknowledge the effects that distant conflicts and developments have on national crime and security concerns, and vice versa” (Aas, 2007, p. 286). While national boundaries are becoming more fluid, the nation-state is nonetheless still primarily responsible for law creation, enforcement, justice administration, and ultimately public safety; therefore, it is premature to assume that nation-states are no longer relevant for criminology. The challenge for cross-national researchers is how to articulate the effects of globalization on a variety of crimes, both conventional and non-conventional, and in such a way that respects national boundaries yet acknowledges their permeability.

In summary, traditional crime theories, whether grand or adaptations of intra-national theories, are still popular in cross-national criminology despite their limitations. Much like developments in the methodological arena, advances in cross-national crime theories have been sparked by access to new countries for research. The new areas of inquiry – such as culture, democratization, and globalization – still emphasize macro-level social change in their explanatory frameworks, but they are more amenable to contemporary social conditions than grand or imported theories. New avenues of theoretical development should aim to account for diversity in national contexts as well as historical change.

## CONCLUSIONS

Social changes in the late 20th and early 21st centuries involving a proliferation of information production and sharing, greater mobility of people and ideas, and new access to once isolated countries and regions, particularly China, Eastern Europe, and Latin America, have allowed for more and better quality cross-national crime research than ever before. Cross-national criminology at the beginning of the 21st century is an exciting endeavor. New insights about the frequencies, distributions, trends, and causes of conventional crimes in a variety of national settings and the expansion of research on non-conventional crimes have been both the impetus for and products of new methodological and theoretical developments to understand cross-national crime variations.

Because cross-national research asks fundamentally different research questions, emphasizes macro-level conditions and processes, and makes time and place central to its inquiry, it is well positioned to make unique contributions to both the breadth and depth of knowledge in criminology. Not only are these contributions valuable in their own right, but they can also be applied to intra-national research questions, like crime changes in the United States, and they can inform pressing contemporary crime problems, such as terrorism and other transnational crimes. Cross-national crime researchers still have many issues to resolve with respect to both the methodologies and theories that they employ; yet recent research in these areas has shown the potential that this perspective has for making important and sustained contributions to the broader field of criminology.

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## CHAPTER 2

# Studying the Crime Problem with NIBRS Data: Current Uses and Future Trends

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## INTRODUCTION

Since 1930, the Federal Bureau of Investigation (FBI) through its national Uniform Crime Reporting Program (UCR) has collected mainly aggregate counts of crime from state and local law enforcement agencies. This focus limits the official crime data available for analysis and policy making because, with the exception of homicides,<sup>1</sup> characteristics of specific incidents are unknown. Information such as crime location, use of weapons, type of property stolen as well as victim and offender demographics provides a more complete picture of crime and crime patterns. Such details enable assessment of both current policies aimed to reduce crime and posited theories generated to explain it. Prompted by more sophisticated studies and understandings of crime as well as improved technological capabilities to capture and transmit incident information, the FBI instituted fundamental changes in the late 1980s for how the UCR would collect crime data (FBI, 2004). Currently the UCR is in the midst of undergoing this substantial conversion from its traditional summary-based system (the summary reporting system) to its new incident-based one, the National Incident-Based Reporting System (NIBRS).

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<sup>1</sup> The UCR collects incident-level homicide data through its Supplementary Homicide Report (SHR). The current format of the SHR dates back to 1976 (Barnett-Ryan, 2007).

This chapter examines how NIBRS can contribute to the study of crime issues in the United States. Since a basic understanding of NIBRS is necessary to appreciate the capabilities of these crime data, this chapter begins with an overview of NIBRS that includes its origins and initial goals. This discussion also describes the type of incident information collected. Next this chapter examines examples of how criminologists currently are using NIBRS. Because these incident-level crime data have received only limited attention by researchers, this chapter also explores the challenges involved in working with NIBRS data. The chapter concludes with a look to the future regarding ways these challenges are being overcome to increase the use of NIBRS to study crime.

## OVERVIEW OF NIBRS

To understand how NIBRS data can inform the study of crime, some background is helpful. This section examines the origins and initial goals of NIBRS, the information collected, and the participation by law enforcement agencies in submitting NIBRS crime data. Due to space constraints, this section is limited to a rather brief overview. Readers interested in more detailed information about NIBRS are directed to sources such as Addington (2007a), Barnett-Ryan and Swanson (2008), and FBI (1992).

### Origins of NIBRS and Initial Goals for Incident-Based Crime Data

The UCR has undergone many changes since the FBI began collecting crime data in 1930 (see Barnett-Ryan, 2007, for a complete accounting). The essence of the UCR Program, though, remained basically the same for decades (Poggio, Kennedy, Chaiken, & Carlson, 1985, p. 21). In the late 1970s, pressure mounted for the FBI to modernize the UCR in order to capitalize on innovations in both the capability of law enforcement agencies to collect more detailed crime data and the study and understanding of criminality (FBI, n.d.; Poggio et al., 1985, p. 21).

In response to these calls for an updated system, the Bureau of Justice Statistics (BJS) and the FBI commissioned a committee to re-evaluate the UCR (Barnett-Ryan & Swanson, 2008; Poggio et al., 1985). This study resulted in recommendations for a new format for the UCR Program, which are outlined in a comprehensive 329-page final report: *Blueprint for the Future of the Uniform Crime Reporting Program (The Blueprint)* (Poggio et al., 1985). *The Blueprint* envisioned a two-tier system where the majority of law enforcement agencies (93–97%) would provide basic crime incident information (Level I) and a smaller group of agencies would submit much more detailed crime information (Level II) (Poggio et al., 1985, p. 44). The Level II group would consist of all agencies serving populations over 100,000 and a nationally representative sample of smaller jurisdictions (Poggio et al., 1985, p. 113). Both Level I and Level II agencies would submit “unit records” consisting of information collected at the incident level as opposed to aggregate-level summary monthly counts (Poggio et al., 1985, p. 49). The plan as described in *The Blueprint* was not fully implemented. The law enforcement community rejected the two-level approach in favor of implementing the more detailed Level II-type system among all law enforcement agencies (Barnett-Ryan, 2007; FBI, 2000). This new system became the current NIBRS. South Carolina participated in the FBI’s pilot incident-level reporting program and in 1991 became the first state to submit its UCR data in NIBRS format (Barnett-Ryan, 2007).

Although NIBRS does not embody all of the changes outlined by the authors of *The Blueprint*, that report provides useful insights about the objectives for creating an incident-level crime data system. Four benefits in particular are important to review here as they are applicable to considering how NIBRS data can be used by criminologists and policymakers today. *The Blueprint* authors saw analytical flexibility as one of the main benefits of collecting details of each criminal incident as opposed to only aggregate counts of crime (Poggio et al., 1985). Incident-level data would allow “users to count and categorize crimes in ways they find meaningful” as well as “to explore a myriad of details about crime and law enforcement” (Poggio et al., 1985, p. 4). Another benefit concerned the ability to combine incident-level UCR data “with information from other sources, thereby presenting a more complete picture of crime and the criminal justice system’s response to crime than ever before possible” (Poggio et al., 1985, p. 2). Ideas for such additional sources included demographic and socio-economic characteristics of the community served by the law enforcement agency as well as details of the agency itself (Poggio et al., 1985, pp. 12, 122). *The Blueprint* authors suggested a number of improvements to ensure high-quality crime data (Poggio et al., 1985, pp. 2, 129). While this third benefit of incident-level data is rarely touted by researchers (see Addington, 2004, and Barnett-Ryan & Swanson, 2008, for exceptions), quality data are essential to accurately study crime issues. Finally the authors of *The Blueprint* rejected catering to a single type of data user and instead identified a broad audience that included police, researchers, and other public users (such as policymakers and citizens). The authors saw incident-level data as beneficial for all of these groups. As such, the authors suggested new ways to make these crime data accessible to all these constituents (Poggio et al., 1985, pp. 187–193).

### Information Collected by NIBRS

Although the UCR’s summary reporting system consists of eight separate data components, it is most closely associated with the aggregate counts of the Index offenses captured by Return A – Report of Offenses Known to the Police (Return A).<sup>2</sup> These eight Index offenses are murder and non-negligent homicide, forcible rape, robbery, aggravated assault, burglary, theft, automobile theft, and arson. NIBRS covers a wider variety of offenses than captured by Return A. NIBRS collects incident-level details for 46 Group A offenses, which include the 8 former Index offenses. Examples of these additional crimes range from kidnapping and forcible sex offenses beyond rape (such as sodomy and sexual assault with an object) to vandalism, gambling offenses, and fraud offenses (FBI, 1992). NIBRS also compiles a count of 11 Group B offenses. While Group A offenses are those known to police, Group B offenses are only counted if an arrest is made. Group B offenses are comparable to the Part II offenses in the summary reporting system and include crimes such as disorderly conduct, driving under the influence, and curfew violations (FBI, 1992).

<sup>2</sup> The other data components include Supplement to Return A; Age, Sex, and Race of Persons Arrested; Supplementary Homicide Report (SHR); Law Enforcement Officers Killed and Assaulted (LEOKA); Hate Crime Data Collection; Monthly Report of Arson Offenses Known Law Enforcement; and Law Enforcement Employees Report. Readers interested in more information on each of these components are directed to Barnett-Ryan (2007) for a comprehensive discussion.

In addition to expanding the number of crimes reported to the UCR, NIBRS captures general characteristics not included in the summary reporting system. NIBRS distinguishes between attempted and completed crimes, which the summary reporting system does not for most crimes (FBI, 2000).<sup>3</sup> Both the summary reporting system and NIBRS distinguish between crimes against persons and crimes against property. Unlike the summary reporting system, NIBRS recognizes an additional category of “crimes against society,” which enables the collection of vice crimes like prostitution, gambling offenses, and drug offenses (FBI, 1992). NIBRS also collects information on up to 10 offenses in each criminal incident. An incident is defined as “one or more offenses committed by the same offender, or group of offenders acting in concert, at the same time and place” (FBI, 1992, p. 25). This information eliminates the need for NIBRS to continue the summary reporting system’s Hierarchy Rule, which only counts the most serious crime in a multi-offense incident.

The main difference between NIBRS and the summary reporting system, however, is the collection of incident-level data. For the Group A offenses, NIBRS collects detailed information within six segment levels: administrative, offense, property, victim, offender, and arrestee (Table 2.1). Overall NIBRS can collect up to 53 distinct data elements to describe each criminal incident. While 49 of these data elements are mandatory, only 13 are considered to be “common data elements” and are required for every criminal incident (FBI, 2000, p. 87).<sup>4</sup> Table 2.1 identifies these common data elements, which include details like incident date,<sup>5</sup> location of the incident, and type of victim. The other mandatory data elements are considered to be “additional data elements” and are required only if they are relevant to a particular crime (FBI, 2000, p. 87). For example, a weapon must be reported for a personal crime like murder, but not for a property crime like theft (FBI, 2000). Table 2.1 specifies these incident characteristics such as demographics for individual victims, offender demographics, victim–offender relationship, and stolen property details.

In discussing the data elements, three features are important to highlight as examples of the capabilities of NIBRS data over aggregate-level UCR data. One feature is that crime data can be analyzed at any of the segment levels. Such flexibility enables a variety of research questions to be explored. The summary reporting system fixed the level of analysis as the victim for crimes against a person (murder, rape, aggravated assault) or as the offense for crimes against property (robbery, theft, motor vehicle theft, arson). Another feature is that data elements can be linked together across segment levels. To illustrate, a study of rape victims could include details not only about the victim but also the offender, offense, and arrestee for each incident involving a rape. The summary reporting system lacks the capacity to conduct such an analysis. A third feature is the ability of NIBRS to associate specific details with particular criminal incidents. For example, NIBRS data can identify whether a particular offense resulted in an arrest. The

<sup>3</sup> The two exceptions in the summary reporting system are attempted rape and attempted murder. Unlike attempted rapes, attempted murders are not distinctly identified but rather are included in the overall count of aggravated assaults.

<sup>4</sup> An additional 10 data elements are required if an arrest is made (FBI, 2000).

<sup>5</sup> If the incident date is unknown, the date reported to police must be provided (FBI, 1992). An example of such a situation would be a burglary that occurred while the homeowner was out of town for several days. The incident date would be recorded as the date the owner reported the burglary to the police. The incident report (and public-use data it generates) distinguishes between incident and report date (FBI, 1992).

TABLE 2.1. Incident Details by Segment Type for Group A NIBRS Offenses

<b>Administrative data</b>	
ORI number*	Exceptional clearance*
Incident number*	Exceptional clearance date
Incident date/hour*	
<b>Offense data</b>	
UCR offense code*	Number of premises entered
Offense attempted/completed*	Method of entry
Offender(s) suspected of using*	Type of criminal activity
Bias motivation*	Type of weapon/force involved
Location type*	
<b>Property data</b>	
Type of property loss	Number of recovered motor vehicles
Property description	Suspected drug type
Value of property	Estimated drug quantity
Date recovered	Type drug measurement
Number of stolen motor vehicles	
<b>Victim data</b>	
Victim sequence number*	Resident status of victim**
Victim connected to offense code(s)*	Aggravated assault/homicide circumstances
Type of victim*	Additional justifiable homicide circumstances
Age of victim	Type of injury
Sex of victim	Offender number(s) to be related
Race of victim	Relationship of victim to offender
Ethnicity of victim**	
<b>Offender data</b>	
Offender sequence number*	Sex of offender
Age of offender	Race of offender
<b>Arrestee data</b>	
Arrestee sequence number <sup>†</sup>	Age of arrestee <sup>†</sup>
Arrestee transaction number <sup>†</sup>	Sex of arrestee <sup>†</sup>
Arrest date <sup>†</sup>	Race of arrestee <sup>†</sup>
Type of arrest <sup>†</sup>	Ethnicity of arrestee**
Multiple arrestee segments indicator <sup>†</sup>	Resident status of arrestee**
Arrest offense code <sup>†</sup>	Disposition of arrestee under 18
Arrestee was armed with	

\* = Common data elements (mandatory for all offenses).

\*\* = Optional data elements.

<sup>†</sup> = Common data elements (mandatory for all offenses) if an arrest is made.

Sources: FBI (1992) and FBI (2000).

summary reporting system also collects arrest data; however, this aggregate-level information is not associated with a particular criminal incident.

NIBRS data requirements provide only a floor with regard to the minimum incident information that must be collected and submitted to the UCR Program. States are free to supplement

these requirements. Some NIBRS-reporting states do not collect any additional data elements. At the other end of the spectrum, Oregon's O-NIBRS program added 75 data elements (BJS, 1997). Tennessee and Massachusetts illustrate programs that fall in between these models as they each add a few data elements. The Tennessee Incident-Based Reporting System (TIBRS) gathers additional information for domestic violence incidents that concern whether the victim was transported to safety and whether the incident was a violation of an order for protection (Tennessee Bureau of Investigation, 2002).<sup>6</sup> TIBRS also collects information about gang involvement as well as additional victim details for college crimes. Massachusetts' Crime Reporting Unit includes the address of the crime as part of its incident-based reporting program (Bibel, 2000).

### Law Enforcement Participation in NIBRS

For both the summary reporting system and NIBRS, participation in the UCR is voluntary. For NIBRS, though, law enforcement agencies must be certified before they are eligible to submit data in NIBRS format. The FBI typically certifies the state UCR programs and then the state certifies its individual law enforcement agencies (FBI, 2000). The certification process requires complying with specific guidelines regarding the capability to consistently submit accurate data (see Addington, 2004, for a summary). This process can take years to successfully complete. In addition, states and agencies are under no deadline to convert to NIBRS. In its endorsement of the change to NIBRS, the law enforcement community "recommended that the implementation of national incident-based reporting proceed at a pace commensurate with the resources and limitations of contributing law enforcement agencies" (FBI, 2004, p. 3). As a result of these factors, the conversion process has been gradual. As of 2007, 30 states are NIBRS certified and NIBRS agencies cover 25% of the U.S. population (Justice Research & Statistics Association [JRSA], n.d. a).<sup>7</sup> Table 2.2 provides a list of the NIBRS-certified states.

The states and law enforcement agencies that have implemented NIBRS do not constitute a representative sample of U.S. law enforcement agencies or states. Within the 30 NIBRS-certified states, not all agencies submit data in NIBRS format. Only 10 of these states are 100% NIBRS reporting; the others report in varying levels of less than full participation (JRSA, n.d. a). In general, law enforcement agencies that participate in NIBRS tend to represent smaller population areas. For example, in NIBRS-certified states such as Massachusetts and Texas, departments serving larger communities such as Boston and Austin do not submit NIBRS data. As of 2007, no agency covering a population of over 1 million participated in NIBRS. The two NIBRS-reporting law enforcement agencies serving the largest populations are from Fairfax County, Virginia (population 980,586), and from Detroit, Michigan (population 900,932) (JRSA, n.d. b).

<sup>6</sup> The Justice Research and Statistics Association's Domestic Violence and Sexual Assault Data Resource Center maintains a list of states that collect additional incident-level details for crimes involving domestic violence or sexual assault (<http://www.jrsa.org/dvsa-drc/state-summaries.shtml>).

<sup>7</sup> In addition to the 30 NIBRS-certified states, agencies from 4 states and the District of Columbia are individually certified to submit NIBRS data (JRSA, n.d. a). In the District of Columbia, only the Metro Transit Police report to NIBRS data. One reason for this situation is the fact that a few states do not have state-level UCR programs (Maltz, 1999). In these cases and under special circumstances, the FBI certifies individual agencies (BJS, 1997).

**TABLE 2.2. NIBRS Certification by Year**

Year certified	NIBRS-certified state (listed alphabetically within year)
1991	North Dakota South Carolina*
1992	Idaho* Iowa*
1994	Utah Vermont* Virginia*
1995	Massachusetts
1996	Michigan*
1997	Colorado Nebraska Oregon Wisconsin
1998	Tennessee* Texas West Virginia*
1999	Connecticut Ohio
2000	Arkansas Montana*
2001	Delaware* Kansas South Dakota
2002	Louisiana Rhode Island
2003	Maine New Hampshire
2004	Arizona
2005	Missouri
2007	Washington

NOTE. Alabama (2006), Georgia (2000), Illinois (2006), Kentucky (2005), and the District of Columbia (2000) are not NIBRS certified; however, individual agencies within these jurisdictions have been certified to submit NIBRS data directly to the FBI. The years in parentheses indicate the certification year for the first NIBRS-reporting agency.

\* = 100% NIBRS reporting in 2007 (JRSA, n.d. a).

Sources: Barnett-Ryan (2007) and JRSA (n.d. a).



## CURRENT USES OF NIBRS DATA TO RESEARCH CRIME

These incident-level crime data provide information unlike any previously available from police on a nationwide scale. These data also give the analytical flexibility envisioned by the authors of *The Blueprint*. To appreciate how NIBRS data can inform the study of crime, an examination of how these data are currently used by researchers is informative. This section describes the early uses of NIBRS data, which centered on reports published by government agencies, as well as more recent uses of the data, which have built upon these descriptive studies and expanded the topics explored. Particular attention is given to the types of substantive issues addressed as well as how specific NIBRS data elements are used in this current work.

### Early Uses of NIBRS Data

While NIBRS generates a richly detailed source of crime information, researchers largely ignored these data throughout the 1990s and early 2000s. Currently a growing (but still small) number of studies rely upon incident-level crime data. One practical explanation for this trend is the fact that NIBRS data were not readily available until fairly recently. Although a few states have submitted their crime data in NIBRS format since the early 1990s (see Table 2.2), these data were not publicly available until 2000 when the National Archive of Criminal Justice Data (NACJD) first released a year (1996) of NIBRS data. As a result, initial uses of NIBRS data primarily appeared in federal and state government reports. These reports focused on the utility and capabilities of NIBRS data for studying crime to encourage participation in NIBRS (i.e., BJS, 1994; Reaves, 1993; Strom, 1999) as well as descriptive accounts of particular types of crime, especially incidents involving children (i.e., Finkelhor & Ormrod, 2000; Snyder, 2000).

A 1999 special issue of the *Journal of Quantitative Criminology* ushered in the first widespread use of NIBRS data published in a traditional academic outlet. The special issue sought to encourage the use of NIBRS data among criminologists by demonstrating the potential research and policy applications for the data (Maxfield & Maltz, 1999). Over the next several years, 36 academic publications analyzed NIBRS data to study a variety of crime issues.<sup>8</sup> The growing interest in using incident-level data to study a wide range of crime issues was reflected most recently by a second special issue devoted to NIBRS published in *Justice Research and Policy* (2007).

### Examples of Current Uses for NIBRS Data

Current uses of NIBRS data are most relevant for the present discussion as illustrations of how these data can be used to study crime. To facilitate examining the articles in this manner, two

<sup>8</sup> The count of articles is based on a search of publications cited in Criminal Justice Abstracts through 2007. In addition to academic articles, 13 government reports were published during this time. Not included in this count are reports the FBI publishes that utilize NIBRS data. These reports originally were included in the FBI's annual UCR publication: *Crime in the United States*. Since 2007, these studies have been published as stand-alone reports (FBI, 2007).

main uses of NIBRS data are discussed. One concerns the substantive issues addressed using incident-level data. A second involves how the particular incident details collected by NIBRS are used in these studies.

With regard to the substantive issues studied, criminologists have employed NIBRS data rather narrowly and are just scratching the surface regarding the ways this information can be used. The studies published to date focus exclusively on violent crime and over a quarter concerning arrest issues. Researchers, though, are exploring other topics and are capitalizing on the crime details previously unavailable from the summary reporting system. This work includes particular subsets of crime such as those involving particular groups of victims like children (Simon & Zgoba, 2006) and the elderly (Chu & Kraus, 2004) or specific types of offenders like female sex offenders (Vandriver, 2006) and female violent offenders (Koons-Witt & Schram, 2003). Other research revisits issues of ongoing concern among criminologists, such as race and economic inequality (Stolzenberg, Eitle, & D'Alessio, 2006) and intimate partner violence (Pattavina, Hirschel, & Buzawa, 2007). In addition, studies analyze NIBRS data to explore new offenses like hate crimes (Messner, McHugh, & Felson, 2004) as well as to develop theoretical explanations such as the criminal event perspective (Weaver et al., 2004).

Recent NIBRS articles also demonstrate how researchers utilize various incident details in their studies. To understand the manner in which these details are used, it is informative to look within a particular substantive topic such as arrest studies. Articles concerning arrests are particularly helpful to examine since they comprise a quarter of all articles relying on NIBRS data and this subset of publications illustrates the use of various incident-level details. Table 2.3 summarizes these 11 articles. This table also identifies the data elements used, which highlights three common themes. One is that a core set of characteristics tend to be the most relevant to researchers, specifically victim and offender demographics, use of a weapon, and location of the incident. Another theme is that researchers incorporate details across segment types – rather than solely arrestee information – to study arrest issues. Moreover, these studies use very little information collected about the arrest. While all of the studies identify cases where an arrest was made, only two (Addington, 2007b, and Chilton & Jarvis, 1999) include any other information collected as part of the arrestee segment. The third theme is that researchers are exploring ways of augmenting NIBRS with information from other sources to provide context for findings (Addington, 2004; Chilton & Jarvis, 1999) or supplementary information for analysis (Eitle, 2005; Eitle, Stolzenberg, & D'Alessio, 2005; Pattavina, Buzawa, Hirschel, & Faggiani, 2007; Pattavina, Hirschel, et al., 2007).

Another important point about using the incident-level details is not as readily apparent from Table 2.3. This point concerns how the details are analyzed in statistical models. Some studies include the data elements basically “as is.” For example, victim demographics like sex, race, and age are analyzed using response categories as collected by law enforcement agencies or with some grouping race or age categories. Other studies combine these data elements to create new variables to better describe the criminal incident or to cull certain types of cases. New variables include using the incident and arrest date to create a “time to clearance” variable (Addington, 2007b) or using victim and offender counts to identify cases involving one-on-one offenses. Victim-level information can be used to generate subsets within types of crimes such as using the victim–offender relationship information to select incidents involving intimate partners (Eitle, 2005; Pattavina, Buzawa, et al., 2007).

TABLE 2.3. Articles Using NIBRS Data to Study Arrest

Study author (date)	Study focus	Year(s) of NIBRS data	Data elements utilized (categorized by segment)*	Utilization of other data sources?
Snyder (1999)	Juvenile arrests for robbery cases	1991, 1992, 1993	<i>Offense:</i> type of offense, location, weapon <i>Victim:</i> age, race, sex, injury, victim–offender relationship, number of victims <i>Offender:</i> age, race, sex, number of offenders	No
Chilton and Jarvis (1999)	Assessing offender and arrestee characteristics	1993	<i>Offense:</i> type of offense <i>Offender:</i> age, race, sex <i>Arrestee:</i> age, race, sex	SHR, Chicago Homicide file
D’Alessio and Stolzenberg (2003)	Race and probability of arrest	1999	<i>Offense:</i> type of offense, location, offender substance use, weapon <i>Victim:</i> age, race, sex, injury, victim–offender relationship	No
Stolzenberg and D’Alessio (2004)	Sex differences in arrests	2000	<i>Offender:</i> age, race, sex, number of offenders <i>Offense:</i> type of offense, location, offender substance use, weapon <i>Victim:</i> age, race, sex, injury, victim–offender relationship	No
Eitle (2005)	Arrest practices for intimate partner violence	2000	<i>Offender:</i> age, race, sex, number of offenders <i>Offense:</i> type of offense, location, offender substance use, weapon <i>Victim:</i> age, race, sex, injury, victim–offender relationship	LEMAS
Eitle, Stolzenberg and D’Alessio (2005)	Police organization and probability of arrest	2000	<i>Offender:</i> age, race, sex <i>Offense:</i> type of offense, location, offender substance use, weapon <i>Victim:</i> age, race, sex, injury, victim–offender relationship <i>Offender:</i> age, race, sex, number of offenders	LEMAS, Census

(cont.)

TABLE 2.3. (Continued)

Study author (date)	Study focus	Year(s) of NIBRS data	Data elements utilized (categorized by segment)*	Utilization of other data sources?
Addington (2006)	Evaluation of proxy measures of homicide clearance	2001	<i>Administrative</i> : exceptional clearance <i>Offense</i> : type of offense, location, weapon <i>Victim</i> : age, race, sex, number of victims <i>Offender</i> : age, race, sex <i>Administrative</i> : incident hour <i>Offense</i> : type of offense, number of offenses, weapon, offender substance use <i>Victim</i> : age, race, sex, victim-offender relationship, homicide circumstance code <i>Offense</i> : type of offense, location <i>Victim</i> : victim-offender relationship, number of victims <i>Offender</i> : age, race, sex, number of offenders	SHR
Roberts (2007)	Homicide clearance predictors	2002		No
Pattavina et al. (2007a)	Arrest practices for intimate partner violence	2000		Census, UCR employment data, state mandatory arrest laws
Pattavina, Hirschel and Buzawa (2007)	Arrest practices for heterosexual and same-sex intimate partner violence	2000	<i>Offense</i> : type of offense, location <i>Victim</i> : age, sex, victim-offender relationship <i>Offender</i> : age, race, sex, number of offenders	State mandatory arrest laws
Addington (2007)	Time to clearance	2000, 2001, 2002	<i>Administrative</i> : incident date, exceptional clearance <i>Offense</i> : type of offense, number of offenses, location, weapon <i>Victim</i> : age, race, sex, number of victims, victim-offender relationship <i>Offender</i> : age, race, sex, number of offenders <i>Arrestee</i> : date of arrest	No

\* = Date elements listed are in addition to information indicating whether an arrest was made.

## CHALLENGES TO USING NIBRS DATA

In theory, NIBRS provides a great deal of detailed crime information, which was predicted to be a boon to researchers. In practice, the potential of these data is only beginning to be explored today – 17 years since the first state began reporting incident-level crime data to the UCR and 8 years since NIBRS data were first publicly available. The reluctance of criminologists to embrace NIBRS can be attributed to three main factors: concerns with data quality, limitations with police-generated crime data, and analytical complexities of NIBRS data. These challenges for using NIBRS data are discussed in this chapter for two reasons. One is that these challenges are important to appreciate for those analysts considering using NIBRS data. Another reason is that future trends in how NIBRS data are used actually address these three challenges (and are discussed further in the following section).

### Challenge 1: Concerns with Data Quality

The problem of missing data is one that plagues virtually every data set, and both forms of missing data – item missing and unit missing – have generated challenges for researchers considering working with NIBRS data (see Addington, 2008, for a discussion). Item missing data occur when specific pieces of information are missing from an observation unit. In the case of NIBRS data, item missing data arise when particular details of a reported crime incident are not provided; for example, the victim–offender relationship is not included for a rape. Unit missing data occur when the entire observation unit is missing. Here unit missing data arise when entire law enforcement agencies fail to report their crime data in NIBRS format.

**ITEM MISSING DATA – MISSING INCIDENT DETAILS.** One initial goal of developing incident-based crime data collection program was to promote improved data quality (Poggio et al., 1985). In response to this motivation, the FBI put into place several quality measures including benchmarks for NIBRS certification and ongoing quality assurance reviews (see Barnett-Ryan & Swanson, 2008, for a discussion). Despite these practices, initial skepticism surrounded NIBRS's ability to collect so many incident details and to do so with a minimal amount of missing data for particular details (e.g., Maltz, 1999). As such, some researchers expressed reluctance to use NIBRS data due to a concern that it would be plagued by large amounts of item missing data.

**UNIT MISSING DATA – LACK OF 100 % NIBRS REPORTING IN THE STATES.** A related reason for researchers ignoring NIBRS data is its lack of national coverage and large amount of unit missing data (see Addington, 2008, for a discussion). The actual problem rests not with the lack of full coverage but that the participating agencies do not constitute a nationally representative sample. In particular, the absence of NIBRS data from any law enforcement agencies serving populations over 1 million has generated a perceived “small agency bias.”

## **Challenge 2: Limitations with Police-Generated Crime Data**

Another reason for the reluctance of criminologists to embrace these data is that NIBRS remains a data system collected by police departments and retains the inherent limitations of such administrative data. One limitation is that the UCR includes only those crimes that are reported to police and cannot inform on unreported offenses, or the “dark figure of crime.” A related limitation is the fact that police-generated crime data provide somewhat limited comparisons for researchers. For example, a relevant research question is to explore why certain individuals are victimized and others are not. Police-generated crime data do not provide these comparisons. A third limitation is that while NIBRS collects a great deal of information, these details may not be what a researcher wants or needs for a particular study.

## **Challenge 3: Analytical Complexity of NIBRS Data**

The flexibility and detailed incident descriptions in NIBRS provide a great deal of information. In practice, however, this rich detail results in millions of cases and multiple analysis levels that make NIBRS files awkward and massive datasets to manipulate. Beyond the basic computation logistics, NIBRS requires researchers to carefully consider their research question and the appropriate level of analysis. As mentioned above, NIBRS collects detailed information at six different levels, and the level of analysis can affect the results obtained (see Chilton & Regoeczi, 2007). In addition to decisions about the level of analysis, researchers must choose how to use multiple pieces of information concerning the same characteristic, such as victims, offenders, and weapons. These multiple characteristics add another layer of complexity and consideration to NIBRS analysis. Ultimately such choices should be driven by the research question posed. Researchers using NIBRS data need to be aware of these options and prepare to make uniform decision rules that are clearly stated in their work.

## **FUTURE TRENDS IN USING NIBRS DATA TO STUDY CRIME**

Two general trends are fairly easy to predict with regard to researchers’ use of NIBRS data in the immediate future. Given the growing attention to NIBRS data over the past several years, one trend is a continued increase in use of these data to study crime. Encouraging this trend is the developing body of research that relies on NIBRS data. Current uses of NIBRS in academic work illustrate topics that can be studied using NIBRS data, but also highlight the narrow focus of these studies and the great opportunity to explore many more topics with these data. In addition, the current body of research has helped change negative attitudes about NIBRS. For many years, criminologists viewed NIBRS data with a bit of suspicion and were concerned as to whether academic journals would readily publish articles utilizing these data. As more studies are published, NIBRS appears to be gaining respect as a “legitimate” source of crime data.<sup>9</sup>

<sup>9</sup> This change in attitude also is facilitated by the growing number of states and law enforcement agencies that submit their UCR data in NIBRS format. In the 1990s, many criminologists saw NIBRS as a fad and were skeptical as to whether this new data collection effort would succeed in replacing the summary reporting system.

**TABLE 2.4. Challenges to Using NIBRS Data**

Challenge to using NIBRS	Specific issues	Methods of addressing
Data quality concerns	Item missing data	Assessing amount and effect of missing data
	Unit missing data	Assessing amount and effect of missing data Working with disaggregated data (i.e., single state or particular jurisdictions)
Limitations with police-generated crime data	Only crimes reported to police	Using victimization surveys in complementary ways
	Limited comparisons	Augmenting NIBRS with other datasets
Analytical complexity	Large and cumbersome datasets	Developing online analysis software and resource guides
	Multiple levels of analysis and multiple response categories	Creating decision rules for research issues

The remainder of this section focuses on the second trend, which is related to this predicted increased use of NIBRS data. This second trend is a continuation of researchers creatively working with or around the challenges presented with NIBRS. Each of the three main challenges described above – data quality, limitations with police-generated crime data, and complexity of using the data – are revisited to explore how researchers are addressing these challenges. For ease of reference, Table 2.4 provides a summary of the challenges and suggested solutions.

### **Addressing Challenge 1: Concerns with Data Quality**

**ITEM MISSING DATA – MISSING INCIDENT DETAILS.** The item missing data quality concerns have been addressed through obtaining a better understanding about the quality of the data collected as well as the extent of item missing data. Barnett-Ryan and Swanson (2008) provide a detailed examination of how state UCR programs are working to provide higher quality crime data under NIBRS. While state programs vary, some states have instituted stringent quality control procedures and made great strides in reducing data errors. Addington (2004) undertook one of the few studies to explore the amount and possible effect of item missing data in NIBRS. Her study compared the levels of missing data in homicides reported to NIBRS with those reported in the Supplementary Homicide Report (SHR), which is the only incident-level information collected by the summary reporting system. Addington found for some details NIBRS had less missing data, but for others NIBRS had more than the SHR. Missing data were particularly a problem for more abstract concepts such as victim–offender relationship or circumstance as compared to fairly concrete information such as victim and offender demographics. These studies combined with an increased use of NIBRS data by researchers appear to have minimized concerns about item missing data as a barrier to using NIBRS. Researchers concerned

with item missing data in NIBRS are now using the data and imputing missing values as is needed (e.g., Roberts, 2007).

**UNIT MISSING DATA – LACK OF 100% NIBRS REPORTING IN THE STATES.** At some point, the UCR Program will be fully converted to the NIBRS format, and unit missing data will not be an issue. The number of states obtaining NIBRS certification is growing and progress is being made, especially when it is remembered that in the mid-1990s, only eight states were certified to submit NIBRS data (JRSA, n.d. a). Today 10 states are 100% NIBRS and 20 more are certified. For a comparison, 28 years passed before enough law enforcement agencies participated in the summary reporting system to make the UCR Program nationally representative (Maltz, 1999). While progress is being made, quite a bit of time is likely to pass before the UCR is 100% NIBRS. In the meanwhile, researchers have started to explore other ways to address this limitation and use the available data.

One avenue is to assess the effect of a lack of full NIBRS reporting on research and crime estimates. Here an initial issue is determining the amount of bias that actually occurs since the biased nature of the data has been assumed. Only one study to date has examined the degree to which NIBRS data are biased for generating crime estimates or for analytical uses (Addington, 2008). While Addington (2008) confirms an overall low response rate of 0.46 for NIBRS, she finds higher rates for certain sub-national population groups such as cities below 10,000 population and rural and suburban counties. Addington's study focuses on violent crime rates and change estimates and suggests that NIBRS data may have a greater capacity to illuminate the crime problem than previously believed for certain crimes and among particular populations. For example, the rape rates generated by NIBRS for population groups under 250,000 were fairly close to those generated by UCR data from the summary system. As such, Addington's (2008) findings indicate that the failure to have 100% NIBRS reporting does not mean that researchers should abandon using these data; however, limitations do arise for studying the very largest jurisdictions that do not report in NIBRS format.

Beyond examining the effect of nonreporting, researchers have worked around the absence of full reporting by highlighting one of the primary benefits of police-generated crime data: its ability to be analyzed at the local level. In this respect, NIBRS has an advantage over data sources like the National Crime Victimization Survey, which can only be disaggregated for the largest of cities (Lauritsen & Schaum, 2005). Studies focusing on particular cities or states have enabled researchers to capitalize on this attribute of NIBRS data. One example is through research questions requiring a focus on specific states. In his examination of the Southern "culture of violence" theory with NIBRS data, Chilton (2004) used three states from the North and three from the South that were 100% or near-100% reporting. Another example is to examine the local effects of a particular policy. Such a study can be conducted for a particular state. Burek (2006) used NIBRS data to explore the effect of Iowa's welfare reform on instrumental and expressive crime. In their study of gun availability in West Virginia, Haas and his colleagues (Haas, Jarvis, Jefferis, & Turley, 2007) found gun crimes concentrated in a few counties and suggested policies such as Project Safe Neighborhoods should be focused on here rather than the traditional urban locations. A third example of this type of study can be conducted across several jurisdictions to examine effects of a common policy. Researchers have used NIBRS to study the effectiveness of mandatory arrest policies on domestic violence incidents in different cities (Eitle, 2005; Pattavina, Buzawa, et al., 2007; Pattavina, Hirschel, et al., 2007).



## Addressing Challenge 2: Limitations with Police-Generated Crime Data

Crime data generated from police records exclude non-victims and victims who do not report crimes to the police. While NIBRS does not change this attribute of official crime data, this limitation can be minimized by using information from the National Crime Victimization Survey (NCVS). Although prior criminologists have advocated using the NCVS and UCR data together in a complementary way (Biderman & Lynch 1991; Lynch & Addington 2007), it is unusual to do so. One of the few examples of such a comparison is Addington and Rennison's (2008) study that used data from the NCVS and NIBRS to study rape co-occurrence. This research benefited from the NCVS's inclusion of rapes not reported to the police and NIBRS's more accurate and complete clearance information. The datasets complemented each other by providing insights about the characteristics of rapes reported to police (vs. those that are not) and rapes cleared (vs. those that are not) that neither alone could have accomplished. The datasets also complemented each other by providing similar conclusions. Both sources of rape data suggested co-occurring rapes tend to be viewed as more serious by the victims (in patterns of reporting to the police) and the police (in patterns of clearance) than solo-occurring rapes.

Although NIBRS data cannot compare victims and non-victims, the incident-level information collected by NIBRS does provide alternative comparisons within the subset of crimes reported to police. In fact, researchers seeking alternative comparisons may explain the large amount of attention given to arrest issues as well as domestic violence in the current uses of NIBRS. Crimes resulting in an arrest can be compared to those in which no arrest was made. Similarly crimes involving domestic violence can be compared to those not involving an intimate partner or family member.

A related challenge in working with NIBRS data is that the incident details collected – although vast – do not necessarily include information useful to criminologists studying crime. The authors of *The Blueprint* envisioned that the UCR Program would augment crime data from Level II agencies with information describing the community characteristics and local law enforcement agency policies. In its implementation of the Level II data collection requirements for all agencies, the FBI did not include this recommendation. While the UCR Program does not collect this information itself, alternative sources exist. Researchers are beginning to capitalize on these options by linking information from other sources and incorporate this additional information in their analyses. One way to include additional data is by utilizing the “ORI” (Originating Agency Identifier) codes as a linkage. NIBRS includes ORI codes as do other federal data sources. One example of such a data source is the Law Enforcement Management and Administrative Statistics (LEMAS).<sup>10</sup> LEMAS is a nationally representative survey of law enforcement agencies and gathers information concerning “agency personnel, expenditures and pay, operations, community policing initiatives, equipment, computers and information systems, and written policies” (USDOJ, 2006, p. 4). The NACJD also has developed a “crosswalk” file to provide ORI codes for Census data (e.g., NACJD, 2007). Researchers also have independently

<sup>10</sup> One limitation with using LEMAS and NIBRS is the fact that LEMAS oversamples law enforcement agencies serving the largest communities. As discussed previously, these agencies are less likely to participate in NIBRS than ones serving smaller communities.

collected and added other agency- or state-level details such as mandatory arrest policy information (e.g., Pattavina, Buzawa, et al., 2007; Pattavina, Hirschel, et al., 2007).

### Addressing Challenge 3: Analytical Complexity of NIBRS Data

Although the physical size of the NIBRS data files continues to grow as more states and law enforcement agencies report in NIBRS format, two changes have facilitated the logistics in working with these files. One is the advances in computer capabilities. Technological advances have made manipulating these files easier than was the case just 10 years ago (see Dunn & Zelenock, 1999, for an illustration). In addition, the staff at the NACJD continues to develop helpful tools for researchers working with these data. The NACJD's *NIBRS Data Resource Guide* is publicly available at <http://www.icpsr.umich.edu/NACJD>.<sup>11</sup>

Greater access to NIBRS data among a wider audience of data users is also beginning to occur. While academics constitute an important group of NIBRS constituents, they are not the only users of NIBRS or UCR data. A growing trend is for law enforcement agencies and other government agencies to make crime data more user friendly and provide tools for citizens, reporters, and researchers to examine crime data online. The NACJD provides resources for online analysis of NIBRS data as well as other data resources. The Office of Juvenile Justice and Delinquency Prevention sponsors several web-based analytical resources including one that facilitates the use of NIBRS data to study victims of domestic violence (OJJDP, 2008). The Tennessee Bureau of Investigation provides access for online analysis of its TIBRS data. While these online tools tend to be limited to rather basic analyses such as summary statistics, frequencies, and bivariate tables, they provide access to NIBRS data – as well as crime data more generally – previously unavailable to the general public.

## CONCLUSION

One way of assessing the ability of NIBRS to contribute to the study of crime is to look at the numbers for both participation in NIBRS since South Carolina reported the first incident-based UCR data to the FBI 17 years ago and the use of NIBRS data in the 8 years that these data have been publicly available. Another assessment is to return to four of the goals that *The Blueprint* authors had for incident-based crime data and their ability to enhance the study of crime. As discussed in the initial overview, these four goals included providing analytical flexibility, permitting augmentation with data from other sources, improving data quality, and increasing access to the data for a variety of users. For the most part, these four goals are being achieved, even if

<sup>11</sup> The number of cases collected by NIBRS raises another issue, but one that has been largely ignored and yet to be addressed. This issue is how best to analyze very large samples. For example, a given year of NIBRS data can generate hundreds of thousands of aggravated assaults. Because of the asymptotic properties of many statistical procedures commonly used by criminologists, most relationships in NIBRS analyses tend to be statistically significant. This analytical issue has yet to be tackled, but will need to be addressed as these data are used more frequently.

not always, directly through the UCR Program as originally envisioned. Criminologists are capitalizing on the flexibility of NIBRS data both in terms of the various levels of analysis and in the combinations of incident details. Researchers also are finding ways to incorporate data from other sources to supplement the crime data provided by NIBRS. The FBI and various State Analysis Centers and local law enforcement agencies are giving greater attention to crime data quality. Federal and state agencies are providing greater access to crime data to broader audiences. Achieving these goals, in turn, is helping to improve NIBRS's image as an important source of crime data. This characterization is not to say that NIBRS is a perfect data collection system. As the forgoing discussion indicates, many challenges remain with these data. Overall, though, criminologists are only beginning to appreciate the capabilities of these data. The potential of NIBRS data has yet to be fully exploited for studying crime.

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## CHAPTER 3

# Longitudinal Data and Their Uses

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## INTRODUCTION

In the 1980s, criminologists began to consider much more seriously the importance of pursuing longitudinal research on how antisocial behavior develops over the life course. Although there were many proponents of such an attempt (Blumstein, Cohen, & Nagin, 1978; Blumstein, Cohen, Roth, & Visser, 1986; Farrington, Ohlin, & Wilson, 1986), the proposition was not without its critics (Gottfredson & Hirschi, 1986, 1987, 1988). These skeptics argued that the endeavor would be too expensive, both monetarily and in opportunity costs, to be justified and that little would be gained over traditional cross-sectional research. Nothing could have been farther from the truth.

Longitudinal research has many advantages over cross-sectional research. For example, traditional cross-sectional surveys compare individuals in the sample to each other, not to themselves over time. In a cross section, one might show that, controlling for other factors, individuals who carry guns commit more crimes than those who do not carry (Wright & Rossi, 1986). This comparison assumes that gun carrying causes the increased crime and that all other things are held constant. However, if people who intend to commit more crime obtain guns to do so, the assumption is invalid. To separate the motivation of the offender from the impact of the weapon one needs an experiment comparing individuals when they do not carry guns to themselves when they do, holding other time-varying factors constant. This isolates the impact of the gun from the impact of the individual.

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In a very fundamental sense, cross sections make the wrong comparison and one cannot know if they produce correct inferences without comparing a cross section to a longitudinal examination (Liberman, 2007). Happily, longitudinal studies were funded and here we are more than 20 years later with the data. This chapter uses the Rochester Youth Development Study (RYDS) data to explore some of the ways that longitudinal data can be employed to investigate a variety of research questions. We attempt to show how using the data cross-sectionally fails to address these questions adequately. We use data on weapon ownership and carrying because we enjoy that substantive area.

## THE ROCHESTER YOUTH DEVELOPMENT STUDY

### Data

The Rochester study is an ongoing longitudinal investigation of the causes and correlates of serious, violent, and chronic delinquency. The study has followed a panel of youths from their early teenage years through age 31 and has completed 14 interviews with respondents. Beginning in 1988, 1,000 seventh and eighth grade students were sampled from public schools in Rochester, New York. During Phase 1 of the study, the focal subjects (G2s) and a primary caregiver (G1s), usually the biological mother, were interviewed every 6 months from the spring of 1988 until the spring of 1992. During Phase 2, the subjects and caregivers were interviewed yearly from 1994 through 1996. This amounts to a total of 12 interview waves. The following analyses focus on data collected during these two phases of data collection.<sup>1</sup>

Base rate levels of serious delinquency and drug use are relatively low (Elliott, Huizinga, & Menard, 1989; Wolfgang, Thornberry, & Figlio, 1987); therefore, youths at risk for these behaviors were oversampled. This was done by stratifying the sample on two dimensions. First, males were oversampled (75% versus 25%) because they are more likely than females to be chronic offenders and to be involved in serious and violent delinquency (Blumstein et al., 1986; Huizinga, Morse, & Elliott, 1992). Second, students from high-crime-rate areas of the city were oversampled because it was assumed that adolescents who live in high-crime-rate areas are at a greater risk for offending than those living in low-crime-rate areas. These areas were identified by assigning each census tract in Rochester a resident arrest rate reflecting the proportion of the tract's total adult population arrested by the Rochester police in 1986.<sup>2</sup>

### Measures

Table 3.1 presents a coding table of variables that are used in the subsequent examples. Unless otherwise noted, all of the variables are measured since the last wave at which the respondent

<sup>1</sup> RYDS also includes Phase 3, which follows the G2 subjects into their early thirties, and a related intergenerational study, which follows the children of G2 subjects (G3s) for 10 yearly waves of interviews.

<sup>2</sup> Each tract's resident arrest rate, not its crime rate, was used because there is a substantial gap between where crimes occur and where offenders live. The correlation between 1986 arrest rates and crime rates across all of Rochester's census tracts was only 0.26. This assumes that risk for being an offender is more highly related to coming from a neighborhood with a high rate of active offenders than coming from an area with a large number of crimes.

TABLE 3.1. Coding Table

Variable	Waves	Coding
Age	3–10	Respondents age in years
Negative life events	10–12	Number of negative life events
Gang membership		
Past	2–9	Gang member in past, 0 = no, 1 = yes
Current	2–9	Current gang member, 0 = no, 1 = yes
Future	2–8	Gang member in future, 0 = no, 1 = yes
Last six months	4–9	Gang member in last wave, 0 = no, 1 = yes
Ever	–	Gang member in any of Waves 4–9, 0 = no, 1 = yes
Peer gun ownership	4–12	Respondent has peers who own guns for protection: 0 = no, 1 = yes
Peer crime	10–12	Number of peers involved in crime, 1 = none to 4 = most of them
Gun carrying	2–10	Carried a gun, 0 = no, 1 = yes
Knife carrying	4–9	Carried a knife, 0 = no, 1 = yes
Weapon carrying	9	Carried a gun or knife, 0 = no, 1 = yes
Gun ownership and carrying	4	Owned and carried a gun, 0 = no, 1 = yes
Violence	4	Prevalence, 0 = no, 1 = yes
Serious violence	4	Prevalence, 0 = no, 1 = yes
Serious delinquency	2–9	Incidence of serious delinquency
Serious crime	10–12	Incidence of serious crime
Drug sales	4–9	Incidence of drug sales
Amount of drug sales		
Low	2–9	Sales totaling less than \$400, or fewer than 15 sales of more than \$150 each, or fewer than 30 sales of \$10 each
High	2–9	Any sale totaling more than \$400, or 15 or more sales of more than \$150 each, or 30 or more sales of \$10 each
Drug use		
Low	2–9	Below the median level of drug use incidence
High	2–9	Above the median level of drug use incidence
Arrests	2–9	Number of arrests

was interviewed. Respondents' age is measured in years and ranges from an average of 14 years at Wave 2 to 20 years at Wave 10. Negative life events range from 0 to 10 and are a measure of the total number of negative life events experienced by the respondent. Several measures of gang membership were used in the subsequent examples, all of which are dichotomous measures. These measures include past, current, and future gang memberships, as well as gang membership in the previous 6 months (during the last wave) and gang membership ever. Peer Gun Ownership is a dichotomous measure of whether the respondent had any friends who owned guns for protection. Peer Crime is a scale of the number of peers involved in several types of crime and ranges from none of them to most of them.

Gun Carrying, Knife Carrying, and Weapon Carrying, which includes both gun and knife carrying, are all dichotomous measures of whether the respondent carried since they were last interviewed. Gun Ownership and Carrying is a dichotomous measure of whether the respondent owned and carried at Wave 4. Note that these four variables specifically measure illegal weapon carrying and ownership. Violence and Serious Violence are both dichotomous measures of the



prevalence of these two behaviors, while Serious Delinquency, Serious Crime, and Drug Sales are continuous measures of the incidence of these three behaviors. Drug Sales was recoded into a dichotomous variable that measured the amount of money respondents made from drug sales. Low Drug Sales included sales totaling less than \$400, or fewer than 15 sales of more than \$150 each, or fewer than 30 sales of \$10 each. High Drug Sales included any sale totaling more than \$400, or 15 or more sales of more than \$150 each, or 30 or more sales of \$10 each. A continuous measure of drug use was also recoded into Low Drug Use and High Drug Use. Low Drug Use included cases that fell below the median level of drug use, while High Drug Use included cases that fell above the median level of drug use. Finally, Arrests is a count of the number of times the respondents were arrested since they were last interviewed.

## **CROSS-SECTIONAL VERSUS LONGITUDINAL DATA**

The benefits of longitudinal research apply to any scientific investigation of individual-level phenomena, not just the development of antisocial behavior. Traditional cross-sectional research is like a photograph, where subjects are surveyed at one point in time. The researcher sees the subjects in that snapshot and analyzes them relative to each other. This approach studies how the levels of independent and dependent variables for individuals compare to the levels of independent and dependent variables for other individuals. Furthermore, in a cross section the researcher does not clearly see what happens before the photo was taken. Certainly one could ask the subjects what happened in the past but they may not know, their perceptions may be clouded, or they may not recall the proper sequence of events. Subjects also cannot report what will happen in the future. In essence, everything is measured at the same time. So, in a cross section one must make at least two dubious assumptions: first, that all causality happens instantaneously in the snapshot, and second, that one knows the causal order of the relationships between events.

In contrast, longitudinal research is like a moving picture, where the researcher can see how things develop over time. In essence, one can look at the past and into the future with perfect vision, playing the movie backward and forward. In this approach, we compare individuals to themselves, and because the picture unfolds in time, we can establish the causal order of variables. In fact, variables might display reciprocal causality over time. Furthermore, with longitudinal studies that cover long spans of the life course, such as the RYDS, we can map how changes in exogenous variables produce changes in endogenous ones over time. As we will see, this allows the researcher to conduct quasi-experiments using each subject as his or her own control. So, if a picture is worth a thousand words, a moving picture must be worth many times a thousand words.

### **Examples of Differences Between Cross-Sectional and Longitudinal Analyses**

**DIFFERENCES IN POINT ESTIMATES.** In the simplest of terms, even the meaning of a point estimate can be cloudier in a cross-sectional analysis than in a longitudinal one. Table 3.2 shows the percentage of male RYDS subjects who carry a gun at each of the 6-month intervals for Waves 2–9. This covers boys 14–18 years of age. In the first row, we see that between 5 and 8% of male subjects carry a gun in a particular 6-month interval. Putting aside the longitudinal

**TABLE 3.2. Percentage of Subjects Who Carry a Gun**

Wave	2	3	4	5	6	7	8	9
Percentage at each wave	5	5	6	7	6	6	8	8
Percentage carrying wave to wave	50	41	36	36	31	15	29	40
Average: all wave to wave carrying (%)	33							

nature of the data, one might think of this as a cross section in two senses. First, imagine this as one sample of males between 14 and 18 years of age. Using the data in this manner tells us that a different 5% or so of boys carry guns at any age and that the percentage increases a little as the boys get older. In other words, gun carrying is not stable. Alternatively, one could think of this as a series of cross sections on eight different samples of subjects with each successive sample slightly older. When using the data this way, it is tempting to assume that the same 5% of boys carry guns over time with a few more joining in as time goes on. This suggests the existence of a hardcore group of stable carriers that would be difficult to deter. In either case, however, the appearance of stability or change is illusory; the data really tell us nothing about the stability, or instability, of boys' gun carrying over time.

The second row of the table views the data longitudinally or as a panel. It shows the percentage of boys who carry at one wave and who also carry in the next wave. For example, 50% of boys who carry at Wave 1 do so at Wave 2. Carrying from wave to wave decreases consistently to 15% by Wave 7 and then it increases. On an average about one-third of boys carry guns from wave to wave. However, the percentage carrying from wave to wave is neither totally stable nor totally dynamic. Rather, it changes dramatically over time, a pattern that a cross section could not detect. So, the real answer is somewhere between what one might conclude from the two types of cross-sectional research discussed above. Depending upon their age, there is both stability and change in boys' carrying of guns over time.

There is another sense in which a cross-sectional treatment of these data fails us. A cross section does not tell us how long boys carry guns over the age range. Table 3.3 shows the number

**TABLE 3.3. Number of Waves When Subjects Carry Guns**

Number of waves	Number of subjects	Percentage	Cumulative %
1	61	43.5	43.5
2	39	28.1	71.6
3	17	12.4	84
4	11	7.5	91.5
5	2	1.6	93.1
6	7	5.2	98.3
7	1	1	99.3
8	1	0.7	100

of waves during which boys carry guns.<sup>3</sup> The table employs the data longitudinally. It shows that nearly half of boys (43.5%) only carry at one wave and that most (71.6%) do not carry at more than two waves. Apparently, most boys move in and out of gun carrying rather quickly. Another 20% carry at three or four 6-month waves, and less than 10% carry a gun at five or more waves.

Viewing the data longitudinally shows that these boys move in and out of gun carrying rather quickly and that a sizeable majority do not carry during more than a few, not necessarily adjacent, waves. This suggests that their motivations are transitory; consequently, they may be easily deterred from gun carrying.

**DIFFERENCES IN PREDICTORS AT VARIOUS POINTS IN TIME.** If the motivations to carry guns are transitory, as the data suggest, then it is conceivable that the predictors of carrying vary with age. Testing this notion with cross-sectional data would be difficult because it implies that the predictors of carrying interact with age. One would need a very large sample to detect adequately all of these interactions, and the equations would be complicated by the possibility of high correlations between the independent variables. These issues significantly hinder model estimation. Furthermore, it would be difficult, if not impossible, to predict *changes* in gun carrying over time with a cross section. As a result, the impact of the predictors would be homogenized across waves and would appear to apply equally to the entire age range.

One can model the change in gun carrying at a particular wave by controlling for gun carrying in the prior wave. This methodology is facilitated by the longitudinal design. Table 3.4 is adapted from Lizotte, Krohn, Howell, Tobin, and Howard (2000) and displays eight equations predicting the change in gun carrying from wave to wave. The table also includes parameter estimates predicting gun carrying at Wave 10, when the subjects are 20 years old. The table shows the impact of gang membership, high and low drug sales and use, peer gun ownership, and gun carrying in the previous wave on current gun carrying. The various predictors are statistically

**TABLE 3.4. Ages When Predictors Significantly Increase Gun Carrying**

Wave	3	4	5	6	7	8	9	10
Mean age (years)	14.5	15	15.5	16	16.5	17	17.5	20
Current gang member	**	**		*	**			
Drug sales								
Low					*	*		**
High	**		**	**	**	**	**	**
Drug use								
Low	**							
High		**	**			*	**	**
Peer gun ownership	—		**	*	**	**	**	**
Gun carrying previous wave	**	**	**	**			**	**

NOTE. From Lizotte et al. (2000). Copyright 2000 by the American Society of Criminology. Adapted with permission of the author.

\*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$ .

<sup>3</sup> This does not necessarily refer to adjacent waves.

significant at different ages. For example, gang membership predicts gun carrying at younger ages but not at older ages. Low drug sales predict carrying at older ages but not at younger ages, while low drug use predicts carrying at younger ages but not at older ones. Whereas high drug sales are a consistent predictor of gun carrying across the age range, high drug use is a more erratic predictor. Peer gun ownership is statistically significant at nearly every wave, excluding Wave 4 when it was first measured. Except in Waves 7 and 8, when Table 3.2 indicated that wave-to-wave gun carrying is at its lowest, gun carrying lagged one wave predicts current gun carrying.

All of this means that different interventions would be needed to impact gun carrying at different ages, a distinction that could not be made by using cross-sectional data. The larger point is that longitudinal research allows one to predict changes in an outcome, like gun carrying, over time and across ages, and that the predictors could be differentially important at different points in time. It also allows for changes in independent variables to predict changes in dependent ones.

### CONSIDERING THE IMPACT OF THE PAST, PRESENT, AND FUTURE.

Another feature of longitudinal research is its ability to consider simultaneously the past, present, and future. As we mentioned above, this is not possible with cross-sectional data. For example, one might want to determine whether gangs recruit delinquent adolescents or if they recruit good kids and make them delinquent. Similarly, we might ask about the impact of gang membership upon delinquency after leaving the gang. If gangs recruit delinquent youth and they remain delinquent when leaving the gang, policies aimed at discouraging gang membership might not make sense; the member would be delinquent regardless of the gang. However, if gangs recruit good kids and turn them delinquent, gang resistance strategies could be important in reducing delinquency. This would be especially true if former gang members eschew delinquency. Typically, gang research is cross-sectional or at best longitudinal only in the sense that it follows members while in the gang. This type of snapshot does not consider the importance of the past and the future. In other words, it compares gang members with an amalgam of those never in a gang, future gang members, and past gang members, a curious trio.

Table 3.5 shows the impact of current, future, and past gang membership on boys' gun carrying. It is adapted from Thornberry, Krohn, Lizotte, Smith, and Tobin (2003, p. 130). Odds ratios are reported from logistic regression equations, with never a gang member serving as the omitted reference category. Gun carrying and gang membership are combined into 1-year intervals instead of 6-month intervals as reported in the analyses above. Current gang members

**TABLE 3.5. Models Predicting Gun Carrying from Gang Membership (Odds Ratios)**

	Year 2	Year 3	Year 4
Current gang member	7.09**	7.72**	12.29**
Future gang member	2.29	1.21	–
Past gang member	2.08	0.78	1.59

NOTE. From Thornberry et al. (2003, p. 130). Copyright 2003 by Cambridge University Press. Adapted with permission of the author.

\*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$ .

are 7 to 12 times more likely to carry guns than those who were never in a gang. The odds of carrying increase as the boys age. However, future gang members and past gang members are no more likely than those never in a gang to carry guns. This supports the theory that gangs do not recruit boys who already carry guns, but rather the gang facilitates gun carrying and when the boys leave the gang they return to pre-gang levels of carrying.

Since gang membership facilitates gun carrying, it is conceivable that gangs supply the guns to be carried. Future and past gang members do not have this advantage. The implication is that keeping boys from joining gangs will reduce gun carrying, as will shortening their stays in the gang, and once out of gangs their gun carrying will decrease to non-gang levels. This conclusion cannot be drawn from cross-sectional research.

**CONSIDERING THE INTERACTION OF TWO PREDICTORS ON AN OUTCOME OVER TIME.** Longitudinal data allow one to compare the individual and interactive impact of two predictors on an outcome at a later point in time. For example, Table 3.6 presents the individual and combined effects of both gun carrying and gang membership at Years 2 and 3 on gun ownership and carrying at Year 4. The comparison group is never in a gang and never carried a gun. This table is also adapted from Thornberry et al. (2003, p. 138). One might hypothesize that the combined effect of these two variables will be important above and beyond the individual effects. Additionally, one might argue that behaviors more proximate to the outcome in time will have a larger effect than those farther removed. These odds ratios were estimated using logistic regression.

**TABLE 3.6. Models Predicting Gun Ownership and Carrying at Year 4 (Odds Ratios)<sup>a</sup>**

	Year 2	Year 3
Hidden gun carrier and non-gang member	5.15*	16.27**
Non-hidden gun carrier and gang member	4.75**	3.75**
Hidden gun carrier and gang member	13.85**	6.87**

NOTE. From Thornberry et al. (2003, p. 138). Copyright 2003 by Cambridge University Press. Adapted with permission of the author.

\*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$ .

<sup>a</sup>Reference category is non-hidden gun carrier and non-gang member.

Those who are gun carriers but not gang members at Years 2 and 3 multiply the odds of ownership and carrying at Year 4 by factors of 5 and 16, respectively. This is compared to those who are neither carriers nor gang members. The largest effect is for Year 3, the most proximate comparison. Those who are not gun carriers but are gang members at Years 2 and 3 increase ownership and carrying at Year 4 by about four to five times, roughly the same amount for each year. In addition to these effects, those who are both gun carriers and gang members at Years 2 and 3 have sharply elevated ownership and carrying at Year 4. The impact on Year 4 gun ownership and carrying is twice as large for Year 2 as for Year 3. Apparently, the combined effect of early gun carrying and gang membership has a particularly tenacious impact on gun ownership and carrying 2 years later. So, the ability of these conditions to predict future gun ownership and carrying varies and the impact of their propinquity in time changes. None of these issues could be addressed adequately with cross-sectional data.

**USING PREDICTORS OVER A LARGE SPAN OF THE LIFE COURSE.** The RYDS collects data on the focal subjects over a large portion of their life course. Since interview data cover subjects from 14 years of age to the early thirties, variables from early adolescence can be used to predict much later outcomes. Furthermore, we can determine if early predictors are statistically significant despite controls for their counterparts in later life. If very early predictors do have a long lasting impact, it means that ameliorating them early can lessen negative outcomes contemporaneously and also much farther down the developmental road. For example, Table 3.7 shows an equation predicting gun carrying at ages 21–23 from both adolescent (ages 15–18) and adult (ages 21–23) predictors. Adolescent predictors include gang membership, gun carrying, peer gun ownership, serious delinquency, and arrests. Peer gun ownership and serious crime are measured again in adulthood, along with negative life events and peer crime. The equation is estimated using logistic regression and significant odds ratios are reported in the table. Adolescent gun carrying and arrests both statistically significantly predict adult gun carrying, independent of the adult predictors. Subjects who carry guns in late adolescence are more than three times as likely to carry guns in early adulthood. Similarly, those who are arrested in late adolescence increase their odds of gun carrying by 16%. Apart from this momentum in antisocial behaviors, the adult predictors have large contemporaneous effects on adult gun carrying. Adult peer gun ownership and serious crime both increase the odds of gun carrying by eight-fold. Negative life events also significantly contribute to gun carrying.

**TABLE 3.7. Significant Predictors of Gun Carrying at Ages 21–23 (Odds Ratios)**

Predictors (Age, years)	Carry gun
Gang member (15–18)	–
Gun carrying (15–18)	3.62
Peer gun ownership (15–18)	–
Serious delinquency (15–18)	–
Arrests (15–18)	1.16
Negative life events (21–23)	1.41
Peer crime (21–23)	–
Peer gun ownership (21–23)	8.30
Serious crime (21–23)	8.00

This example shows that adolescent antisocial behavior has a persistent impact on adult antisocial behavior. In addition, the more immediate concern of traveling in a dangerous world where one’s friends are hoodlums, as evidenced by adult peer gun ownership, determines whether the boys will be hoodlums. This is analogous to an arms race. Boys arm themselves and commit crimes because their current friends and associates are armed, and vice versa. The point here is that the subjects’ histories and their current situations both matter, and longitudinal research can be used to illuminate these relationships.

**USING CASES AS THEIR OWN CONTROLS.** As mentioned previously, cross-sectional research makes comparisons between subjects rather than comparing subjects to them-

selves. This provides a substantial limitation for answering certain research questions, which will become apparent in the following example. Suppose we are interested in determining whether carrying a weapon influences the incidence of self-reported drug sales in adolescence. There are a few possible ways in which weapon carrying may relate to delinquency. One possibility is that there is a selection effect. In essence, youths with a particularly high propensity to commit delinquent acts choose to carry guns, and they also commit more offenses. In this scenario, the apparent relationship between gun carrying and delinquency is spurious and is due to characteristics of the individual. A second possibility is that there is a facilitation effect. This theory suggests that the relationship between gun carrying and delinquency is solely related to the act of carrying a gun; the delinquent propensity of the individual would not have an effect over and above the effects of gun carrying. A final possibility is a combination of the two, where gun carrying and individual characteristics are each partially correlated with delinquency.

We first use a cross-sectional approach to answer this question. A panel data file was constructed where each case represented one subject at one wave, for Waves 4–9. To form a random cross section from the panel data, every case was assigned a random number and the highest value of the random number was selected for each subject. Table 3.8 presents the results from a regression model predicting drug sales from gang membership and weapon carrying for this cross section. As the table demonstrates, gang membership during the previous 6 months has no significant relationship with drug sales, but current gang membership is significantly and positively related to drug sales. This suggests that current gang membership increases drug sales, but youth are no more likely to sell drugs once they leave the gang. Knife carrying is not significantly related to drug sales, but sales increase with gun carrying.

**TABLE 3.8. Regression Model Predicting Drug Sales (Logged) – Cross-Sectional**

	Unstandardized coefficient (SE)
Gang member last 6 months <sup>a</sup>	0.018 (0.09)
Current gang member	0.472*** (0.09)
Gun carrying	0.918*** (0.10)
Knife carrying	0.005 (0.08)
Intercept	0.051* (0.02)
R <sup>2</sup>	0.169

\*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$ .

<sup>a</sup>This assumes these data were collected retrospectively.

Although there appears to be a very strong relationship between gun carrying and drug sales, we cannot determine which of the three theories is supported. Since we are comparing individuals who carry guns to individuals who do not carry guns, it is impossible to differentiate between the effects of the individual (bad people carry guns and sell drugs) and the effects of the gun (guns facilitate drug selling). We can conclude that a relationship exists, but the relationship is confounded; it could be due to the individual, the gun, or a combination of the two.

In order to address this question adequately, we must isolate the effects of gun carrying from the effects of the individual. This is possible by making comparisons within individuals rather than between individuals. In other words, if we use individuals as their own controls, we can isolate the effects of the variable of interest, in this example, gun carrying, on outcomes like drug sales. Since this requires multiple measures of individuals over time, it is not possible with cross-sectional data.

Table 3.9 presents the results from a two-way fixed effects OLS regression analysis.<sup>4</sup> Fixed effects analysis solely focuses on differences within individuals while partialling out time-invariant individual characteristics and unobserved between individual differences (Allison, 2006). In effect, this allows us to remove the delinquent propensity of an individual from the equation. Since we are comparing individuals during periods of gun carrying to themselves during periods of non-gun carrying, we can truly isolate the effects of gun carrying on drug sales.

**TABLE 3.9. Regression Model Predicting Drug Sales (Logged) – Two-Way Fixed Effects**

	Unstandardized coefficient (SE)
Gang member last 6 months	0.068 (0.05)
Current gang member	0.227*** (0.05)
Gun carrying	0.847*** (0.05)
Knife carrying	0.045 (0.05)
Intercept	0.504** (0.18)
R <sup>2</sup>	0.458

\* $p < 0.05$  \*\* $p < 0.01$  \*\*\* $p < 0.001$

At first glance, it appears that overall the significance level, direction, and, with a few exceptions, the sizes of the coefficients are comparable to those presented in Table 3.8. However, the results differ in two significant ways. The first relates to the explanatory power of the fixed effects model. Since we are holding constant the unmeasured, time stable heterogeneity of individuals, the explanatory power of the model is much greater in the fixed effects model than in the cross-sectional model (R squares of 0.46 versus 0.17). Second, the interpretation of the coefficients is vastly different, and more informative. For simplicity, the following discussion will focus on gun carrying since knife carrying is not significantly related to drug sales and gang membership is not our primary interest.

Returning to the theories posited earlier about the relationship between gun carrying and drug sales, we anticipated a selection effect, a facilitation effect, or some combination of the two. If a pure selection effect were present, where the relationship between gun carrying and selling drugs was spurious, then the coefficient for gun carrying would be reduced to zero when comparing individuals to themselves. If a pure facilitation effect were present, where all of the effect was due to the gun and none to the individual, then the size of the coefficient for gun carrying would remain the same as in the cross-sectional model. A combination of the two would result

<sup>4</sup> The fixed effects are individual and wave. We estimated the model by including dummy variables in the regression equation for all but one individual and one wave. Wave was fixed in order to control for any maturation effects.



in a still significant, but sizably reduced coefficient for gun carrying. Although the standardized coefficients are not presented here, gun carrying remains highly significant and has the largest effect on drug sales despite controlling for characteristics of the individual; therefore, a selection effect is not supported. The coefficient does decrease, albeit very slightly (from 0.918 to 0.847). Overall, this suggests that during periods when individuals carry guns, their incidence of drug sales is significantly higher than during periods when they do not carry guns, and that the majority of this effect is due to the facilitation effect of gun carrying. This finding has major implications from a policy perspective in terms of how to reduce drug sales among adolescents in high-risk neighborhoods.<sup>5</sup>

**TRULY DYNAMIC LONGITUDINAL ANALYSIS: TRAJECTORIES OF OFFENDING.** The advantages of longitudinal data are also apparent when studying trajectories or patterns of change over time. All longitudinal analyses connect earlier and later time points and can illustrate how life circumstances at an initial point in time affect where that person ends up several years later. Boys who sell drugs at age 15 may also be more likely to sell them at age 18, for example, and longitudinal data can reveal the size of the effect.

This type of analysis is useful for many purposes, and it is a staple of longitudinal modeling. One drawback, however, is that this approach ignores potentially valuable information because it disregards the shape of the path that connects the earlier and later points. Do boys who sell drugs at ages 15 and 18 also sell them at ages 16 and 17? Do they sell drugs with the same frequency at each age, or does their sales activity tend to go through periods of increase and decline? To answer these questions, one must connect the points and examine the full trajectories.

Figure 3.1 shows drug sale trajectories for three groups of RYDS subjects. The variable under analysis is the number of self-reported drug sales at each wave. Several slightly different methods exist for analyzing trajectory data. Although they vary in their details, the most popular methods divide the members of a sample into groups with similar overall trajectory shapes. Figure 3.1 uses an approach developed by Nagin (2005), and it shows summary patterns for three groups that are distinct enough to separate from one another.

According to Figure 3.1, by far the largest group (comprising about 90% of the sample) did not sell at any wave and so refrained from drug sales entirely. A second and much smaller group (about 8% of the sample) engaged in steady but infrequent sales throughout the analysis period. Although not clearly visible in Figure 3.1, this group slightly increased its sales activity between ages 16 and 17, and then returned to its original level by age 18. Finally, the third and smallest group (2% of the sample) sold drugs frequently and continuously. Members of this group were active drug sellers over all of the waves, but the frequency of their sales accelerated upward toward the end of the study period, as they reached adulthood. This pattern, in particular, would not have been obvious if one connected only the beginning and ending points.

The shapes that appear in this example are relatively tame ones, and they do not show the types of curvature that trajectory modeling often reveals. In general, a trajectory analysis can find

<sup>5</sup> This is because the RYDS sample is comprised of youth from high-risk neighborhoods.

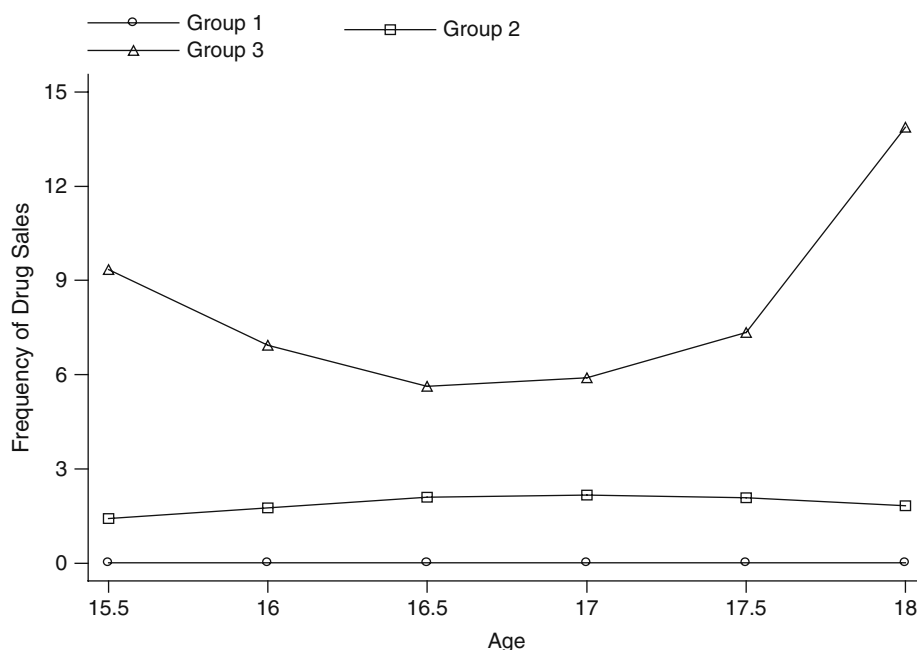


FIGURE 3.1. Trajectory groups for frequency of drug sales by age.

striking patterns of increases and decreases, and generate curves with multiple bends. Knowing the position a person occupies on a trajectory at a given moment can in these cases be useful for understanding their current behavior and for predicting their future behavior.

The results from a trajectory analysis are helpful for understanding patterns of variation over time, and they provide valuable information by themselves. One can go a step further, however, and use a trajectory model to predict the group to which each sample member most likely belongs. These predicted assignments can then appear as independent variables in regression equations, allowing one to examine whether trajectory group membership helps influence other outcome variables. In a similar manner, one can also use the predicted assignments as dependent variables, here attempting to explain how persons come to follow a particular trajectory in the first place.

Table 3.10 presents the results of a model that examines the roles of criminal violence and gang membership in accounting for the trajectory assignments. Subjects who report engaging in serious violence at Wave 4 have significantly larger odds of being members of Group 3 (the high sales group) than members of Group 1 (the group that refrained from selling). Gang members at Wave 4 also are more likely to be members of Groups 2 and 3 than members of Group 1, but violence prevalence does not distinguish between the trajectories.

Table 3.11 uses the drug sales trajectories as independent variables rather than dependent ones and considers their influence on weapon carrying during RYDS Wave 9. Controlling for gang membership, Groups 2 and 3 both have higher odds of weapon carrying than does Group 1 (although only the coefficient for Group 3 is statistically significant). A career of drug selling activity appears to be a stimulus to carrying weapons, independent of gang involvement.

**TABLE 3.10. Multinomial Logistic Regression Predicting Drug Sales Groups<sup>a</sup>**

	Odds ratios
Serious violence	
Group 2	2.35
Group 3	2.39*
Violence	
Group 2	2.52
Group 3	1.30
Gang member ever	
Group 2	6.32**
Group 3	4.93***

<sup>a</sup>Reference category: Group 1, no drug sales.  
\**p* <0.05 \*\**p* <0.01 \*\*\**p* <0.001.

**TABLE 3.11. Logistic Regression Predicting Wave 9 Weapon Carrying<sup>a</sup>**

	Odds ratio
Drug sales group 2	2.81
Drug sales group 3	2.18*
Current gang member	2.73***

<sup>a</sup>Weapon carrying includes gun or knife carrying.  
\**p* <0.05 \*\**p* <0.01 \*\*\**p* <0.001.

In addition to models like these, trajectory analysis also allows investigation of how one trajectory influences another. In an intergenerational study of delinquency, the trajectory positions a mother occupies when her children are born may affect the trajectories they later follow themselves. If the mother is near the peak of a delinquent career, for example, the child’s trajectory may differ from what it would have been if she were at a low point.

Overall, trajectory models consider the entire history of a variable’s movements over time. They take advantage of all of the data that longitudinal measurements provide and allow an analyst to investigate the emergence of dynamic patterns of change. This type of information is not available from a single cross section or even from an unconnected sequence of cross sections.

**CONCLUSIONS**

Two decades ago, critics argued against the longitudinal studies of crime that were just then beginning. These critics claimed that longitudinal designs had no strong advantages over cross-sectional research and that they were not worth their greater expense (see especially Gottfredson & Hirschi, 1987). Fortunately for the field of criminology, researchers and funding agencies ignored these claims and undertook several large-scale long-term studies. Notable examples include the RYDS, the Denver Youth Survey (Huizinga et al., 1992), the Pittsburgh

Youth Study (Loeber, Farrington, Stouthammer-Loeber, Moffitt, & Caspi, 1998), and the Project on Human Development in Chicago Neighborhoods (Earls & Visher, 1997). The findings from these and similar projects have led to substantial progress in understanding the origins and development of criminal behavior (see, e.g., Liberman, 2007).

Skepticism about longitudinal research would be valid if careers in criminal offending were static rather than unfolding in a time-structured developmental sequence. In this type of unchanging world, a photograph (or set of photographs) would reveal everything that one could learn from a moving picture. Yet, this chapter has provided multiple examples of situations in which relationships only become apparent over time and where a reliance on cross-sectional data could have produced misleading inferences.

Longitudinal data permit one to consider patterns of continuity and change within individuals that cross-sectional data cannot address. They allow the possibility that predictors and relationships might shift over time and that earlier values of one variable help explain later values of another, alone or in an interactive relationship. Using longitudinal data, one can study how an effect depends on the past, present, and future and examine the impact of early events on much later outcomes. One can also employ sophisticated analytical methods that allow cases to serve as their own controls and that reveal underlying trajectory paths. Most of these applications are impossible with cross-sectional data, and where they are possible, they are cumbersome to apply.

Longitudinal data and analysis also of course have many limitations. No research design provides the level of assurance about cause and effect relationships that comes from a true experiment. Among other problems, analysts using longitudinal data must make often-questionable assumptions about omitted variables that an experiment would avoid. These problems are not different from those in other non-experimental designs, however, and longitudinal data can address issues that are not amenable to the type of manipulations that experiments require. Longitudinal studies offer a balance of design strength and practicality and clearly provide an advance over the more common cross-sectional analyses.

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## CHAPTER 4

# Group-Based Modeling: An Overview

DANIEL S. NAGIN

### INTRODUCTION

This chapter provides an overview of a group-based statistical methodology for analyzing developmental trajectories—the evolution of an outcome over age or time. A detailed account of the method's statistical underpinnings and a full range of applications are provided in Nagin (2005).

In this discussion, the term developmental trajectory is used to describe the progression of any phenomenon, whether behavioral, biological, or physical. Charting and understanding developmental trajectories is among the most fundamental and empirically important research topics in the social and behavioral sciences and medicine. A few prominent examples include the following: criminological analyses of the progression and causes of criminality over life stages or of time trends of reported crime across geographic locations, psychological studies of the course and antecedents of psychopathologies, sociological investigations into the interaction between human behavior and social context over time, and medical research on the impact of treatments on the progress of diseases.

Longitudinal data—data with a time-based dimension—provide the empirical foundation for the analysis of developmental trajectories. Most standard statistical approaches for analyzing developmental trajectories are designed to account for individual variability about a mean

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population trend. However, many of the most interesting and challenging problems in longitudinal analysis have a qualitative dimension that allow for the possibility that there are meaningful subgroups within a population that follow distinctive developmental trajectories that are not identifiable *ex ante* based on some measured set of individual characteristics (e.g., gender or socioeconomic status). In psychology, for example, there is a long tradition of taxonomic theorizing about distinctive developmental progressions of these sub-categories. For research problems with a taxonomic dimension, the aim is to chart out the distinctive trajectories, to understand what factors account for their distinctiveness, and to test whether individuals following the different trajectories also respond differently to a treatment such as a medical intervention or major life event such as the birth of a child. This chapter describes an approach, based upon a formal statistical model, for conducting group-based analysis with time- and age-based data.

Across all application domains, this group-based statistical method lends itself to presentation of findings in the form of easily understood graphical and tabular data summaries. In so doing, the method provides statistical researchers with a tool for figuratively painting a statistical portrait of the predictors and consequences of distinct trajectories of development. Data summaries of this form have the great advantage of being accessible to non-technical audiences and quickly comprehensible to audiences that are technically sophisticated.

### AN ILLUSTRATION OF GROUP-BASED TRAJECTORY MODELING

Figure 4.1 reports a well-known application of group-based trajectory modeling that was first reported in Nagin and Tremblay (1999). It is based on data assembled as part of a Montreal Longitudinal-Experimental Study of Boys that has tracked 1,037 males from school entry through young adulthood. Assessments were made on a wide range of factors. Among these were teacher reports of each boy's physical aggression at age 6 and again annually from age 10 to 15. The scale was based on items such as frequency of fighting and physically bullying.

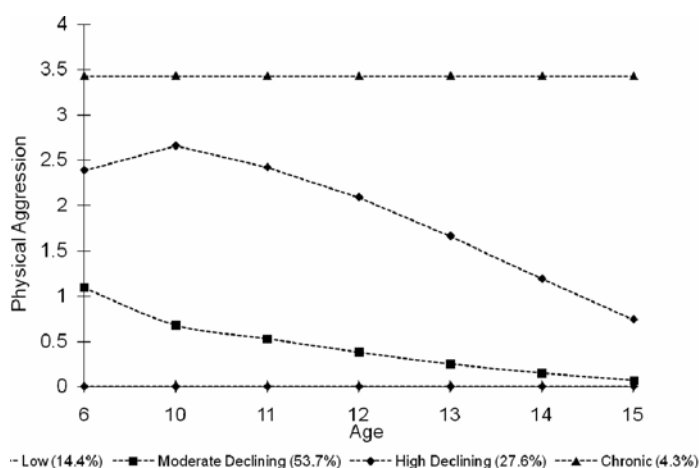


FIGURE 4.1. Trajectories of physical A.

The best model was found to involve four groups. A group called “lows” is comprised of individuals who display little or no physically aggressive behavior. This group is estimated to comprise about 15% of the sample population. A second group, comprising about 50% of the population, is best labeled “moderate declining.” At age 6, boys in this group displayed a modest level of physical aggression, but by age 10 they had largely desisted. A third group, comprising about 30% of the population, is labeled “high declining.” This group starts off scoring high on physical aggression at age 6 but scores far lower by age 15. Notwithstanding this marked decline, at age 15, they continue to display a modest level of physical aggression. Finally, there is a small group of “chronics,” comprising less than 5% of the population, who display high levels of physical aggression throughout the observation period.

Much could be said about the implications of these trajectories for the development of physical aggression but for our purposes here two implications are emphasized. One implication follows from the observation that all the trajectories are either stable or declining from the initial assessment at age 6. This implies that to understand the developmental origins of physical aggression, it is important to begin the study of physical aggression at an even earlier age. A second and related observation is that the onset of physical aggression is not in adolescence as suggested by many theories of delinquent behavior. See Tremblay and Nagin (2005) for a full development of these two observations.

These two points are highlighted because they illustrate the value of conducting longitudinal analysis in terms of groups. The groups can be thought of as latent longitudinal strata in the data that are composed of individuals following approximately the same development course on the outcome of interest. These strata identify distinctive longitudinal features of the data. In this application, the fact that all of the trajectories are stable or declining is a feature of the data that is of great substantive significance. Further the absence of a feature, namely, a trajectory reflecting the adolescent onset of physical aggression also has important substantive significance.

The group-based methodology is intended to be responsive to calls for the development of “person-based” approaches to analyzing development (Bergman, 1998; Magnusson, 1998). Such appeals are motivated by a desire for methods that can provide a statistical snapshot of the distinguishing characteristics and behaviors of individuals following distinctive developmental pathways. The group-based method lends itself to creating such profiles. Table 4.1 profiles the characteristics of individuals following the four physical aggression trajectories shown in Figure 4.1. As developed in chapter 5 of Nagin (2005), the model’s parameter estimates can be used to calculate the probability of an individual’s belonging to each of the trajectory groups. To create the profiles reported in Table 4.1, individuals were assigned to the trajectory group to which they mostly likely belonged, based on their measured history of physical aggression. The summary statistics reported in the table are simply the product of a cross-tabulation of group membership with the various individual characteristics and outcomes reported in the table.

The profiles conform to longstanding findings on the predictors and consequences of problem behaviors such as physical aggression. Individuals in the chronic aggression group tend to have the least educated parents and most frequently score in the lowest quartile of the sample’s IQ distribution. By contrast, individuals in the low aggression group are least likely to suffer from these risk factors. Further, 90% of the chronic aggression group fails to reach the eighth grade on schedule and 13% has a juvenile record by age 18. By comparison, only 19% of the low aggression group had fallen behind grade level by the eighth grade, and none have a juvenile record. In between are the moderate- and high-declining groups.



**TABLE 4.1. Physical Aggression Group Profiles**

Variable	Group			
	Low	Moderate declining	High declining	Chronic
Years of school—mother	11.1	10.8	9.8	8.4
Years of school—father	11.5	10.7	9.8	9.1
Low IQ (%)	21.6	26.8	44.5	46.4
Complete eighth grade on time (%)	80.3	64.6	31.8	6.5
Juvenile record (%)	0.0	2.0	6.0	13.3
No. of sexual partners at age 17 (past year)	1.2	1.7	2.2	3.5

Table 4.1 demonstrates that trajectory group membership varies systematically with the individual's psychosocial characteristics. An important generalization of the base model that is laid out in chapter 6 of Nagin (2005) allows for joint estimation of both the shapes of the trajectory groups and the impact of psychosocial characteristics on the probability of trajectory group membership. For example, such an analysis shows that the probability of trajectory group membership is significantly predicted by low IQ, low paternal education, and being born to a mother who began childbearing as a teenager (Nagin & Tremblay, 2001).

As noted, trajectories are not immutable. Life events or interventions may alter trajectories for the better or worse. Nagin, Pagani, Tremblay, and Vitaro (2003) explore the effect of grade retention from age 6 to 15 on the trajectories of physical aggression shown in Figure 4.1. They find that grade retention seems to exacerbate physical aggression in the low-declining and high-declining trajectory groups but has no apparent effect on the physical aggression of the extreme groups—the lows and the chronics. The model extension allowing for this sort of analysis is developed in chapter 7 of Nagin (2005). See also Haviland, Nagin, and Rosenbaum (2007) and Haviland, Nagin, Rosenbaum, and Tremblay (2008) for a discussion of the use of propensity score matching in combination with group-based trajectory modeling in making causal inferences about the effect of life events and interventions on developmental trajectories.<sup>1</sup>

## LIKELIHOOD FUNCTION

Group-based trajectory models are a specialized application of finite mixture models. While the conceptual aim of the analysis is to identify clusters of individuals with similar trajectories, the model's estimated parameters are not the result of a cluster analysis. Rather they are the product of maximum likelihood estimation. As such, they share the many desirable characteristics

<sup>1</sup> Propensity score matching is a form of quasi-experimental analysis of non-experimental data developed by Rosenbaum and Rubin (1983). It is designed to balance observed differences between individuals experiencing and not experiencing some life event or receiving or not receiving a specified treatment. By balancing those observed covariates between the treated and untreated, they can be ruled out as potential confounders of the estimated treatment effect.

of maximum likelihood parameter estimates—they are consistent and asymptotically normally distributed (Cramér, 1946; Greene, 1990; Thiel, 1971).

The specific form of the likelihood function to be maximized depends on the type of data being analyzed, but all are a special form of the following underlying likelihood function: let  $Y_i = \{y_{i1}, y_{i2}, \dots, y_{iT}\}$  denote a longitudinal sequence of measurements on individual  $i$  over  $T$  periods. For expositional convenience,  $y_{it}$  will generally be described as the behavior of an individual. However, the outcome of interest doesn't have to pertain to an individual or a behavior— $y_{it}$  can reference an entity such as a community, block face, or an organization, or it can measure a quantity such as a poverty rate or a mean salary level.

Let  $P(Y_i)$  denote the probability of  $Y_i$ . As developed in chapter 2 of Nagin (2005), for count data  $P(Y_i)$  is specified as the zero-inflated Poisson distribution, for censored data it is specified as the censored normal distribution, and for binary data it is specified as the binary logit distribution. Whatever the probability distribution, the ultimate objective is to estimate a set of parameters,  $\Omega$ , that maximizes the probability of  $Y_i$ . The particular form of this parameter set is distribution specific. However, across all distributions, these parameters perform the basic function of defining the shapes of the trajectories and the probability of group membership. As in standard growth curve modeling, the shapes of the trajectories are described by a polynomial function of age or time.

If the parameters of this polynomial function were constant across population members, the expected trajectory of all population members would be identical. Neither standard growth curve methods nor the group-based method assumes such homogeneity. Indeed the assumption of homogeneity is antithetical to the objective of either approach because both aim to analyze the reason for individual differences in development. Standard growth curve modeling assumes that the parameters defining the polynomial describe only a population mean and that the trajectories of individual population members vary continuously about this mean, usually according to the multivariate normal distribution. The group-based method assumes that individual differences in trajectories can be summarized by a finite set of different polynomial functions of age or time. Each such set corresponds to a trajectory group which is hereafter indexed by  $j$ . Let  $P^j(Y_i)$  denote the probability of  $Y_i$  given membership in group  $j$ , and  $\pi_j$  denote the probability of a randomly chosen population member belonging to group  $j$ .

If it were possible to observe group membership, the sampled individuals could be sorted by group membership and their trajectory parameters estimated with readily available Poisson, censored normal (tobit), and logit regression software packages. However, group membership is not observed. Indeed the proportion of the population comprising each group  $j$ ,  $\pi_j$ , is an important parameter of interest in its own right. Thus, construction of the likelihood function requires the aggregation of the  $J$  conditional likelihood functions,  $P^j(Y_i)$ , to form the unconditional probability of the data,  $Y_i$ :

$$P(Y_i) = \sum_j^J \pi_j P^j(Y_i), \quad (1)$$

where  $P(Y_i)$  is the unconditional probability of observing individual  $i$ 's longitudinal sequence of behavioral measurements,  $Y_i$ . It equals the sum across the  $J$  groups of the probability of  $Y_i$  given  $i$  is membership in group  $j$  weighted by the probability of membership in group  $j$ . Equation (1) describes what is called a “finite mixture model” because it sums across a finite number of

discrete groups that comprise the population. The term “mixture” is included in the label because the statistical model specifies that the population is composed of a mixture of unobserved groups.

For given  $j$ , conditional independence is assumed for the sequential realizations of the elements of  $Y_i, y_{it}$ , over the  $T$  periods of measurement. Thus,

$$P^j(Y_i) = \prod_{t=1}^T p^j(y_{it}), \quad (2)$$

Where  $p^j(y_{it})$  is the probability distribution function of  $y_{it}$  given membership in group  $j$ .

The rationale for the conditional independence assumption deserves elaboration. This assumption implies that for each individual within a given trajectory group  $j$ , the distribution of  $y_{it}$  for period  $t$  is independent of the realized level of the outcome in prior periods,  $y_{it-1}, y_{it-2}, \dots$ . Thus,  $p^j(y_{it})$  does not include prior values of  $y_{it}$  in its specification. This assumption greatly reduces the complexity of an already complex model. Due to this reduction in complexity, most applications of finite mixture modeling with longitudinal data assume conditional independence for the sake of tractability.

On its face, the conditional independence assumption may seem implausible because it would seem to imply that current behavioral outcomes are uncorrelated with past outcomes. At the level of the group, which is not observed, this is indeed the case. For individuals within a given group  $j$ , behavioral outcomes over time are assumed not to be serially correlated in the sense that individual-level deviations from the group trend are uncorrelated. However, even with the assumption of conditional independence at the level of the latent group, there will still be serial dependence over time at the level of the population. Specifically, past outcomes will be correlated with current outcomes (e.g., across individual's body mass index at period  $t$  will be correlated with its value in subsequent periods). Such serial dependence results from the group-specific specification of  $p^j(y_{it})$ . Differences in this specification across groups allow for persistent differences of the outcome variable across population members.

The conditional independence assumption is also invoked in the standard random effect model that underlies conventional growth curve models. The random effect model assumes that the sequential realizations of  $y_{it}$  are independent, conditional upon the individual's random effect. Thus, in the group-based model, the conditional independence assumption is made at the level of the group, whereas in the random effect model it is invoked at the level of the individual. In this sense, the conditional independence assumption is stronger in the group-based model than in the standard random effect model. Balanced against this disadvantage is the advantage that the group-based model does not make the very strong assumption that the random effect is independently and identically distributed according to the normal distribution.

The likelihood for the entire sample of  $N$  individuals is simply the product of the individual likelihood functions of the  $N$  individuals comprising the sample:

$$L = \prod_{i=1}^N P(Y_i).$$

Intuitively, the estimation procedure for all data types identifies distinctive trajectory groups as follows. Suppose that a population is composed of two distinct groups: (i) youth offenders (comprising 50% of the population) who up to age 18 have an expected offending rate,  $\lambda$ , of 5 and who after age 18 have a  $\lambda$  of 1 and (ii) adult offenders (comprising the other 50% of the

population), whose offending trajectory is the reverse of that of the youth offenders—through age 18 their  $\lambda = 1$  and after age 18 their  $\lambda$  increases to 5. Longitudinal data on the recorded offenses of a sample of individuals from this population would reveal two distinct groups: (i) a clustering of about 50% of the sample who have had many offenses prior to 18 and relatively few offenses after age 18 and (ii) another 50% clustering with the reverse pattern.

If these data were analyzed under the assumption that the relationship between age and  $\lambda$  was identical across all individuals, the estimated value of  $\lambda$  would be a "compromise" estimate of about 3 for all ages. From this, one might mistakenly conclude that the rate of offending is invariant with age in this population. If the data were instead analyzed using the group-based approach, which specifies the likelihood function as a mixing distribution, no such mathematical "compromise" would be necessary. The parameters of one component of the mixture would effectively be used to accommodate (i.e., match) the youth-offending portion of the data whose offending declines with age and another component of the mixing distribution would be available to accommodate the adult offender data whose offending increases with age.

## **GROUP-BASED TRAJECTORY MODELING CONTRASTED WITH STANDARD GROWTH CURVE MODELING**

Hierarchical modeling (Bryk & Raudenbush, 1987, 1992; Goldstein, 1995) and latent curve analysis (McArdle & Epstein, 1987; Meredith & Tisak, 1990; Muthén, 1989; Willett & Sayer, 1994) are two important alternative approaches to the group-based methodology for modeling developmental processes. Like the group-based approach that is the subject of this chapter, these two alternatives are designed to provide a statistical tool for measuring and explaining differences across population members in their developmental course. Because all three approaches share the common goal of modeling individual-level heterogeneity in developmental trajectories, each must make technical assumptions about the distribution of trajectories in the population. It is these assumptions that distinguish the three approaches.

While the assumptions underlying hierarchical modeling and latent curve analysis differ in important respects, they also have important commonalities (MacCallum, Kim, Malarkey, & Kiecolt-Glaser, 1997; Raudenbush, 2001; Willett & Sayer, 1994). For the purposes of this chapter, one commonality is crucial: both model the population distribution of trajectories based on *continuous* distribution functions. Unconditional models estimate two key features of the population distribution of trajectory parameters—their mean and covariance structure. The former defines average growth within the population, and the latter calibrates the variances of growth throughout the population. The conditional models are designed to explain this variability by relating trajectory parameters to one or more explanatory variables.

Modeling individual-level differences requires that assumptions be made about the distribution of trajectory parameters in the population. Both hierarchical modeling and latent curve analysis assume that the parameters are continuously distributed throughout the population according to the multivariate normal distribution. Group-based trajectory modeling takes a qualitatively different approach to modeling individual differences. Rather than assuming that the population distribution of trajectories varies continuously across individuals and in a fashion that can ultimately be explained by a multivariate normal distribution of population parameters, it assumes that there may be clusters or groupings of distinctive developmental trajectories that themselves may reflect distinctive etiologies. In some applications, the groups may be

literal entities. For example, the efficacy of some drugs depends on the users’ genetic makeup. However, in many other application domains, the groups should not be thought of as literally distinct entities. Rather they serve as a statistical approximation to a more complex underlying reality.

One use of finite mixture models is to approximate a continuous distribution function (Everitt & Hand, 1981; Heckman & Singer, 1984; McLachlan & Peel, 2000; Titterington, Smith, & Makov, 1985). Heckman and Singer (1984) built on the approximating capability of finite mixture models to construct a nonparametric maximum likelihood estimator for the distribution of unobservables in duration models. The motivation for this seminal innovation was their observation that social science theory rarely provides theoretical guidance on the population of distribution of unobserved individual differences, yet statistical models of duration data were often sensitive to the assumed form of the distribution of such differences. Their proposed estimator finessed the problem of having to specify a distribution of unobserved individual difference by approximating the distribution with a finite mixture model.

The idea of using a finite number of groups to approximate a continuous distribution is easily illustrated with an example. Suppose that Panel A in Figure 4.2 depicts the population distribution of some behavior  $z$ . In Panel B, this same distribution is replicated and overlaid with a histogram that approximates its shape. Panel B illustrates that any continuous distribution with finite endpoints can be approximated by a discrete distribution (i.e., a histogram) or alternatively by a finite number of “points of support” (i.e., the dark shaded “pillars”). A higher number of

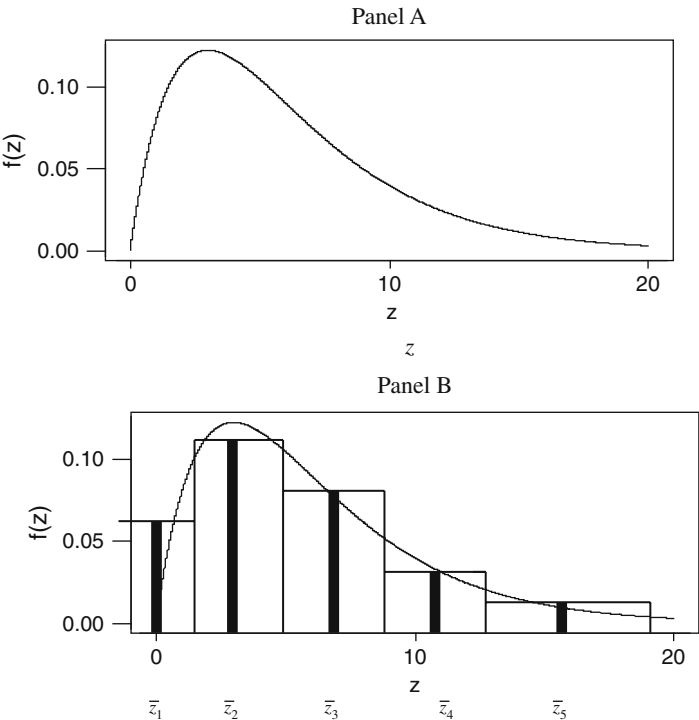


FIGURE 4.2. Using groups to approximate an unknown distribution.

support points yield a discrete distribution that more closely approximates the true continuous distribution.

Why use groups to approximate a continuous population distribution of developmental trajectories? This brings us back to the key distinction between standard growth curve modeling and group-based trajectory modeling. Both approaches model individual trajectories with a polynomial relationship that links age to behavior. The approaches differ in their modeling strategy for incorporating population heterogeneity in the growth curve parameters (e.g.,  $\beta_0$ ,  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  in a cubic function of age or time). In conventional growth curve modeling, the parameters describing individual-level trajectories are assumed to be distributed according to a specific function, usually the multivariate normal distribution. In the group-based trajectory model, the distribution is approximated by a finite number of trajectory groups or points of support.

By identifying latent strata of individuals with similar developmental trajectories, differences that may explain or at least predict individual-level heterogeneity can be expressed in terms of group differences. By contrast, a modeling strategy that assumes a continuous distribution of trajectories must explain individual-level heterogeneity in terms of that distribution function. This difference has fundamental implications for the framing of the statistical analysis.

The application depicted in Figure 4.3 may serve to illustrate the difference in approach between group-based trajectory modeling and conventional growth curve modeling. The data used in this application were also from the Montreal-based study used to estimate the trajectories of physical aggression. In this case, the trajectories are based on annual self-reports from age 11 to 17 about involvement with a delinquent gang in the past year. Application of the group-based method to this gang involvement data identified the three highly distinct groups shown in the figure (Lacourse, Nagin, Vitaro, Claes, & Tremblay, 2003). The trajectory for each group is described by the probability of gang membership at each age. One trajectory, called the never group, is estimated to comprise 74.4% of the population. This group's probability of gang membership was very small over all ages. The second group, called the childhood onset group, began at age 11 with a high probability of gang membership that modestly rises till age 14 and declines

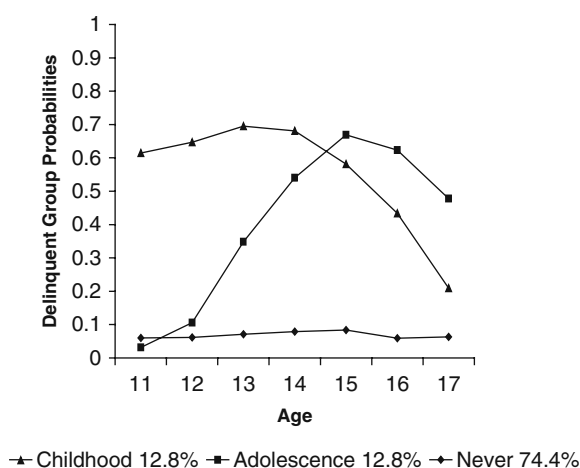


FIGURE 4.3. Trajectories of gang membership.

thereafter. The third group, called the adolescent onset group, had a near-zero probability of gang membership at age 11, but thereafter the probability rose to a rate that actually exceeded that of the childhood onset group. The latter two groups are each estimated to constitute 13.4% of the sampled population.

Had standard growth curve modeling methods been applied to these data, the product of the analysis would have been entirely different. The counterpart to the results in Figure 4.3 would have been the unconditional model which would have described the average probability trajectory of gang involvement at each age from 11 to 17 and an associated set of variance parameters measuring the population variability about this mean trajectory. Thus, the points of departure of the two modeling approaches for drawing inferences about data are fundamentally different. The growth curve approach aims to identify the factors that account for individual variability about the population's mean trajectory of development. By contrast, the group-based approach frames questions of statistical inferences in terms of the trajectory group—what factors distinguish group membership and how do groups differ, if at all, in their response to events that might alter a trajectory.

For what types of problems is the group-based approach more appropriate than standard growth curve modeling and conversely, for what types of problems is the standard approach a better fit? This is a question without a clear answer. Still some guidelines are possible. One guideline relates to the adjective “growth” that modifies “curve modeling.” The prototypical application of standard growth curve modeling involves a process in which population members follow a common developmental pattern of either increase or decline. Raudenbush (2001) offers language acquisition as a quintessential example of such a process. Another good example is time spent with peers from childhood through adolescence (Warr, 2002). Standard growth curve methods are well suited for analyzing such developmental phenomena because it is reasonable to assume that most individuals experience a common process of growth or decline, albeit at different rates. However, there are large classes of developmental phenomena for which the conception of a common growth process does not naturally fit. Raudenbush describes the population differences for this class of problems as “multinomial,” and for such problems, he recommends a group-based approach as particularly appropriate. Raudenbush (2001) uses depression as an example. He observes the following: “It makes no sense to assume that everyone is increasing (or decreasing) in depression. . . many persons will never be high in depression, others will always be high, while others will become increasingly depressed” (p. 513).

The basis for Raudenbush's making a distinction between the developmental processes underlying language acquisition and depression is fundamental and cannot be overstressed. The former are appropriately analyzed by conventional analysis of variation; the latter are not. Because the vocabularies of all young children from normal populations increase with age, it is sensible to ask questions such as what is the average growth curve of children's vocabulary over a specified age range? How large is the variation across children in their individual-level language acquisition growth curves? How do such “between-person” variations relate to factors such as the child's cognitive functioning and parental education? How are “within-person” changes in acquisition related to changes in interactions with primary caregivers due, for example, to parental conflict?

These questions are framed in the language of analysis of variance as reflected in the use of terms such as “within-person change” and “between-person change.” This is only natural because standard growth curve analysis has its roots in analysis of variance. Like analysis of

variance, growth curve analysis is designed to sort out factors accounting for variation about a population mean.

To meaningfully frame an analysis in the conceptual apparatus of analysis of variance requires that it be sensible to characterize population differences in terms of variation about the population mean. For processes such as language acquisition, the mean trend is, in fact, a sensible statistical anchor for describing individual variability. However, for many processes evolving over time or age, it is not. For example, it makes no sense to frame a statistical analysis of population differences in the developmental progression of attention deficit disorder (ADD) in terms of variation about the mean trajectory of ADD because ADD is the exception, not the norm, within the general population. Other examples of evolving behavioral phenomena that are not properly described in terms of variation about a population mean are most forms of psychopathology and abuse of both licit and illicit drugs. More generally, a group-based approach to analyzing longitudinal data is usefully applied to phenomena in which there may be qualitatively different trajectories of change over age or time across subpopulations that are not identifiable *ex ante* based on measured characteristics such as gender or race.

The assumption that all individuals follow a process that increases or decreases regularly within the population may also be violated because there may not be a single explanation for the differences in the developmental trajectories of subpopulation. For example, Nagin and Tremblay (2001) found that a host of predictors involving the individual's psychological makeup and family circumstances distinguished individuals following low versus high trajectories of physical aggression in childhood. However, a comparison of two distinct subpopulations of high childhood trajectories—those following a trajectory of chronic aggression versus those who started childhood with high aggression but later declined—revealed that only two maternal characteristics distinguished these groups. Using standard growth curve modeling methods, it would have been very difficult to identify this important difference in variables that distinguished among trajectories of childhood physical aggression. Identification of such differences is far easier with a methodology that clusters individuals with similar developmental trajectories.

A second guideline concerns the motivation for the analysis. One common aim of analyses of longitudinal data is to uncover distinctive developmental trends in the outcome variable of interest. For example, do sizable numbers of youths follow a trajectory of adolescent onset conduct disorder? The group-based approach is ideally suited for testing whether such distinctive patterns are present in the data. By contrast, another common aim of developmental studies is to test whether some identifiable characteristic or set of characteristics are associated with individual differences in trajectories of development. An example is whether trajectories of conduct disorder differ across sexes. For this type of problem, standard growth curve modeling provides a natural starting point for framing the statistical analysis—a comparison of the mean trajectories for boys and girls. Thus according to this second guideline, the group-based approach lends itself to analyzing questions that are framed in terms of the shape of the developmental course of the outcome of interest, whereas standard growth curve modeling lends itself to analyzing questions framed in terms of predictors of the outcome's developmental course.<sup>2</sup>

A third guideline concerns the possibility of path dependencies in the response to turning point events such as marriage or to treatments such as hospitalization for a psychiatric disorder.

<sup>2</sup> I thank Steven Durlauf and Wayne Osgood for pointing out this important distinction.



Path dependencies occur when the response to a turning point event or treatment is contingent upon the individual's developmental history. For example, Nagin et al. (2003) found that the seeming impact of grade retention on physical aggression depended upon the child's trajectory of physical aggression. The subsequent physical aggression of children who had been following trajectories of little physical aggression or of chronic physical aggression appeared to be unaffected by the event of being held back in school. By contrast, the physical aggression of individuals who had been following trajectories of declining physical aggression seemed to be exacerbated. Such path dependencies are commonplace in the literature on human development (Elder, 1985). Indeed the possibility of path dependencies is a key rationale for longitudinal studies. The group-based trajectory model is well suited for identifying and testing whether the response to a turning point event or treatment is contingent upon the individual's developmental trajectory.

Laying out guidelines for the use of alternative statistical methods is a precarious exercise. Users naturally desire bright-line distinctions. Yet bright-line distinctions are generally not possible. The first guideline implies that developmental processes can be cleanly divided between those involving regular growth or decline and those that do not. The reality is that for many developmental processes, it is not possible to confidently make this distinction. The second guideline implies that the objective of an analysis can be classified as either identifying distinctive developmental trajectories or testing predictors of developmental trajectories. The reality is that most analyses have both objectives. Still a further complication is that standard growth curve modeling can be used to identify distinctive developmental trajectories for *predefined* groups (e.g., races or genders), and the group-based modeling can be used to test theories about the underlying predictors and causes of population differences in developmental trajectories. The third guidelines might be interpreted as implying that it is not possible to identify path dependencies with conventional growth curve models. This is not the case. Stated differently, both methods are designed to analyze change over time. The group-based method focuses on identification of different trajectory shapes and on examining how the prevalence of the shape and shape itself relates to predictors. By contrast, standard growth curve modeling focuses on the population mean trajectory and how individual variation about that mean relates to predictors. Thus, the alternative approaches are best thought of as complementary, not competing.

### AN ALTERNATIVE CONCEPTION OF A GROUP FROM THE STRUCTURAL EQUATION MODELING TRADITION

In group-based trajectory modeling, the parameters of the polynomial function defining the mean trajectory of group  $j$  are denoted by a vector  $\beta^j$ . Muthén and Shedden (1999) developed an elegant and technically demanding extension of the uncensored normal model, which adds random effects to the parameters,  $\beta^j$ , that defines a group's mean trajectory.

This extension allows the trajectories of individual-level group members to vary about the group's mean trajectory. The model for each group can be interpreted in a manner that is equivalent to that for the conventional normal-based growth curve model. The estimate of  $\beta^j$  defines the mean trajectory for the group, and the estimate of the covariance matrix of the random effects characterizes the variation of group members' trajectories about this mean. The fundamental difference between the Muthén and Shedden model and the conventional growth curve model is that the former is comprised of multiple latent groups whereas the latter is defined by a single group.

Muthén (2001) uses the term generalized growth mixture modeling (GGMM) to label this modeling extension. The principal advantage of GGMM is that the addition of random effects may improve model fit. Balanced against this important benefit are a number of disadvantages. One is that the addition of random effects to a group-based model can result in the use of fewer trajectory groups because their addition allows for more within group heterogeneity. In group-based trajectory modeling, a group is conceptually thought of as a collection of individuals who follow approximately the same developmental trajectory. The groups correspond to the points of support in Figure 4.2. They describe the distinctive features of the population distribution of trajectories. Population variability is captured by differences across groups in the shape and level of their trajectories. Because the trajectory groups are intended to define clusters of individuals following approximately the same developmental course, increasing within group heterogeneity can be counterproductive to this objective.

In the GGMM schema, a latent group is a population of individuals with *heterogeneous* developmental trajectories that can nonetheless be described by a single probability distribution. The population-at-large is only comprised of multiple latent groups when more than one probability distribution is required to model individual differences within the population. Stated differently the GGMM describes population heterogeneity with multiple layers of heterogeneity. This layering of heterogeneity may serve to improve model fit, but it also can result in a fundamental indeterminacy in the conception of a group because it implies that an individual belonging to group A might actually have a trajectory that more closely corresponds to the mean trajectory of group B.

The layering of heterogeneity also raises difficult issues of model identification. The challenge of identification is reflected in the work of Bauer and Curran (2003, 2004). Their analyses show that under the GGMM definition of a group, relatively modest errors in the specification of the group's probability distribution can result in mistaken inferences about the number of groups comprising the population. Specifically, one might conclude that multiple groups are required to model the population when, in fact, the population can be described by a single correctly specified probability distribution. Thus, Bauer and Curran conclude that GGMM is vulnerable to creating the illusion of groups when, in fact, there are none.

Bauer and Curran's analysis is technically sound. However, their caution about illusory groups has little relevance to the actual application of group-based trajectory modeling as developed in this chapter. In all applications of group-based modeling known to the author, the researchers are attempting to identify whether there are distinctive clusters of trajectories and, if so, whether individuals following such trajectories are distinctive in some respects. In this context, a group bears no relationship to the definition of a group analyzed by Bauer and Curran. Specifically, it is not a subpopulation of *heterogeneous* individuals that can be described by a single probability distribution. Instead it is a cluster of approximately *homogenous* individuals, in the sense that they are following about the same developmental course, who may have distinctive characteristics from other clusters of individuals following different developmental courses.<sup>3</sup>

<sup>3</sup> For example, when Moffitt (1993, 1997) uses the terms "life-course-persistent offenders" and "adolescence-limited offenders," she is using these labels to describe two distinct clusters of developmental trajectories. Even if it were possible to pose a single distribution function that describes both clusters of individuals, this would not vitiate her theoretical conception of them as distinct groups.

## CONCLUDING REMARKS

A hallmark of modern longitudinal studies is the variety and richness of measurements that are made about the study's subjects and their circumstances. Less often acknowledged is that this abundance of information is accompanied by a difficult companion—complexity. Commonly, researchers are confronted with the dilemma of how best to explore and communicate the rich set of measurements at their disposal without becoming so bogged down in complexity that the lessons to be learned from the data are lost on them and their audience.

An important motivation for my commitment to developing and promoting the group-based trajectory method is the belief that alternative methods for analyzing development in longitudinal data sets too often leave the researcher with a Hobson's choice of balancing comprehensibility against an adequate exploration of complexity. Group-based trajectory modeling does not solve the problem of balancing comprehensibility and complexity. However, it does provide researcher's with a valuable tool for identifying, summarizing, and communicating complex patterns in longitudinal data.

Summarizing data necessarily requires reduction. Reduction requires approximation. In the case of group-based models, the approximation involves the grouping of individuals who are not entirely homogenous. Balanced against this reduction error is a greatly expanded capability for creating dense, yet comprehensible, descriptions of groups of people through time.

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## **PART II**

# **EXPLANATIONS OF CRIME**

**MARVIN D. KROHN**

Over the past decade, there have been significant developments in theories of criminal and deviant behavior. Many of these developments have been generated by taking an important concept or approach and redirecting the way it is used. For example, both institutional anomie theory and general strain theory have taken the original approach developed by Durkheim and refined by Merton in two different directions. The understanding of why people behave in criminal or deviant ways has also been enhanced by significant research developments. Perhaps nowhere is this more evident than in the area of biological and genetic approaches to the explanation of crime. The discovery of the structure of DNA and the resulting identification of genotypes has expanded the potential of this approach immeasurably. In addition, some theoretical perspectives have advanced in a steady progression with ideas fueled by the interplay between research and theoretical refinement.

We have not tried to include all extant theoretical perspectives. To do so would constitute a full compendium of its own. We have selected perspectives that represent both individual and social structural approaches to the explanation of crime and deviance. The selected perspectives all have experienced some theoretical growth in the past decade. The authors of the chapters have been instrumental in advancing their respective theories and the research that explores them.

As suggested some of the most significant theoretical developments in the study of crime and deviance are emanating from approaches that take a biological/genetic approach. Spurred on by dramatic findings in the areas of genetics and the related field of evolutionary psychology, scholars like Anthony Walsh and Kevin Beaver are trying to apply these findings to the study of crime and deviance. Part of the problem with the application of this approach is the fact that most criminologists have not been trained in genetics. Moreover, as Walsh and Beaver point out, part of the problem is a resistance to these perspectives by those trained in the social sciences.

Walsh and Beaver do an excellent job in summarizing the significant developments in this area and, most importantly, making this research accessible to social scientists.

Ronald Akers and Robert Burgess first introduced social learning theory in 1966. Since that time, Akers has continued to refine the theory and he and his many students have pursued a vigorous research program to examine the viability of the theory. In the current chapter, Akers and Jennings include a brief summary of the basic components of the theory and then proceed to focus on Akers' explication of the role of social structural variables. Although Akers suggested that social learning variables would be expected to mediate the relationship between factors such as gender and social class, he did not formally incorporate the social structural variables into his theory until 1998. An important contribution of this essay is the examination of the recent research on the full model.

Much like Akers, Howard Kaplan has been developing his self-referent theory over the course of 40 years. Although the central premise of the theory has remained consistent, Kaplan has done an excellent job of incorporating the findings from a long-term research project to modify and improve his theory. The current essay is the best exposition of his theory and its development that the editors of this handbook have seen. In it, he examines the basic tenets of the theory and documents how it has changed over time. Kaplan 'listens' to his research findings as well, if not better, than any other theorist does. Rather than dismissing findings that are contrary to the theory, he either endeavors to find a way to account for them within the structure of the theory or admits that they present a problem for the theory.

Self-control theory has received more attention over the past 10 years than any other theoretical perspective in the discipline. Predicated on the argument that an explanation of crime should be based on the characteristics of crime, Gottfredson and Hirschi argued that self-control, formed early in one's life, explained why some individuals are more likely than others to commit a crime or some other form of deviant behavior. While the theoretical argument is rather straightforward, the difficulty with the theory has been in the details of researching propositions derived from it. As a proponent of self-control theory, Alex Piquero reviews the controversial research on the theory. In his own research that is summarized in this chapter, Piquero has taken a leading role in developing measures of the concept of self-control and, thus, in providing evidence in support of the premises of the theory.

The strain perspective's popularity that was so evident from the late 1930s through to the 1960s significantly waned as findings from self-report studies questioned the impact of economic disadvantage as key cause of delinquency and crime. In the 1980s, Robert Agnew advanced a version of strain theory, general strain theory (GST), which identified a number of sources of strain other than that caused by economic hardship. His approach has revitalized interest in strain as evidenced by the research that Agnew reviews in his chapter. In addition to reviewing the theory and key research findings, Agnew demonstrates the potential of his perspective to account for group differences in crime and patterns of offending over the life course.

Much like the strain perspective, interest in labeling theory had diminished by the late 1970s. In part, this was a result of the oversimplification of both the theory and the criticisms leveled against it. Jón Bernburg examines how more recent work on labeling theory (including his own) has addressed those criticisms. In particular, Bernburg argues that the examination of mediating variables in examining how official intervention indirectly affects continued involvement in crime has been an important recognition leading to a renewed interest in the labeling theory. An area that Bernburg suggests that more research is needed is the investigation of contingencies that might explain why the label affects some people whereas others are not affected.

The remaining two selections can be characterized as emphasizing a social structural approach to the explanation of crime and deviance. Institutional anomie theory developed by Steven Messner and Richard Rosenfeld shares with Agnew the work of Merton as its intellectual antecedent. However, unlike Agnew who focused on the strain component of Merton's ideas, Messner and Rosenfeld discuss how our society's overemphasis on economic goals permeates in an adverse way other major institutions (e.g., the family), resulting in an egoistic form of individualism and a weakening of social norms. From this, they derive a number of research hypotheses concerning rates of crime across different nations as well as within national borders. They review the research on many of the implications of their theory. In many ways, institutional anomie theory resonates well with what we are observing in American society today.

Our final selection brings us back to the beginning in a sense. Charis Kubrin's chapter focuses on one of the first theoretical perspectives that was produced by American criminologists, social disorganization theory. Ironically, even though this approach has been around for some 90 years, some of the problems that plagued it in the 1920s continue to be evident today. After reviewing the basic tenets of the theory, Kubrin details those continuing challenges and adds additional concerns that the approach must address. However, as Kubrin also recognizes, recent work on social disorganization has identified the path that future work must take to continue to advance this perspective.

## CHAPTER 5

# Biosocial Criminology

ANTHONY WALSH  
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Biosocial criminology is a perspective that takes seriously the fact that *any* meaningful human action is *always* the result of individual propensities interacting with environmental instigation. Moir and Jessel (1995, p. 10) have asserted that “the evidence that biology is a central factor in crime, interacting with cultural, social, and economic factors, is so strong. . . that to ignore it is perverse.” Yet it is ignored more often than not, and few criminologists consider themselves “perverse” for doing so. Biosocial criminologists know how difficult it will be to convince their mostly sociologically trained colleagues (Walsh & Ellis, 2004) that the biosocial perspective has much to offer, for it has been said that sociologists are not simply oblivious to biology, but “militantly and proudly ignorant” (van den Berghe, 1990, p. 177). We doubt that this is as true today as it probably was back then; we certainly hope not, for as sociologist Matthew Robinson has opined, “the biological sciences have made more progress in advancing our understanding about behavior in the past 10 years than sociology has made in the past 50 years” (2004, p. 4). Human beings have genes, brains, hormones, and an evolutionary history, and criminologists should be able to extract from the disciplines that study such things rich new insights into the familiar and exciting ways of discovering things previously overlooked.

Statements such as these may not sit well with those whose understanding of biology is limited to the traditional textbook fare of phrenology, atavism, and the XYY syndrome. Their sociological training leads them to argue that to invite the demon biology to the ball is to invite racism and eugenics, among other things, but as Bryan Vila (1994) has pointed out, “Findings can be used for racist or eugenic ends only if we allow perpetuation of the ignorance that underlies these arguments” (p. 329). Overcoming ignorance requires criminologists to gain a grasp of genetics, neuroscience, and evolutionary biology. One does not have to become an expert in the exotic minutia of these disciplines, it is only necessary to learn the rudiments well enough to

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appreciate and apply the relevant literature to criminology in the same way that we learn and apply statistical methods. It is certainly a challenge, but it is an exciting and rewarding one.

Biosocial perspectives owe much of their current robustness not so much to new theorizing as to huge advances in biotechnology. Neuroimaging is becoming cheaper and more efficient all the time, and DNA can be obtained from cheek swabs and analyzed for as little as \$10 per person (Butcher et al., 2004). There are a number of ambitious longitudinal studies being carried on today in concert with medical and biological scientists that have taken advantage of these technologies such as the Dunedin Multidisciplinary Health and Development Study (Caspi et al., 2002), the National Longitudinal Study of Adolescent Health Study (Udry, 2003), and the National Youth Survey (Menard & Mihalic, 2001).

Talk of genes, hormones, and brains clearly means that the biosocial perspective seeks to explain *criminality*, not crime. Crime is an event, a socially defined act that is proscribed by the law. Criminality on the other hand refers to individual predisposition to commit crimes and other acts of victimization for personal gain and is a continuously distributed trait which is itself composed of numerous sub-traits such as low levels of empathy, self-control, fear, and IQ and high levels of sensation seeking, negative emotionality, and egoism. No one argues that fluctuations in crime rates have a biological foundation; to do so would be to confuse the social, political, and economic causes of secular change with the causes of individual variance in the propensity to commit crimes. Environmental factors function by raising or lowering individual thresholds for engaging in criminal behavior.

Let us make it clear that there is no such thing as a strictly biological theory of criminality; all theories of human behavior that integrate biological insights are *biosocial*. There are three general biosocial approaches: genetic, evolutionary, and neurohormonal. All three approaches are so environmentally friendly that they may well have been called biologically informed environmental approaches. While these approaches employ different methods, work with different units of analysis, and invoke different levels of causation, their principles are conceptually consistent across all three levels of analysis and they all recognize the importance of the environment. As Baker, Bezdjian, and Raine (2006, p. 44) state, “the more we know about genetics of behavior, the more important the environment appears to be.” The same could also be said of accumulating knowledge about the brain and evolutionary biology.

## GENETICS AND CRIME

No geneticist claims that there are genes “for” criminal behavior. Genes are for making proteins, some of which facilitate (not cause) our behavior and feelings. Genes produce tendencies to respond to the environment one way rather than another, but the genome is not a blueprint containing deterministic instructions for constructing certain types of brains that then produce certain types of behavior. There are, however, genetic variations (polymorphisms) that lead to extreme values on certain phenotypic traits that increase the probability of offending when combined with other traits and with the right kind of environment.

Behavior geneticists assess the amount of variance in a phenotypic trait attributable to genes using heritability coefficients ( $h^2$ ) that range between 0 and 1.00. Heritability coefficients for most traits related to antisocial behavior are in the 0.20–0.80 range, and for antisocial behavior itself they are in the 0.40–0.58 range (Miles & Carey, 1997; Rhee & Waldman, 2002), with  $h^2$  being higher in adult than in juvenile populations because of the high base rate of juvenile

offending. Because  $1-h^2 = \text{environmentality } (c^2)$ , environmental factors account for between 40 and 60% of the variance in antisocial behavior. Heritability provides only an index of *actualized* genetic effects in a population in a particular environment at a particular time because different environments provide different opportunities for genetic potential to be realized. For instance, the heritability of IQ is considerably higher (low 0.70s) in advantaged environments than in disadvantaged environments (range 0.10–0.26) (Rowe, Jacobson, & Van den Oord, 1999; Turkheimer, Haley, Waldron, D'Onofrio, & Gottesman, 2003).

A review of 72 behavior genetic studies conducted up to 1997 found that 93% were supportive of the hypothesis that genes affect antisocial behavior (Ellis & Walsh, 2000). Behavior genetic studies are more useful to criminologists in helping to make more sense of traditional criminological theories rather than in advancing genetic theories per se. For instance, large longitudinal behavior genetic studies conducted in the United States (Cleveland, Wiebe, van den Oord, & Rowe, 2000) and in the United Kingdom (Moffitt & the E-Risk study team, 2002) showed that genetic factors play a major part in sorting individuals into different family structures, a variable often linked to antisocial behavior. These studies focused on such heritable factors as sexual promiscuity, intelligence, self-control, and propensity for engaging in risky behavior.

A major longitudinal study of child abuse and neglect integrating genetic data showed why only about one-half abused/neglected children become violent adults (Caspi et al., 2002). Researchers found that subjects who had been maltreated as a child and who possessed the low-activity allele of the MAOA enzyme had a highly elevated probability of becoming antisocial adults, including having an official record for violent offenses. Adults maltreated as children with the high-activity MAOA allele had a much lower probability of becoming antisocial. Although only 12% of the sample had the low-activity allele *and* were maltreated as children, this small subsample of males accounted for 44% of convictions for violence. A recent meta-analysis found that the interaction between MAOA and maltreatment is a significant predictor of antisocial behaviors across studies (Kim-Cohen et al., 2006).

Another study looked at Gottfredson and Hirschi's (1990) assumption that parents are primarily responsible for their children's self-control (Wright & Beaver, 2005). A modest relationship between parental practices and children's self-control was found, but disappeared when genetic information was added. In other words, not using genetically informed methods leads researchers to misidentify important causal influences. Wright and Beaver (2005, p. 1190) concluded, "for self-control to be a valid theory of crime it must incorporate a more sophisticated understanding of the origins of self-control." Lilly, Cullen, and Ball (2007, p. 110) support Wright and Beaver when they state that "research suggests that parents may affect levels of self control less by their parenting styles and more by genetic transmission."

## MOLECULAR GENETICS

Behavior genetic studies show only that "something genetic" is operating, not the specific genes involved. Molecular genetics is the next step in the bottom-up search for the genetic contribution to the causes of behavior because it is where we may find the actual genes. After sampling DNA from individuals, researchers may correlate gene variants already identified with a trait or search for multiple candidate genes that may be associated with a quantitative trait via *quantitative trait loci* (QTL) mapping. A QTL is a locus of closely linked polymorphic genes the alleles of which are thought to affect variance in targeted quantitative traits. Each QTL may have small effect

sizes, but multiple QTLs may be identified and combined into a “QTL set” as genetic risk factors (Plomin & Asbury, 2005). For instance, a recent search found 29 genetic markers out of 374 examined for the comorbidity of conduct disorder and vulnerability to substance dependence (Stallings et al., 2005).

Researchers also examine gene  $\times$  gene (G $\times$ G) interactions in the etiology of antisocial behavior. Carrasco et al. (2006) examined two genes responsible for the functioning of the neurotransmitter dopamine—the DRD4 and DAT1 genes. To grossly simplify, dopamine is the major “motivating/reward” neurotransmitter, DRD4 is a highly polymorphic dopamine receptor gene that comes in a variety of “repeat” forms, and DAT1 is a dopamine transporter gene that also comes in a variety of repeats. Carrasco et al. found no independent effects of two genetic polymorphisms, but individuals who possessed both the 7-repeat allele of the DRD4 and the 10-repeat allele of the DAT1 were significantly more likely to be diagnosed with ADHD (odds ratio = 12.7) than subjects possessing neither or only one of these alleles. Similarly, Beaver, Wright, DeLisi, et al. (2007) found no significant main effects for either the DRD2 or DRD4 polymorphisms on conduct disorder or antisocial behavior, but the G $\times$ G interaction had significant effects on both.

## EPIGENETICS

Epigenetics is an exciting and relatively new way of looking at how the genome interacts with the environment and is defined as “any process that alters gene activity without changing the DNA sequence” (Weinhold, 2006, p. 163). Genes are switched on and off by signals from the organism’s internal chemical environment and/or by its external physical and social environments according to the challenges it faces. There are some genes that may be so strongly shaped by protracted environmental events that they are permanently turned on or off by less than the normal environmental instigation required to do so or even in the absence of such instigation. The regulation of genetic activity is accomplished by two main processes: methylation and acetylation, the most common of which is methylation (Lopez-Rangel & Lewis, 2006). Methylation involves the attachment of a group of methyl atoms to a cytosine nucleotide base (one of the four “letters” of DNA) thus preventing the translation of DNA into mRNA, and hence the protein the gene codes for is not manufactured (Corwin, 2004).

There are a few quite suggestive lines of evidence from epigenetic research that may open up whole new vistas for criminologists. For instance, a number of mental health researchers have been looking into the epigenetic regulation of serotonin and dopamine receptors in the etiology of schizophrenia and bipolar disorder (Petronis & Gottesman, 2000). However, the most important line of research for us may be in the epigenetics of nurturing. There has been a lot of experimental research with lab animals, examining the epigenetic consequences of high and low levels of nurturing. Major findings are that highly nurtured animals show reduced methylation of genes that determines the number of glucocorticoid receptors (GRs) an animal will have in the hippocampus (area of the brain responsible for memory). High levels of GRs mean the animal will have greater control of its stress responses, and because GRs modulate the expression of a variety of neuronal genes and are vital to neuronal homeostasis, they are vital for mental health as well (Weaver et al., 2004).

We do not know to what extent non-human animal epigenetic findings can be applied to humans, but they are most likely to apply to early developmental processes (Rutter, 2007). A number of epigenetic scientists believe that the field may have profound meaning for human

development and behavior. Michael Meaney, for instance, states that “We’re beginning to draw cause-and-effect arrows between social and economic macrovariables down to the level of the child’s brain” (in Watters, 2006, p. 75). Epigenetics is in its infancy, but the possibilities are as exciting as anything that has come along in the behavioral sciences in the past 50 years and once again illustrates how important the environment is to genetic expression.

## EVOLUTIONARY PSYCHOLOGY

Evolutionary psychology is interested in the common nature possessed by all humans rather than individual differences in phenotypic traits and in ultimate “why” questions rather than proximate “how” questions of genetics. For instance, while neurohormonal scientists may explain sex differences in dominance and aggression by pointing to different testosterone levels and how testosterone operates, evolutionary scientists would want to know why these sex differences exist in the first place; i.e., what the selection pressures were that led to them.

The behavior of *Homo sapiens* is subject to the same explanatory framework as the behavior of any other animal; after all, there is no *scientifically* viable alternative explanation to evolution by natural and sexual selection for the basic behavioral design of any animal. This is not to say that culture is irrelevant to understanding human behavior. Evolved behavioral adaptations require evolutionarily relevant triggers from the environment both to develop and to activate them, and these triggers differ in thresholds, permissions, and constraints in different cultural contexts. Recognizing this Jerome Barkow (1989) assures us that we will always need the social sciences to help us understand these triggers, but he also implores us not to forget that “psychology underlies culture and society, and biological evolution underlies psychology” (p. 635).

### The Evolution of Traits Related to Criminal Behavior

Because evolution has shaped human psychology and behavior, it has shaped morally undesirable human traits such as egoism, deception, and violence. Whenever an evolutionary biologist studies any behavior of any species, the first question asked is “What is the adaptive significance of this behavior?” Surviving traits and behaviors owe their existence to the fact that they were useful to the reproductive success of the species’ distant ancestors, whether they be morally repugnant or whether they be positive traits and behaviors such as altruism, empathy, and nurturance. Needless to say, humans do not display evolved patterns of behavior motivated by the desire to maximize reproductive success:

Evolutionary psychology is not a theory of motivation. Fitness consequences are invoked not as goals in themselves, but rather to explain why certain goals have come to control behavior at all, and why they are calibrated in one particular way rather than another (Daly & Wilson, 1988, p. 7).

Parents nurture their children not because of a conscious desire to push their genes into the future, but rather because ancestral parents who nurtured their children saw more of them grow to reproductive age and pass on nurturing traits down the genetic line. Parents who were poor nurturers compromised their children’s viability, and thus reduced the probability of their own

genes being represented in future generations. This is the ultimate (evolutionary) reason why nurturance of offspring is the species norm while abuse and neglect are aberrant.

In common with Emile Durkheim, evolutionary psychologists consider behavior which is defined as criminal today to be morally regrettable but biologically normal behavior. A behavior or trait is biologically “normal” if it can be shown that every member of a species has a potential for it under a variety of circumstances and the behavior occurs frequently across time and culture (Kanazawa, 2003). Of course, specific criminal behaviors are not themselves adaptations: “Genes do not code themselves for jimmying a lock or stealing a car...the genome does not waste precious DNA encoding the specifics” (Rowe, 1996, p. 285). Criminal behavior is a way of acquiring valued resources by force or fraud, i.e., by exploiting others, and the possession of resources, however they are acquired, is useful in the ultimate goal of all living things—survival and reproductive success.

Evolutionary biologists refer to exploitive and deceptive behavior as *cheating*, whether or not it has been culturally defined as criminal. We all have the potential to exploit and deceive others, but few of us ever do so to a criminal extent because we are a highly social and cooperative species with minds forged by evolution to form cooperative relationships built on reciprocal trust. We cooperate with others because we feel good when we do and because it identifies us as reliable and trustworthy, attributes that confer valued social status on us. In short, cooperation and reciprocal altruism are in the best interests of every member of a social species. Again, cooperation and altruism are not engaged in so that the actor can feel good, nor because he or she is consciously motivated by the desire for status. Social organisms do so, and are neurologically rewarded when they do, because their distant ancestors who behaved this way enjoyed greater reproductive success than those who did not, thus passing on the genes for the brain structures and neurotransmitters that presumably underlie the propensity (Barkow, 1997).

All evolutionary theories of criminal and antisocial behavior focus on reproductive strategies and the behavioral tactics that flow from them (see Walsh, 2006, for a discussion of these theories). The reproductive strategies of any species can be apportioned according to the time and energy devoted to parenting versus mating effort. At one extreme are species that devote all their resources to mating and none at all to parenting (e.g., oysters who lay many thousands of eggs) and at the other we have species such as *H. sapiens* who devote a huge proportion of resources on parenting effort. Reproductive strategies are underlain by a suite of evolved traits that facilitate their pursuit. Among humans, the suite of traits useful for focusing on mating effort includes deceitfulness, impulsiveness, sensation seeking, and aggression; traits useful for focusing on parenting effort include empathy, conscientiousness, and altruism.

The evolved traits useful for mating versus parenting effort can be co-opted for other forms of behavior: “crime can be identified with the behaviors that tend to promote mating effort and noncrime with those that tend to promote parenting effort” (Rowe, 1996, p. 270). A reproductive strategy emphasizing mating effort is thus similar to criminal behavior in that direct and immediate methods are used to procure resources illegitimately with little thought being given to the consequences. Parenting effort, on the other hand, is embedded in a prosocial lifestyle in which resource procurement relies on the accumulation of social and occupational skills (the ability to delay gratification) that are attractive to females.

The strength of the traits associated with the two reproductive strategies is arrayed on a continuum dispersed around an adaptive mean, they are not traits one has or has not. Nor are mating strategies fixed; most people expended resources primarily on mating effort at some points of the life course and on parenting effort at other points as reward contingencies shift. There

are some people, however, who are so deceitful, impulsive, aggressive, and sensation seeking that they are not constitutionally suited to anything requiring long-term commitment, including commitments to marriage and parenting or to prosocial activities in general. The anthropological literature has long reported striking differences between cultures that emphasize different reproductive strategies. In cultures emphasizing mating effort significantly more than parenting effort, its males exhibit behaviors such as low-level parental care, hypermasculinity, violent competitiveness, and transient bonding, all of which are considered antisocial in Western societies (Ember & Ember, 1998; Harpending & Draper, 1988).

For instance, Harpending and Draper (1988) contrasted reproductive strategies in two cultures located in very different ecological environments. The !Kung bushmen inhabit the inhospitable Kalahari desert in South Africa, and the Mundurucu inhabit the resource-rich Amazon basin in Brazil. Because conditions are harsh in the Kalahari, life is precarious, cooperative behavior is imperative, and parenting effort is favored over mating effort. The Mundurucu's rich ecology frees males for fighting, for raiding other groups, and to engage in competition for females, and mating effort is favored over parenting effort.

Empirical research supports the conclusion that an excessive concentration on mating effort is linked to criminal behavior. Ellis and Walsh (2000) reviewed 51 studies conducted prior to 1997 examining the relationship between number of sex partners and criminal behavior and found 50 of them to be statistically significant and positive. They also reviewed 31 other studies and found that age of onset of sexual behavior was negatively related to criminal behavior in all 31 (i.e., the greater the frequency and severity of criminal behavior the earlier the onset of sexual behavior). Data from a British cohort study found that 27% of the children were fathered by the most antisocial 10% in the cohort (Jaffee, Moffitt, Caspi, & Taylor, 2003). A molecular genetic study found that the genetic polymorphisms that were significantly related to number of sexual partners were also significantly related to antisocial behavior (Beaver, Wright, & Walsh, 2008). Finally, a study of family structures and antisocial behavior found that genetic differences accounted for 94% of the difference on an antisocial scale between the most at-risk group (single mothers of half siblings, a structure indicative of mating effort) and the least at-risk group (two-parent family with full siblings, indicative of parenting effort). The researchers concluded that "Although temperament, personality, or cognitive bias toward sexual variety may be proximate causes of single parenthood or multiple matings, they may also comprise components of an overall reproductive strategy that emphasizes mating over parenting effort" (Cleveland et al., 2000, pp. 744–745).

## NEUROSCIENCE

The neurosciences consist of several interrelated disciplines that examine the anatomy, physiology, and chemistry of the brain using a variety of devices ranging from the relatively simple electroencephalograph (EEG) to sophisticated neuroimaging devices such as functional magnetic resonance imaging (fMRI). The neurosciences have made spectacular gains in the last three decades or so, but the most exciting news for social scientists is essentially the same as that which comes from the genomic and evolutionary sciences—humans are designed to be exquisitely responsive to their environment (Wright, Boisvert, Dietrich, & Ris, 2009).

All stimuli arising from within the person or from the environment must be funneled through the brain before responses are emitted. The brain is a marvel of evolutionary design which

constitutes only about 2% of the body's mass but consumes 20% of the body's energy as it perceives, evaluates, and responds to its environment (Shore, 1997). The evolutionarily more primitive parts of the brain come "hard wired" at birth, but the development of the higher brain areas depends to a great extent on environmental "software" downloaded after birth in response to experience.

The genes specify the architecture of the brain and manufacture all of the necessary substances to keep it running in the same way for everyone (50–60% of all human genes are believed to be involved in the development of the brain [Shore, 1997]), but the patterns of brain wiring are greatly influenced by environmental experience. Because many neural connections reflect experience, in many ways the environment shapes the brain in its own image. Genes carry an immense amount of information, but they are far too few in number to completely specify the trillions of connections the billions of neurons will eventually make with one another. If only genes were responsible for specifying neural connections, we would be hard-wired drones unable to adapt to novel situations.

There are two basic brain developmental processes: experience expected and experience dependent (Schon & Silven, 2007). Experience-expected development relies on mechanisms that are hard-wired to "expect" exposure to certain environmental experiences that reflect the phylogenetic history of the species. Experience-dependent mechanisms, on the other hand, reflect the plasticity (the ability of the brain to calibrate itself to the environment) of the individual brain. To put it another way, every member of a species inherits species-typical brain structures and functions that are produced by a common species gene pool, but individuals vary in brain functioning as their genes interact with the environments they encounter to construct those brains (Gunnar & Quevedo, 2007; Perry, 2002).

The experience-expected process reminds us that the human mind is not a blank slate that must learn everything through experience; it is fertile with built-in assumptions about the nature of the species-relevant environments that it will encounter. Some kinds of information are attended to more readily than others because of these built-in assumptions that reflect evolved neural preparedness to capture and incorporate environmental information that is vital to normal development. Experience-expected brain organization frames our experiences so that we will respond stereotypically and adaptively to vital stimuli. Thus all animals have decision-making algorithms enabling them to relatively easily perceive and sort stimuli into positive and negative categories according to their potential for harming or assisting them in their survival and reproductive goals and to respond to them accordingly.

Whereas the neural wiring involved in experience-expected development is identical across the human species, experience-dependent brain wiring varies depending on the kinds of physical, social, and cultural environments individuals encounter. It is not an exaggeration to say that "experience-dependent processes are central to understanding personality as a dynamic developmental construct that involves the collaboration of genetic and environmental influences across the lifespan" (Depue & Collins, 1999, p. 507). Although brain plasticity is greatest in infancy and early childhood, a certain degree is maintained throughout the lifespan so that every time we experience or learn something we shape and reshape the nervous system in ways that could never have been pre-programmed.

The important message for criminologists in all this is that neural network connections are continually being built and selected for retention or elimination in *use-dependent* fashion. The experiences we encounter strongly influence the patterns of our neural connections, and thus the content of our subsequent experiences. Selective retention or pruning of neural pathways is gov-

erned by the strength (defined in terms of the emotional content of the experience) and frequency of experience in a process that has been termed neural Darwinism (Edelman, 1992). The process of neural Darwinism helps us to understand in *physical* (not just psychological) terms how events with strong emotional content experienced with some frequency come to pattern a person's way of responding to the world.

## BIOSOCIAL APPROACHES TO SOME MAJOR CRIMINOLOGICAL CORRELATES

Having briefly introduced the bare bones of the biosocial approach, our next task is to illustrate how these approaches have been applied to some major criminological correlates. Space limitations dictate that we be highly selective in our choice of correlates so we have chosen four of the major correlates and concepts of concern to traditional criminological theories: socioeconomic status (SES), gender, age, and race.

### Anomie/Strain and SES

The basis of anomie/strain theory is that there are structural impediments to achieving the "American Dream" which American culture exhorts everyone to pursue. While Merton (1938) provided his famous typology of adaptations to anomic strain, he did not provide any systematic analysis of what it is that sorts people into these different modes of adaptation other than SES. Given the emphasis on the attainment of monetary success in anomie/strain theory, it is curious that theorists in this tradition have not explored the correlates of occupational success. Perceptions and attitudes about one's chances of legitimate success are assumed to be class linked, and class is assumed to be both given and static; i.e., social class is the cause of social class. Anomie/strain theorists have to come to terms with the fact that SES is a dependent variable as well as an independent variable (Walsh, 2000).

Robert Agnew considers the following traits to be important in differentiating people who cope constructively or destructively with strain: "temperament, intelligence, creativity, problem-solving skills, self-efficacy, and self-esteem" (1992, p. 71). These traits also have obvious applicability to occupational success, and thus to the adoption of one of Merton's adaptations. Temperament and intelligence have been called "the two great pillars of differential psychology" by Chamorro-Premuzic and Furnham (2005, p. 352), who add that these two constructs are vital to predicting all kinds of life outcomes. Sociologists are suspicious of connecting individual traits, especially intelligence, to SES; for them if offspring SES is caused by anything other than an unfair social system, it is caused by parental SES. However, any attempt to predict a person's SES from his or her parental SES is hopelessly confounded by genetics.

**INTELLIGENCE AND SES.** One study tackled the SES/IQ issue head on by controlling for the entire complex of variables that constitute the environment of rearing by comparing siblings growing up in the *same home* with the *same parents*, but who had different IQs (Murray, 1997). The 5,863 subjects came from the National Longitudinal Study of Youth and were divided into "very bright" (IQ = 125+), "bright" (110–124), "normal" (90–109), "dull" (75–



89), and “very dull” ( $< 75$ ). Among the findings were that the “very brights” earned an average of \$26,000 more than their “very dull” siblings, were significantly more likely to be married, and were less likely to have children out of wedlock. Thus in this study that “perfectly” controlled for social class of rearing, very large differences in many areas of life were predicted by IQ level.

A 60-year prospective study of the non-delinquent control group used in Sheldon and Eleanor Glueck’s (1950) delinquency studies interviewed subjects ( $n = 345$ ) at ages 25, 32, 47, and 65. Although parental SES was weakly related to occupational status at age 25, by the age of 65 none of the measured environmental factors were related to occupational status, but IQ became increasingly related to it after age 25 (DiRago & Vaillant, 2007).

Daniel Nettle’s (2003) study of all children born in Britain in one week in March 1958 followed to the age of 42 found that childhood IQ is associated with class mobility in adulthood uniformly across all social classes of origin. Nettle found an average IQ difference of 24.1 points between those who attained professional class and those in the unskilled class, *regardless of the class or origin*. He concluded that “intelligence is the strongest single factor causing class mobility in contemporary societies that has been identified” (2003, p. 560).

Another British longitudinal study (Bond & Saunders, 1999) found that individual meritocratic factors (assessed when subjects were 7-years old) accounted for 48% of the variance in occupational status at age 33. All measured background variables (including parental SES) combined accounted for only 8%. Based on this sixfold difference in the proportion of variance explained, Bond and Saunders concluded that “occupational selection in Britain appears to take place largely on meritocratic principles” (1999, p. 217).

An American behavior genetic study of 1,072 sibling pairs (MZ and DZ twins, full siblings, half siblings, cousins, and adoptees) looked at verbal IQ (VIQ), grade-point average (GPA), and college plans (CPL). Partitioning the variance into genetic, shared environment, and non-shared environment components, heritability coefficients were  $VIQ = 0.536$ ,  $GPA = 0.669$ , and  $CPL = 0.600$ ; shared environment coefficients were  $VIQ = 0.137$ ,  $GPA = 0.002$ , and  $CPL = 0.030$ ; and non-shared environmental coefficients were 0.327, 0.329, and 0.370. Shared environment is everything shared by siblings, including SES, as they grow up, while the non-shared environment is everything that differs between siblings, such as peer groups and prenatal environments. The proportions of variance explained by class origin across all measures are miniscule compared with the proportions explained by genes or even non-shared environment (Nielsen, 2006).

**TEMPERAMENT AND SES.** The other half of the main determinants of occupational success is temperament. Temperament is a phenotypic trait that constitutes an individual’s habitual mode of emotionally responding to stimuli and is largely a function of heritable variation in central and autonomic nervous system arousal patterns (Kagan & Snidman, 2007; Lemery & Goldsmith, 2001). The higher heritability coefficient for GPA than for VIQ noted above is to be expected because GPA is a more “extended” phenotype than VIQ. Intelligence alone is not sufficient; one must have the requisite temperament to persistently and dutifully apply it.

Temperament is the biological structure upon which personality is constructed. The most important personality trait linked to occupational success is conscientiousness, which has a

median heritability estimate of 0.66 (Lynn, 1996). Conscientiousness is a dimension ranging from well organized, disciplined, scrupulous, orderly, responsible, and reliable at one end of the continuum to disorganized, careless, unreliable, irresponsible, and unscrupulous at the other (Lodi-Smith & Roberts, 2007). Conscientiousness has been called the “will to achieve” (Kyl-Heku & Buss, 1996, p. 49), and is more important in high-autonomy jobs than in low-autonomy jobs (Schmidt & Hunter, 2004). In an intergenerational study following subjects from early childhood to retirement, Judge and his colleagues (Judge, Higgins, Thoresen, & Barrick, 1999) found that conscientiousness measured in childhood predicted adult occupational status ( $r = 0.49$ ) and income ( $r = 0.41$ ) in adulthood. These correlations were only slightly less than the correlations between “general mental ability” and the same variables (0.51 and 0.53, respectively). Schmidt and Hunter’s (2004, p. 170) analysis of “general mental ability” (GMA) and personality variables in attaining occupational success found that “the burden of prediction is borne almost entirely by GMA and conscientiousness.”

It is becoming more and more difficult to deny that individual differences are of tremendous importance to attainment of the “American Dream,” and that they are becoming more so in the increasingly complex and competitive work environment. If the anomie/strain tradition has any merit at all, then individual differences will also become increasingly important in explaining criminal behavior in societies where merit is the major road to success.

### **Feminist Theory and the Gender Ratio Problem**

Always and everywhere males commit far more crime than females, and the more serious the crime the bigger the gap (Campbell, 2009). This “gender ratio problem” is one of the key issues in feminist criminology (Daly & Chesney-Lind, 1988). Most female offenders are found in the same social situations as their male counterparts; i.e., among single-parent families located in poor socially disorganized neighborhoods, and male and female crime rates are highly correlated (mid to low 0.90s) across different nations, states, and cities (Campbell, 1999), indicating that females respond roughly the same to the same environmental conditions as males. Females do cross the threshold into criminal behavior, but it typically takes a great deal more environmental pressure for them to do so and their crimes are usually far less serious (Campbell, 2009; DeLisi, 2005). These facts led Daly and Chesney-Lind (1996) to ask “why do similar processes produce a distinctive, gender-based structure to crime and delinquency?” (p. 349).

Criminologists have attempted to answer this question in terms of socialization. The assumption inherent in this view is that if females were socialized in the same way as males and had similar roles and experiences, their crime rates would be roughly similar. If this were the case, surely there would have been some culture somewhere in which female crime rates were equal to the male rate, but no one has ever found such a culture. Robust sex differences in dominance and aggression are seen in all human cultures from the earliest days of life and are observed in all primate and most mammalian species (Archer, 2006; Geary, 2000), and surely no one would evoke socialization to explain these differences. As Diana Fishbein (1992, p. 100) sums up the gender ratio issue, “cross cultural studies do not support the prominent role of structural and cultural influences of gender-specific crime rates as the type and extent of male versus female crime remains consistent across cultures.”

Neuroscience informs us that gender-typical behavior is the result of hormones that organize the brain in male or female directions during sensitive prenatal periods (Amateau & McCarthy,

2004). This process organizes male brains in ways that make males more vulnerable to the various traits associated with antisocial behavior (Ellis, 2003). The sexes thus come into the world with “differently wired brains,” and these brain differences “make it almost impossible to evaluate the effects of experience independent of physiological predisposition” (Kimura, 1992, p. 119). The major biological factor that organizes the male brain in ways that underlie gender differences in general antisocial behavior is testosterone (Mazur, 2009). No one claims that testosterone is a major or even minor cause of criminal behavior, only that it is the major factor that underlies gender *differences* in criminal behavior.

Lopreato and Crippen (1999, p. 114) point out that “The two sexes are endowed with differing reproductive strategies, and from this difference arise various behavioral tendencies.” There is much more variability among males than females in terms of reproductive success; some males leave no offspring and others father large numbers (Badcock, 2000; Campbell, 2009). Given the lower reproductive ceiling of females, selection pressures were exerted for traits that maximized the probability of the survival of existing children (parenting effort) rather than traits designed to maximize mating effort. Females thus have more strongly evolved neurohormonal mechanisms that underlie the traits conducive to successful parenting effort than males and, because these traits are essentially prosocial, are less likely to commit crimes.

Anne Campbell’s (1999, 2009) *staying alive/low fear* hypothesis provides an evolutionary view of the gender ratio issue. The obligatory parental investment of males is limited to a few pelvic thrusts after which they can be on their way, but the obligatory parental investment of females is enormous. In ancestral environments, only after months of gestation and years of lactation could females contemplate further children, thus their reproductive success was far more tied to children they already have than is that of males. The greater dependence of the infant on the mother renders a mother’s presence more critical to offspring survival (and hence to the mother’s reproductive success) than is the presence of a father. The care of nursing infants in ancestral environments meant that females always kept them in close proximity, and this posed an elevated risk of injury to the child as well as the mother if the mother placed herself in risky situations. Because female survival is more critical to female reproductive success (in terms of maximizing the probability that offspring will survive) than is male survival, females have evolved a propensity to avoid engaging in behaviors that pose survival risks.

Campbell (1999, 2009) proposes that the evolved mechanism underlying this propensity is a physiology that responds to many different risky situations that are subjectively experienced as fear. There are essentially no sex differences in fearfulness across a number of contexts *unless* a situation contains a significant risk of physical injury. The greater fear response accounts for the greater tendency of females to avoid potentially violent situations and to employ indirect and low-risk strategies in competition and dispute resolution relative to males. There are numerous studies using everything from skin conductance measures to fMRI scans that show females are more reactive to fear-relevant stimuli (Cahill, Ucapher, Kilpatrick, Alkire, & Turner, 2004). Even when females commit crimes their crimes rarely involve risk of physical injury. Campbell (1999, p. 210) notes that while women do aggress and do steal, “they rarely do both at the same time because the equation of resources and status reflects a particularly masculine logic.”

The invariance of sex differences in crime leads us to conclude that if in some sense we can talk about a gene “for” crime it is the SRY (sex-determining region of the Y) gene on the Y chromosome. The SRY gene precipitates a host of biological processes that masculinize (or more correctly, defeminize) the male brain, making it vulnerable to the development of the many traits associated with criminal behavior. In short, we cannot understand sex differences in any

behavior, including criminal behavior, without understanding what the evolutionary, genetic, and neurological sciences have to tell us. Given the fact that only 4 of the 27 commentaries on the Campbell (1999) article argued for a socialization explanation for gender differences in criminal behavior, we may be getting to the point of realizing this.

### Social Learning Theory and the Age/Crime Curve

The age–crime curve (the rapid increase in delinquency at puberty age across historical time and cultures followed by a slow decline after reaching its peak between 16 and 18) has long been a mystery to criminologists: “the age distribution of crime cannot be accounted for by any variable or combination of variables currently available to criminology” (Hirschi & Gottfredson, 1983, p. 554). Shavit and Rattner (1988, p. 1457) share this opinion, writing that delinquency remains “unexplained by any known set of sociological variables.” Ronald Akers (1998, p. 338) disagrees, stating that “Age-specific [crime] rates differ because individuals are differentially exposed to the learning variables at different ages.” But why does prosocial learning that has presumably enjoyed priority, frequency, duration, and intensity for the entire lives of most children suddenly count for nothing as they turn to different sources of reward and punishment? These different sources of reward and punishment are peers, but peer association does not explain why their influence suddenly becomes so powerful, or why it so often leads to antisocial behavior. To understand adolescent behavior it is imperative that we understand the *physical* as well as the social changes that adolescents experience.

The 2003 New York Academy of Sciences conference on adolescent brain development provided some key points relevant to the age–crime curve issue (White, 2004, p. 4):

1. Much of the behavior characterizing adolescence is rooted in biology intermingling with environmental influences to cause teens to conflict with their parents, take more risks, and experience wide swings in emotion.
2. The lack of synchrony between a physically mature body and a still maturing nervous system may explain these behaviors.
3. Adolescents’ sensitivities to rewards appear to be different than in adults, prompting them to seek higher levels of novelty and stimulation to achieve the same feeling of pleasure.

Puberty is a series of biological events marking the onset of the transition from childhood to adulthood and preparing us for procreation, and adolescence is a *process* that begins at puberty and ends with adulthood. Adulthood is marked by the taking of socially responsible roles such as acquiring a full-time job and settling down and starting a family, which are roles that define us as independent members of society. However, the increasing time required to prepare for today’s complex workforce results in a mismatch between the legal definition of adulthood and socially defined adulthood. This mismatch combined with the decreasing age of puberty has led to a large “maturity gap” which provides fertile soil for antisocial behavior (Moffitt, 1993).

If adolescents are to become capable of adapting to new situations, it is necessary to temporarily strain close emotional bonds with parents. For adolescents not to assert themselves would hinder their quest for independence. Adolescents must leave their childhood nests and bond and mate with their own generation and explore their place in the world. Leaving the nest is

risky, but it is an evolutionary design feature of all social primates as males seek out sexual partners from outside the rearing group. Seeking age peers and conflicting with parents “all help the adolescent away from the home territory” (Powell, 2006, p. 867). Research shows that moderate conflict typically leads to better post-adolescent adjustment than either the absence of conflict or frequent conflict (Smetana, Campione-Barr, & Metzger, 2006).

After testosterone (T) surges organize the male brain during the second trimester of pregnancy, a second surge activates it at puberty (Ellis, 2003). After brain organization takes place, there is little difference in levels of male and female T until puberty, at which time males have approximately ten times the female levels (Felson & Haynie, 2002). The pubertal T surge facilitates behaviors such as risk taking, sensation seeking, dominance contests, sexual experimentation, and self-assertiveness, none of which are antisocial per se, but can easily be pushed in that direction in antisocial environments. Although T levels are heritable, they are highly responsive to the environment, rising and falling depending on the organism’s need at the time (Booth, Granger, Mazur, & Kivligan, 2006). The “need” to conform to risky deviant behavioral patterns, to seek dangerous sensations, and to engage in dominance competitions with other males certainly qualifies as challenges that would require raising T levels to meet them (Mazur, 2005).

Large changes in the adolescent brain are prompted by the pubertal hormonal surge, including changes in the ratio of excitatory to inhibitory neurotransmitters. The excitatory transmitters dopamine and glutamate peak during adolescence, while the inhibitory transmitters, gamma-aminobutyric acid and serotonin, are reduced (Collins, 2004; Walker, 2002). The adolescent brain also goes through an intense period of restructuring as hormonal surges prompt the increase of gene expression initiating the process of refining the neural circuitry to its adult form (Walker, 2002). A series of fMRI studies have revealed that the prefrontal cortex (PFC) undergoes a wave of synaptic overproduction just prior to puberty followed by a period of pruning during adolescence and early adulthood (Giedd, 2004; Sowell, Thompson, & Toga, 2004).

Another important modification of the adolescent PFC is the additional myelination (myelin is the fatty substance that coats and insulates axons) that is occurring (Steinberg, 2005). The PFC is “the most uniquely human of all brain structures” (Goldberg, 2001, p. 2) and is the last brain area to fully mature. This vital part of the human cortex has extensive connections with other cortical regions, as well as with deeper structures in the limbic system. Because of its many connections with other brain structures, it is generally considered to play the major integrative, as well as a major supervisory role in the brain. The PFC is also vital to the forming of moral judgments, mediating affect, and for social cognition (Romaine & Reynolds, 2005).

A less myelinated brain means less efficient message transmission and a larger time lapse between the onset of an emotional event in the limbic system and the PFC’s rational judgment of it. Thus, there are *physical* reasons for the greater ratio of emotional to rational responses often observed in teenagers. Adolescents are operating with a brain on “go slow” superimposed on a physiology on “fast forward.” This explains why many teenagers find it difficult to accurately gauge the meanings and intentions of others and to experience more stimuli as aversive during adolescence than they did as children and will do so when they are adults (Walsh, 2002, p. 143). Richard Restak (2001, p. 76) put it best when he wrote, “The immaturity of the adolescent’s behavior is perfectly mirrored by the immaturity of the adolescent’s brain.” The implications for antisocial behavior in all this are obvious in that the neurohormonal modifications going on facilitate a tendency to assign faulty attributions to situations and to the intentions of others. A greater sensitivity to stressors leads to an increase in irritability and a decrease in self-control, which in turn lead to a greater probability of antisocial behavior (Agnew, 2005; Walsh, 2009).

Advances in the biology of adolescence can greatly enhance our understanding of antisocial behavior during this period, and criminality in general. Neuroscience in particular has already had a huge impact on juvenile justice. The Supreme Court decision (*Roper v. Simons*, 2005) banning the death penalty for murders committed before age 18 relied heavily on data regarding the immaturity of the adolescent brain (Walsh & Hemmens, 2008). However, the biological advances in our understanding of adolescence are barely touched upon (if at all) in the typical juvenile delinquency textbook. To keep relying on “peer pressure” to explain delinquency without digging deeper to discover why peer pressure is so important during adolescence is to do a great disservice to the discipline.

### **Social Disorganization and Subcultural Theory, Race, and Violence**

Social disorganization theory maintains that disorganized neighborhoods lack the ability to control its youthful members who are thus free to follow their natural inclinations (Shaw & McKay, 1972). Having facilitated crime by failing to inhibit it, social disorganization also encourages it by providing a set of criminogenic values that become the organizing principles of a subculture. Subcultural theories switch emphases from structural variables to cultural variables to explain the criminal behavior of the subculture’s inhabitants. Wolfgang and Ferracutti’s (1967) *subculture of violence* thesis focused on Philadelphia’s black community in the 1950s where the homicide rate for black males was 12.3 times the white male rate, and the black *female* rate was 2.7 times higher than the white *male* rate. The differences in black–white crime rates mirror almost exactly the differences between overall male–female rates; i.e., black rates are significantly higher than white rates, and the more serious the crime the greater the difference (Federal Bureau of Investigation, 2007).

**VIOLENT SUBCULTURES IN EVOLUTIONARY CONTEXT.** Violent subcultures have been dubbed honor subcultures and defined as “communities in which young men are hypersensitive to insult, rushing to defend their reputations in dominance contests” (Mazur & Booth, 1998, p. 362). Taking matters into one’s own hands is the only way to obtain street respect where status is a zero-sum game gained only by taking it from somebody else (Anderson, 1999). Assaults and homicides are usually the result of trivial challenges to a male’s reputation and are typically staged in front of an audience of friends of both the assailant and victim to maximize “juice” from the incident (Baumeister, Smart, & Boden, 1996). This “in your face” jousting of inner city males supports the evolutionary position that “...crime is functionally related to inter male competition that has its ultimate roots in reproductive rivalry” (Quinsey, 2002, p. 3). Similarly, Elijah Anderson (1999) characterizes the inner city code as operating in accord with the “law of the jungle” (p. 84) in which violent posturing is a “campaign for respect” (p. 68) with “people looking around for a fight in order to increase their share of respect—or ‘juice’” (p. 73).

Status has positive fitness consequences for males in all sexually reproducing species, which is why males have been designed to seek it (Alcock, 2005). How it is sought among humans depends on cultural context. The cost/benefit ratio of violent status competitions among inner city males for trivial reasons defies rational choice assumptions because competitors are risking injury

or death in defense of an intangible, but when viewed in evolutionary terms the logic becomes clear. The more young males come to devalue the future, the more risks they are willing to take to obtain their share of street respect, which provides them with enhanced mating opportunities. Access to females in the inner city is “taken quite seriously as a measure of the boy’s worth”; a young male’s “primary goal is to find as many willing females as possible. The more ‘pussy’ he gets, the more esteem accrues to him” (Anderson, 1999, p. 150).

Status-related violence is not unique to disadvantaged males. Dueling over trivial matters of honor was ubiquitous among the aristocracy of Europe and the American South until fairly recently, and killing has been “a decided social asset in many, perhaps most, prestate societies” (Daly & Wilson, 1988, p. 129). Duels about “matters of honor” were instrumental in enhancing the duelists’ reputation, thus providing them public validation of their self-worth (Baumeister et al., 1996). If young men are not controlled by law or cultural norms “dominance contests become ubiquitous, the hallmark of male–male interaction” (Mazur & Booth, 1998, p. 360). Thus although violence in pursuit of status is morally unacceptable, from an evolutionary and historical perspective it is both “normal” and “natural” in inner city contexts.

**TESTOSTERONE AND CHALLENGE.** As we have seen, dominance and aggression are facilitated by testosterone. The evidence suggests that African Americans have higher average levels than whites (Lynn, 1990; Nyborg, 2004), although it is unclear whether the difference reflects a true basal difference or reciprocal (feedback) effects. Mazur and Booth (1998) argue that the reciprocal model best explains the relationship between testosterone and behavior and that the higher levels found among black males reflect the status challenges they face in their subcultures that require physical responses rather than true racial differences in baseline levels.

As with all facilitating chemicals, testosterone needs receptors. The testosterone receptor is the androgen receptor (AR) gene, a polymorphic gene that has different repeat frequencies. Males with the shorter repeat version (< 22 repeats) have a greater binding affinity for androgens, thus making them more receptive to its effects. All studies done thus far indicate that African American males have a greater frequency (about 0.76) of the short version of the AR gene than whites (about 0.62) or Asians (about 0.55) (reviewed in Nelson & White, 2002). The AR gene data may render the basal/reciprocal argument redundant. If black physiology is more receptive to the same level of testosterone than white or Asian physiology, identical levels of the hormone will have stronger activating effects for blacks than for others.

Another highly environmentally responsive chemical to consider is the neurotransmitter serotonin. Serotonin plays a vital role in behavioral inhibition and it promotes confidence and self-esteem (Archer, 2006; Mehta & Josephs, 2006). By artificially manipulating serotonin levels in experimental situations among non-human primates, researchers have shown that serotonin underlies primate status hierarchies (Anderson & Summers, 2007), with highest ranking males having the highest levels of serotonin and the lowest ranking have the lowest. Low-ranking males in established hierarchies defer with little fuss to the demands of higher ranking males, but when the hierarchy is disrupted, it is the low-constraint (low-serotonin) males who become the most aggressive in the competition for available resources. Males who succeed in establishing a new status hierarchy find that their serotonin rises to levels commensurate with their new status.

Low serotonin is associated with two major correlates of criminal behavior—low self-control and negative emotionality (the tendency to experience many situations as aversive and to respond to them with irritation and anger) (Agnew, 2005; Wright & Beaver, 2005). Experiments with rhesus monkeys have shown that peer-raised monkeys (read, “fatherless, gang raised children” for humans) have lower concentrations of the serotonin metabolite 5-HIAA than parentally raised monkeys (Bennett et al., 2002). This suggests that elevated testosterone is most likely to result in violence when it is present in conjunction with low serotonin (Fox, 1998). As disadvantaged males “try their luck” in the status/dominance game they do so against others with the same high testosterone/low serotonin profile. Thus, both are likely to respond with irritability and anger and to act impulsively at perceived attempts to thwart their efforts to gain status. These studies again point to important environmental effects on the functioning of biological systems, particularly the deleterious effects of parental deprivation to which inner city African Americans are especially vulnerable (Brown & Bzostek, 2003).

**VIOLENCE AND THE BRAIN.** Powerful evidence suggests that human infants have evolved neurological and endocrine structures that demand the formation of affectionate bonds with loving caretakers and that psychopathology is often the result for those who fail to get it (van Goozen, Fairchild, Snoek, & Harold, 2007). It is a neuroscience truism that “Experience in adults *alters* the *organized* brain, but in infants and children it *organizes* the *developing* brain” (Perry & Pollard, 1998, p. 36; emphasis added). Because neural pathways laid down early in life are more resistant to elimination than pathways laid down later in life, brains organized by stressful and traumatic events tend to relay subsequent events along the same neural pathways. A brain organized by negative events is ripe for antisocial behavior because established neural pathways are activated with less provocation than is required to engage less established pathways.

Black inner city children are more likely than other children to have their brains organized by violence. According to the Child Trends Data Bank’s analysis of 903,000 reported maltreatment cases in 2001, black children were 2.4 times more likely to be abused and neglected than white children and black infants were 4.3 times more likely to be fatally abused (Brown & Bzostek, 2003). Children in America’s inner cities also witness violence on an almost daily basis. For instance, 33% of inner city Chicago school children said they had witnessed a homicide and 66% a serious assault (Osofsky, 1995). Witnessing and experiencing violence on a consistent basis gouges the lesson on the neural circuitry that the world is a hostile place in which one must be prepared to protect one’s interests by violent means if necessary. If children’s brains develop in violent environments, they expect hostility from others and behave accordingly. By doing so they invite the hostility they are on guard for, thus confirming their beliefs that the world is a dangerous and violent place, and setting in motion a vicious circle of negative expectations and confirmations (Niehoff, 2003; Volavka, 2002).

Again, although violence is morally reprehensible, it is not irrational and maladaptive under all circumstances. Having a reputation for violence would have been an asset in evolutionary environments when calling 911 to have someone else settle your problem was not an option. In today’s inner cities where one is expected to take care of one’s own beliefs, violence or credible threats of violence works to let any potential challenger know that it would be in his best interests to avoid you and your resources and look elsewhere. All this is why a “bad ass” reputation is so



valued in those areas, why those with such a reputation are always looking for opportunities to validate it, and why it is craved to such an extent that “Many inner city young men. . .will risk their lives to attain it” (Anderson, 1994, p. 89).

In sum, the evolutionary and neuroscience views converge on the point that the major long-term factor in violence instigation is how much violence a person has been exposed to in the past. Natural selection has provided human beings with the ability to switch to a violence mode quickly when they have reason to believe that things they value may be taken from them and when they must rely on themselves to protect those things. In disorganized neighborhoods in which a tradition of settling one’s own quarrels without involving the authorities is entrenched, such a switch is most useful. As Gaulin and McBurney (2001, p. 83) explain, when many acts of violence are observed “there is a feedback effect; each violent act observed makes observers feel more at risk and therefore more likely to resort to preemptive violence themselves.”

## CONCLUSION

We recognize the discomfort some criminologists may feel when reading anything that elevates the role of individual differences (or even cultural differences, since people are the carriers of culture) over structural factors in explaining criminal behavior. As we have previously noted, the role of the environment is of tremendous importance in explaining the prevalence of crime because different environments provide different opportunities and incentives to commit crimes and different restraints against committing them, i.e., moving individuals back and forth across the “offend/don’t offend” threshold. But ultimately it is real flesh and blood people who commit crimes, and lower level explanations of human behavior almost always absorb the explanatory efficiency of broad social categorizations such as race, gender, age, and class and add incremental validity to them. As Lubinski and Humphreys (1997, p. 177) suggest, “Whatever the causes of group differences in social phenomena are, measures of individual differences typically reflect those causes more effectively than does membership in demographic groups.” Lubinski and Humphreys (1997) and Walsh (1997) provide several examples of the superiority of lower level measures with reference to major demographic variables such as gender, race, age, and SES.

As we have shown, while the above variables are excellent *predictors* of criminal behavior, they are not per se *explanations*. It is only when we discover the particular mechanisms that underlie these broad holistic categories that we can reasonably claim to understand their link to behavior. For many criminologists with a sociological bent we are committing the cardinal sin of reductionism. There is nothing sinister about trying to understand a phenomenon at a more fundamental level; it has long been the guiding principle of the hard sciences. We wonder where these sciences may be today if they maintained that it was always essential to place their explanatory focus on whole systems rather than their constituent parts. Having said this, however, we must be careful that we do not lose *meaning* as an essential component to understanding behavior by an overemphasis on mechanistic accounts. We must not become what Daniel Dennett (1995, p. 82) has called “greedy reductionists” (those who skip over several layers of complexity in a rush to fasten everything to a supposedly solid foundation). Nonetheless, science has made its greatest strides when it has picked apart wholes to examine the parts to gain a better understanding of the wholes they constitute. As Matt Ridley (2003, p. 163), the heavyweight champion of the biosocial principle of nature *via* nurture has opined, “Reductionism takes nothing from the whole; it

adds new layers of wonder to the experience.” We conclude with Lilly et al. (2007, p. 304) that “It is clear that the time has arrived for criminologists to abandon their ideological distaste for biological theorizing.”

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## CHAPTER 6

# The Social Learning Theory of Crime and Deviance

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## INTRODUCTION

Social learning theory is a general theory of criminal and deviant behaviors that has found consistent and robust empirical support for more than four decades (see Hirschi, 1969; Gottfredson & Hirschi, 1990). The generality and validity of the theory has through those years become increasingly recognized. In a recent major compilation on the status of criminological theory, social learning theory along with control theories (Akers & Sellers, 2009; Akers & Jensen, 2006) and strain theories (Agnew, 1992, 2006) were placed as the “core” theories in the field (Cullen, Wright, & Blevins, 2006). Moreover, according to the latest survey of criminologists, social learning theory is the most frequently endorsed explanation of both minor delinquent and serious criminal behavior (Ellis, Johnathon, & Walsh et al., 2008).

The purpose of this chapter is to provide an overview of Akers’ social learning theory including its theoretical foundations and four central explanatory concepts of differential

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association, definitions, differential reinforcement, and imitation.<sup>1</sup> Akers (1998) has extended social learning theory to the macro-level, and thus we provide a look at the assumptions, concepts, and propositions of his social structure social learning model (SSSL). This discussion is followed by an examination of empirical research that has investigated the ability of social learning theory to account for variation in criminal and deviant behaviors and a review of the evidence on the SSSL model pointing toward future directions for social learning and social structure. This chapter concludes with a look at the applications of social learning theory to programs and policies.

## **CONCEPTS AND PROPOSITIONS OF SOCIAL LEARNING THEORY OF CRIME AND DEVIANCE**

The origin of Akers' social learning theory as it is discussed in the criminological literature today dates back to his early work with Robert Burgess in their re-formulation of Sutherland's differential association theory of criminal behavior (Burgess & Akers, 1966). Burgess and Akers' (1966) "differential association-reinforcement theory" fused Sutherland's sociological approach with the principles of behavioral psychology (Skinner, 1953, 1959). Akers made subsequent refinements and revisions to the theory, which he referred to more frequently as social learning theory, as a general explanation of all forms of criminal, delinquent, and deviant behavior (for example, see Akers, 1973, 1977).

Although Sutherland's (1947) differential association theory contains nine distinct propositions, the sixth proposition holds the most relevance for its influence on the development of social learning theory. In his sixth proposition Sutherland (1947) argues that "A person becomes delinquent because of an excess of definitions favorable to violation of law over definitions unfavorable to violation of the law" (pp. 6–7). This "principle of differential association" according to Sutherland assumes that individuals can learn these "definitions" through interaction with others. The individuals who learn and endorse favorable definitions toward violation of the law are more likely to violate the law (e.g., engage in the criminal/deviant behavior) compared with those who learn definitions that are unfavorable toward violation of the law.

For Sutherland, the individual learns definitions favorable to criminal/deviant behavior "in excess" of definitions unfavorable to that behavior, then the expectation is that individual will be more likely to make a decision to engage in the criminal/deviant behavior. It is important to note that although it makes intuitive sense (and it is more probable) that an individual will learn favorable definitions toward crime from individuals who are already involved in criminal/deviant activities and, in contrast, learn favorable definitions toward engaging in conforming behaviors

<sup>1</sup> This version of social learning theory is an integration of Sutherland's (1947) sociological theory of differential association and behavioral principles of conditioning and reinforcement from psychology originally formulated by Robert Burgess and Ronald L. Akers (1966) as "differential association-reinforcement" theory and as it has been developed since then by Akers and others (see Akers, 1973, 1985, 1998; Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Akers & Sellers, 2004; Jensen & Akers, 2003). It is this social learning theory of crime and deviance that is typically referred to in criminology and sociology of deviance. However, it should be noted that social learning principles have been used to explain criminal and delinquent behavior as well as applied to treatment and prevention by other social behaviorists working with explanatory models that are compatible with and similar to social learning theory as reviewed here (see Andrews & Bonta, 2003; Patterson, Reid, & Dishion, 1992).



from the law-abiding citizens, it is not always the case (see Cressey, 1960, p. 49). Sutherland goes on to argue that the priority (being exposed to pro-criminal definitions first), frequency, intensity (strength or importance), and the duration of the association with those supporting favorable or unfavorable definitions are all important factors in affecting whether or not an individual takes on definitions proportionally more favorable to criminal behavior and decides to engage in crime and deviance.

There was early evidence supporting Sutherland's theory, but Burgess and Akers (1966) noted that differential association theorists had encountered difficulties in operationalizing the relevant concepts in testing the theory and, more importantly, had not made an effort to specify the behavioral process by which the learning takes place. With attention to these issues, Burgess and Akers (1966, pp. 132–145) proposed their reformulated version of the theory (i.e., differential association-reinforcement theory) focusing largely on integrating principles of differential association with principles of differential reinforcement (operant conditioning). More specifically, this theoretical perspective emphasizes the balance of rewards and punishers for voluntary action found in behavioral psychology as operating primarily in social interaction but also accounts for the operation of non-social variables. One of the refinements in the theory made later by Akers was the inclusion of imitation as a separate behavioral process. Furthermore, while the refinements still retain the focus on differential reinforcement, the theoretical modifications pay more attention to the cognitive (symbolic interactional) processes in deviant behavior moving closer to the social behaviorism of Bandura and others (Bandura, 1973, 1977, 1986; Bandura & Walters, 1963) and became less reliant on the classical operant behaviorism based on Skinner (1953, 1959) with which Burgess and Akers began.

Akers (1973, 1977, 1985, 1998; see also Akers & Sellers, 2004) made other modifications and specifications in the theory and, while retaining the core elements of the theory, moved toward presenting it in terms of four central concepts and related propositions, rather the seven statements of the original Burgess and Akers (1966) formulation. The underlying assumption of social learning theory is "that the same learning process in a context of social structure, interaction, and situation, produces both conforming and deviant behavior. The difference lies in the direction...[of] the balance of influences on behavior" (Akers, 1998, p. 50). Thus, it is in this light that social learning theory is considered a general theory of crime/deviance; its basic propositions explain why individuals are involved in and why they are not involved in the full range of minor to serious deviant and criminal behaviors. The most succinct summary of social learning theory of criminal and deviant behaviors is

The probability that persons will engage in criminal and deviant behavior is increased and the probability of their conforming to the norm is decreased when they differentially associate with others who commit criminal behavior and espouse definitions favorable to it, are relatively more exposed in-person or symbolically to salient criminal/deviant models, define it as desirable or justified in a situation discriminative for the behavior, and have received in the past and anticipate in the current or future situation relatively greater reward than punishment for the behavior (Akers, 1998, p. 50).

## Differential Association

While Akers' social learning theory is oftentimes discussed in the literature with reference to differential peer association, the theory cannot be reduced merely to a theory of "bad peers." In fact, the differential association component of social learning theory includes the influence of

family members and other intimate peer groups or secondary groups such as neighbors, churches, school teachers, the law and authority figures, as well as “virtual groups” such as established through the mass media, the internet, cell phones, etc. (see Warr, 2002).

The concept of differential association can best be defined recognizing the fact that the individuals/groups with which one is in interaction perform a crucial role in providing the social context where the social learning process operates. More specifically, the individuals who a person differentially associates with are those that expose the individual to the normative definitions, values, and attitudes favorable or unfavorable to a particular behavior (as well as behavioral models and social rewards/punishers). If a person is differentially associated more with those who are involved in criminal and deviant behaviors or demonstrate pro-criminal attitudes, then he or she is more likely to engage in the criminal/deviant behavior. In contrast, if the person differentially associates more with individuals who participate in and express conforming behaviors and attitudes, then he or she is more likely to refrain from involvement in crime/deviance and instead engage in pro-social behavior.

Lastly, Akers retains the concept of “modalities” of association proposed by Sutherland – its intensity, priority, frequency, and duration (which Akers expanded to include both interaction through time and relative amount of time spent in interaction with others) as affecting the ratio of criminal to noncriminal associations. For example, assume that Chris and his three friends have never been involved in any criminal or deviant behavior thus far, but once they enter middle school Chris’s three friends begin smoking cigarettes in front of Chris in the school bathroom. Furthermore, they smoke in the school bathroom four times a day and continue to do this behavior every school day for the entire school year. These associations are thus frequent (occur daily) and persist for some time (the entire school year). In this scenario, Chris would be more likely to engage in the deviant behavior (i.e., smoke cigarettes) because he is differentially associated with an intimate peer group (intensity) that exposes him to norms, values, and attitudes that are supportive of cigarette smoking (along with participating in the behaviors themselves).

## Definitions

The “definitions” element of social learning theory refers to values, orientations, and attitudes toward criminal/deviant or conforming behavior held by individuals. The concept of definitions in the theory refers to the range of attitudes, beliefs, and values in which individuals draw to “define” or evaluate certain behavior as being more right or wrong, good or bad, desirable or undesirable, justified or unjustified, appropriate or inappropriate, and excusable or inexcusable. We have seen that the process of differential association includes one’s differential exposure to definitions favorable or unfavorable toward engaging in a particular behavior that are held, shared, expressed, or espoused by others. One is in contact with sets of sometimes conflicting normative climates or milieu that are hypothesized to be a major source of an individual’s own internalized or endorsed personal definitions favorable or unfavorable toward commission of criminal/deviant or pro-social acts. For both one’s own definitions and those held by others, Akers incorporates those that are “general,” covering a wide range of behavior and situations and those that are “specific” to particular behavior or situations. General definitions are one’s overall set of conventional, moral, religious, and other beliefs that are held in reference to a wide range of behavior and situations. Belief that honesty is the best policy, that one should be kind to others and treat them as one wants to be treated, that there is a higher moral authority

to which we must answer for our actions, that the laws and legal system in general are sound and should be obeyed, and so on are general definitions unfavorable to deviance. Belief that it is best only to look out for number one, that others are to be used mainly as means to your ends, anytime you can take advantage of someone and get away with it, then do it, and so on are general definitions favorable to deviance. These general beliefs, of course, may be expressed or acted upon in specific situations, but the concept of specific definitions favorable and unfavorable refers more particularly to a person’s attitudes of permissiveness or proscription with regard to one specific behavior or another. For example, one may feel that it is morally wrong to have premarital sex and choose to abstain from the behavior while seeing nothing wrong with smoking a marijuana joint on the porch from time to time and choose to participate in this behavior. Or one may find it more acceptable or tolerable to commit a crime of theft but abhor the use of violence in a crime. Of course, specific and general definitions overlap and intertwine and act both as cognitive orientations and as behavioral stimuli that both may generalize from one form of deviance to another and act as “discriminative stimuli” that are used to differentiate between behavior that is or is not appropriate or acceptable in given situations.

“Definitions favorable” to deviance may be “positive” definitions which directly evaluate the behavior as a desirable or good thing to do (“it’s cool to use drugs”) and “neutralizing” definitions which may see the behavior as not generally good but is acceptable, justified, or excusable given the circumstances (“using drugs is not good but smoking a little pot is OK”; “I am not stealing from the company, I’m just borrowing some of what they owe me”). Conventional beliefs and attitudes are unfavorable to deviance and promote pro-social behavior. To the extent they are held or internalized by an individual they are expected to reduce the likelihood of a person engaging in crime and deviance. To the extent that one does not hold strongly and clearly to these general conforming values, the less they will function as effectively as definitions unfavorable to deviance. They may be so weakly endorsed that they hold no moral constraints on that behavior. Furthermore, Akers argues that, among the attitudes favorable to deviance, neutralizing definitions are more common than positive definitions and incorporates into the concept a range of excuses and justifications referred to in the literature as verbalizations, techniques of neutralization, moral disengagement, and other terms (see Bandura, 1990; Cressey, 1953; Hewitt & Stokes, 1975; Lyman & Scott, 1970; Sykes & Matza, 1957). As is true for all of the major concepts in social learning theory, the concept of definitions is not proposed as an either/or set of categories. Rather, it is a matter of the balance of definitions favorable and unfavorable along a continuum to which one may be more or less exposed by others and may personally internalize to a greater or lesser degree:

Definitions favorable to deviance include weakly held general beliefs and more strongly held deviant justifications and definitions of the situation; those unfavorable to deviance include more strongly held conventional beliefs and deviant definitions that are weakly subscribed to. . . Think of two parallel continua running in opposite directions:

1. General and Specific Conforming Beliefs/Definitions:

Strongly held	Absent or weakly held
Unfavorable to Deviance	Favorable to Deviance

2. General and Specific Non-Conforming Beliefs/Definitions

Strongly held	Absent or weakly held
Favorable to Deviance	Unfavorable to Deviance

(Akers, 1998, p. 83)

Differential Reinforcement

Differential reinforcement refers to the balance of perceived, experienced, or anticipated reward and punishment for behavior. The more frequently behavior is rewarded and the higher the value of the reward for behavior and the less frequently and severely punished the behavior is compared to the balance of reward and punishment for alternative behavior then the more likely it is that one will engage in the behavior, given the opportunity and situation in which the behavior can be committed. Furthermore, the behaviors that occur most frequently and are more highly reinforced are also likely to be the behaviors that the individual chooses to participate in even in the presence of opportunity for alternative behaviors.

Differential reinforcement operates through positive reinforcement, negative reinforcement, positive punishment, and negative punishment. Consider the following scenarios.

Positive reinforcement is illustrated by the example of Mark, a 15-year-old boy, who just recently moved into a new neighborhood with his mother. He is constantly teased by one local boy when he is waiting for the school bus. One morning Mark decides to do something about it and punches the boy in the face in front of other boy’s friends. The other boys immediately abandon their friend’s side and now ask Mark to sit with them at the back of the bus and hang out. Mark’s behavior (punching the boy) has resulted in an increase in status among his peer group, or in other words his violence has been positively reinforced. From now on whenever Mark is being teased he will be more likely to respond with violence because his behavior was positively rewarded through an increase in status among his peer group.

Negative reinforcement of behavior is said to occur when that behavior allows the individual to escape or avoid adverse stimuli or consequences. For example, Sally hates going to school because she gets so bored throughout the day. One day Sally decides to fake a stomachache. So, she stays in her bed and tells her mother she has a stomach ache. Her mother then tells Sally that she should not go to school today and instead stay home and rest. Sally’s behavior (faking a stomach ache) has now been negatively reinforced because she gets to avoid going to school (the negative stimulus) and given the right set of circumstances the chances that she will try it again are increased.

In contrast to the two types of reinforcers (i.e., positive and negative) described above, positive and negative punishers can also exert a considerable degree of influence on an individual’s decision to engage in a particular behavior. Travis is a construction worker who always walks to work. One day Travis decides to catch the local bus in order to try and make it home at a more reasonable hour. While Travis is on the bus waiting for his stop, he gets robbed by another bus rider. Travis’s decision to ride the bus has now been met with a positive punishment (getting

robbed); therefore, it is less likely that Travis will choose to ride the bus home from work again in the future. Comparatively, Matt's parents just bought him a new cell phone for his birthday and warned him about the number of minutes he was allowed to use per month. After the first month of use, Matt's parents noticed that he had gone over his allotted minutes and decided to take the cell phone away from him. Matt's behavior (going over his cell phone minutes) resulted in a negative punishment (the removal of something valuable to him by confiscation of his cell phone) that is expected to reduce the chances that he would over use his minutes in the future when his phone is returned.

### **Imitation**

The final component of Akers' social learning theory is imitation, that involves both observation of behavior modeled by others and the consequences for them of the behavior, i.e., "vicarious reinforcement" (see Bandura, 1977). Imitation occurs when an individual engages in a particular behavior that they have either directly or indirectly observed another individual perform. For instance, if a juvenile watches his father abuse his mother and then the juvenile begins to start abusing his sibling in the same manner, then he is imitating the observed behavior (the abuse) that was observed via the model (the father). Furthermore, the likelihood that an individual will imitate an observed behavior can be contingent on other factors such as the characteristics of the model, the actual behavior itself, and any observed consequences that resulted from the model's behavior.

Akers (1985) has commented on the fact that although imitation does play a role in the continuation and cessation of behavior, imitation is more likely to exert an effect on the initiation of a new or novel behavior. For example, if an individual who already drinks alcohol and likes it observes an acquaintance of theirs order and drink an alcoholic beverage for the first time then the drinking behavior of this model (the acquaintance) is not likely to have a large impact on the individual's future behavior with regards to imitation. Imitation matters more to an individual who has never participated in a certain behavior before, observes a model engage in the behavior and receive benefits from the behavior, and then the individual decides to partake in the behavior via imitation.

## **SOCIAL STRUCTURE AND SOCIAL LEARNING (SSSL)**

Akers (1998; see also Jensen & Akers, 2003) has extended his theory to link it to the meso- and macro-levels of social structure in a "social structure social learning" (SSSL) model. The principal proposition of this theoretical extension is that social structural variables affect individual behavior in a way that produces different rates of crime via their influence on differential association, definitions, differential reinforcement, imitation, and other social learning variables. Thus, the SSSL model assumes that social structural variables provide the closer and more distal social context wherein the social learning process operates. Akers (1998; see also Akers & Sellers, 2004, p. 91) has further specified four key structural domains or dimensions wherein the social learning process is believed to occur:

1. Differential Social Organization refers to the structural correlates of crime in the community or society that affect the rates of crime and delinquency, including age composition, population density, and other attributes that lean societies, communities, and other social systems “toward relatively high or relatively low crime rates” (Akers, 1998, p. 332).
2. Differential Location in the Social Structure refers to sociodemographic characteristics of individuals and social groups that indicate their niches within the larger social structure. Class, gender, race and ethnicity, marital status, and age locate the positions and standing of persons and their roles, groups, or social categories in the overall social structure.
3. Theoretically Defined Structural Variables refer to anomie, class oppression, social disorganization, group conflict, patriarchy, and other concepts that have been used in one or more theories to identify criminogenic conditions of societies, communities, or groups.
4. Differential Social Location refers to individuals’ membership in and relationship to primary, secondary, and reference groups such as the family, friendship/peer groups, leisure groups, colleagues, and work groups.

With attention to these domains, it is important to note again that the SSSL model is one of indirect effects. That is, social structure affects behavior and produces variations in group, community, or societal rates of crime and deviance by affecting the operation of the variables in the social learning process which in turn then affect individuals’ criminal and conforming behavior. Thus, any empirical test of SSSL is required to test whether the social structural variables included in the model are related to the outcome measure of crime and next whether the social learning variables are related to those same variations. Once these relationships are empirically demonstrated, then the prediction is that once all of these variables (the social structure, social learning, and criminal behavior variables) are included in the model simultaneously then the social learning variables will substantially mediate (reduce) the main or direct effects of the social structure variables on crime. If these relationships are not demonstrated, then support is not shown for the SSSL model; if they are, and the predicted effects of the social learning variables and the indirect effects of the social structural variables on crime are found, then the model is supported.

## EMPIRICAL SUPPORT FOR SOCIAL LEARNING THEORY

Research testing social learning theory’s hypotheses, using measures of one or more of the main explanatory concepts of differential association, definitions, differential reinforcement, and imitation, usually has found moderate to strong relationships with crime and deviance (with few disconfirming findings) in the expected and predicted direction. A large body of this research has been reviewed in detail in a number of recent publications (see Akers & Jensen, 2006; Akers & Sellers, 2009; Pratt & Cullen, 2000). We will not list the research that has been done over many years, but examples of supportive research in the past decade with American samples include Batton and Ogle (2003), Sellers, Cochran, and Winfree (2003), Brezina and Piquero (2003), Chappell and Piquero (2004), McGloin, Pratt, and Maahs (2004), and Triplett and Payne (2004). Examples of research findings upholding the theory in cross-cultural studies include Bruinsma

(1992), Zhang and Messner (1995), Miller, Jennings, Alvarez-Rivera, and Miller (2008), and Wang and Jensen (2003). Studies directly comparing social learning theory with other theories using the same data collected from the same samples have found additional empirical support for social learning theory (for instance, see Benda, 1994; Burton, Cullen, Evans, & Dunaway, 1994; Neff & Waite, 2007; Rebellon, 2002).

This body of research has produced evidence strongly in favor of social learning hypotheses regarding the effect on criminal and deviant behaviors of differential association in primary groups, especially family and peers, and other groups. The family is a key primary group with which one is differentially associated, and the process of acquiring, persisting in, or modifying conforming and deviant behaviors in the family or family surrogate is a social learning process in which interaction in the family exposes the children to normative values, behavioral models and vicarious reinforcement, and differential reinforcement (Simons, Simons, & Wallace, 2004). "Thus, the analysis confirmed social learning theory's prediction, and the findings from existing literature, that family and friends were important in understanding what was reinforcing for a particular person. . . The analysis also showed that this measure of reinforcement worked in the way expected by social learning theory" (Triplett & Payne, 2004, p. 628). Social learning mechanisms of modeling and reinforcement in parent-child interaction are a strong predictor of conforming/deviant behavior (Snyder & Patterson, 1995; Wiesner, Capaldi, & Patterson, 2003). Deviant and criminal behavior by parents are also predictive of the children's future delinquency and crime (McCord, 1991) and being reared in a family with delinquent siblings increases the probability that the adolescent will be delinquent (Lauritsen, 1993). "Of the three theoretical perspectives, social learning theory garnered the strongest, most consistent empirical support. Social learning theory directs attention to the behavioral consequences of interaction patterns in families, emphasizing that children tend to adopt behaviors they learn from their parents" (Hoffman, Kiecolt, & Edwards, 2005).

The family also has indirect effects on delinquency through the impact that socialization and direct behavioral control by parents have on their children's associations with conforming and deviant friends and peers. Delinquent and conforming attitudes and behavior learned in the family may be reinforced or counteracted by the attitudes and behavior encountered in association with peers (Lauritsen, 1993; Simons, Wu, Conger, & Lorenz, 1994). That is, both family and peers (as well as other groups) are implicated in the process of differential association with conforming and deviant patterns. The balance of differential association in earlier years is in the direction of the family/parents, while in adolescence family influences are relatively diminished and peer groups play an increasingly prominent role in learning conforming and deviant behaviors.

For both adolescents and adults, differential association with peers who commit and approve of delinquency is, other than one's prior behavior, the strongest correlate and best predictor of one's own delinquent behavior (Haynie, 2002; Warr, 2002). While other theories may make incidental reference to the influence of peers, none hypothesizes as important a role for peers as does social learning theory, and some versions of control theory propose that association with deviant peers have no, or at best trivial effects, on one's criminal or deviant behavior (Gottfredson & Hirschi, 1990; Hirschi, 1969). Therefore, findings that the deviant/conforming behavior and attitudes of peers are important factors in one's own behavior, is more directly supportive of social learning theory, than of other theories, and runs directly counter to some versions of control theory. There is a large body of research literature that supports the social learning propositions

about the importance and centrality of differential peer associations in explaining crime and delinquency:

No characteristic of individuals known to criminologists is a better predictor of criminal behavior than the number of delinquent friends an individual has. The strong correlation between delinquent behavior and delinquent friends has been documented in scores of studies from the 1950s up to the present day using alternative kinds of criminological data (self-reports, official records, perceptual data) on subjects and friends, alternative research designs, and data on a wide variety of criminal offenses. Few, if any, empirical regularities in criminology have been documented as often or over as long a period as the association between delinquency and delinquent friends (Warr, 2002, p. 40).

Haynie (2002) found that individuals embedded in social networks in which at least some of their friends were delinquent were more likely to engage in delinquency, and those in which all of their friends had engaged in delinquency were twice as likely, as those who had only non-delinquent friends to become delinquent, even when controlling for prior delinquency and characteristics of social networks. Research continues to find strong delinquent influences from participation in delinquent gangs, as an instance of frequent and intense differential association with delinquent peers (for example, see Battin, Hill, Abbott, Catalano, & Hawkins, 1998). Winfree Mays, and Vigil-Backstrom (1994) and Winfree, Vigil-Backstrom, and Mays (1994) found that both gang membership and delinquent behavior are explained by social learning variables (attitudes, social reinforcers/punishers, and differential association). "Gang members reward certain behavior in their peers and punish others, employing goals and processes that are indistinguishable from those described by Akers" (Winfree, Vigil-Backstrom, et al., 1994, p. 149).

Additional support for the theory comes from research conducted by Akers and his associates in which all of the key social learning variables are measured and full models are tested on a range of minor deviance, substance use, delinquent behavior, and serious criminal behavior (for review, see Akers & Jennings, 2009). The findings in these studies are that the social learning variables of differential association, differential reinforcement, imitation, and definitions, singly and in combination, are strongly related to the various forms of behavior studied. The social learning models usually produce high levels of explained variance, much more than other theoretical models with which it is compared (Akers, 1998; Akers & Cochran, 1985; Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Akers, La Greca, Cochran, & Sellers, 1989; Akers & Lee, 1996; Akers & Silverman, 2004; Boeringer, Shehan, & Akers, 1991; Hwang & Akers, 2003, 2006; Krohn, Skinner, Massey, & Akers, 1985; Lanza-Kaduce, Akers, Krohn, & Radosevich, 1984).

## EMPIRICAL SUPPORT FOR SSSL MODEL

At this time there is a limited body of research directly testing partial or full iterations of the SSSL model. The findings from some research provide support for hypotheses directly in line with the SSSL model even when the researchers, while citing Akers (1998), are not specifically testing the model. For instance, Haynie, Silver, and Teasdale (2006) tested "the idea that violence is more likely to occur among adolescents living in socioeconomically disadvantaged neighborhoods because it is in such neighborhoods that adolescents are most likely to become involved in violent peer networks" (Haynie et al., 2006, p. 148). Their measures of variations in concentrated neighborhood disadvantage correspond to both the structural dimension of differential social organization and the theoretically defined structural condition of social disorganization



proposed in the SSSL model. The findings of the study support the hypothesis that the neighborhood effects are mediated by differential peer association. “[I]ncorporating our measures of peer behaviors in model 2 reduce the effect of neighborhood disadvantage and immigrant concentration [on adolescent violence] to non-significance” (Haynie et al., 2006, p. 162).

Other research has specified and directly tested SSSL models. For example, Lee, Akers, and Borg (2004) tested multivariate models containing all of the major social learning and social structure variables, finding that “variations in the behavioral and cognitive variables specified in the social learning process. . .mediate substantial, and in some instances virtually all, of the effects of gender, socio-economic status, age, family structure, and community size on these forms of adolescent deviance” (Lee et al., 2004, p. 29). However, although its main effects were substantially reduced, gender retained statistically significant net effects on self-reported adolescent substance use in the full models.

Bellair, Roscigno, and Velez (2003) tested a partial SSSL model measuring the effects of concentrations of low-wage service employment along with measures of economic disadvantage, sociodemographic composition, and other structural community variables on adolescent violence producing findings that were supportive of Akers’ (1998) SSSL formulation. Holland-Davis (2006) tested a full SSSL model including measures of the four major structural variables (using census data similar to Bellair et al., 2003) and four main social learning variables (using the same data and measures as Lee et al., 2004). She found support for the main hypothesis of the SSSL model that the social learning variables mediated the effects of the structural variables on adolescent substance use. But, she also reported that gender effects, even though mediated by the social learning variables, retained significant net effects in all of the models tested, suggesting that the SSSL model may have to be modified to take into account “moderated mediation” at least with regard to gender. Similarly, Verrill’s (2008) findings suggest that the SSSL model may have to be modified to include both mediation and moderation effects. Verrill (2008) concluded that his findings, from a study using essentially the same methodology as Holland-Davis but with a different data set, that the social learning variables moderated more than they mediated the effects of some of the structural variables. He suggests that these findings do “not invalidate Akers’ model” and in fact support the basic expectation in SSSL that “social learning does relate to the social structural variables and their impact on delinquency.” However, he concluded that the “social structure social learning statement requires modification” in the direction of “moderation-mediation” (Verrill, 2008, pp. 139–140).

The research thus far has generally been supportive of the SSSL model and its central proposition that the effects of social structure on crime and delinquency are substantially mediated by the social learning variables of differential associations, definitions, differential reinforcement, and imitation. However, there are findings that do not show this, and there is evidence of moderation in addition to mediation effects.

## **APPLICATIONS OF SOCIAL LEARNING THEORY IN PREVENTION, TREATMENT, AND RESTORATIVE JUSTICE PROGRAMS**

Our focus to this point has been on the concepts, propositions, and level of empirical support for social learning as a general theory of crime and deviance and its extension to accounting for the effects of social structure on criminal and deviant behaviors. To the extent that social learn-

ing theory can explain criminal and delinquent behaviors, then it should provide at least some explicit or implicit basis for policy and practice. The cognitive-behavioral principles in social learning theory should apply especially to prevention, treatment, and rehabilitation programs (Andrews & Bonta, 2003; Cullen, Wright, Gendreau, & Andrews, 2003). Applied programs and procedures that are able to manipulate definitions/attitudes, associations, group norms, imitation, reinforcement/punishment, discriminative stimuli, conditioning, or other variables should have some effect in diminishing the occurrence of law violations and deviant behavior. Among the programs that are based at least in part on this assumption are group therapies and self-help programs, peer programs, gang interventions, family and school programs, teenage drug, alcohol, and delinquency prevention/education programs, and other private and public programs in correctional, treatment, and community facilities and programs.

Akers and Sellers (2009) have reviewed some of the programs and practices based explicitly or implicitly on social learning principles. While large effects and behavioral changes are not commonly found in evaluations of any type of policy or program on crime and delinquency, there is recognition in the literature that programs for the prevention and treatment of juvenile and adults based on social learning principles often have measurable effects on recidivism and behavioral change that are stronger than those of programs following alternative principles (see Andrews & Bonta, 2003; Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995; Cullen et al., 2003; Ellis & Sowers, 2001; Gendreau & Smith, 2006; Landenberger & Lipsey, 2005; Lösel, 2007; Pearson, Lipton, Cleland, & Yee, 2002; Triplett & Payne, 2004):

[R]esearch on correctional programs supplies strong and consistent support for theories – such as differential association/social learning theory – that link offending to antisocial associations and to the internalization of antisocial values. . . . '[C]ognitive-behavioral' programs tend to achieve higher reductions in recidivism than other treatment modalities. . . . These programs specifically target for change antisocial values and crime-excusing rationalizations, they reward prosocial attitudes and behavior, and they seek to isolate offenders from pro-criminal associations (Cullen et al., 2003, p. 353).

[The relative success of cognitive-behavioral programs is consistent with] "social learning theory [that] is broader than behavioral reinforcement theory because it includes as variables cognition, verbalization, and social modeling to explain (and to change) behavior patterns" (Pearson et al., 2002, p. 480).

The use of cognitive-behavioral interventions is consistent with the conclusion of other meta-analyses that interventions based on social learning theory are particularly effective (Lösel, 1995). Social learning theory asserts that behavior is learned through several processes, including modeling, imitation, and differential reinforcement (Bandura, 1979). . . . He is also likely to associate with people who encourage his violent behavior (differential association). . . . Cognitions that support specific behaviors are known as "definitions" (Akers, 1985). Definitions, then, could be seen as one form of the problematic cognitions that the therapist needs to address (Ellis & Sowers, 2001, pp. 91–92; emphases in original).

The core criteria of successful programs in developmental prevention are similar to those in offender treatment. For example, such programs have a sound theoretical basis in social learning theory, follow a cognitive-behavioral approach, are well structured and address multiple risk and protective factors" (Lösel, 2007, p. 516).

Gerald R. Patterson and his colleagues at the Oregon Social Learning Center (Dishion, Patterson, & Kavanagh, 1992; Patterson, 1975; Patterson & Chamberlain, 1994; Patterson, DeBaryshe, & Ramsey, 1989; Snyder & Patterson, 1995) have designed, implemented, and evaluated a variety of programs based on social learning principles addressing adolescents, peer groups, behavior in school, families, and other social contexts. These efforts have been evaluated

with sound random-assignment research designs and significant effects on adolescent substance use and delinquency have been reported. Their programs are predicated on the principle that negative, deviant, and rule violating behavior is “learned in the family, and under more extreme conditions carries over to a child’s interactions with others outside the family, including peers and teachers” (Dishion et al., 1992, pp. 254–255). Parents and foster parents are given training in parenting skills to reinforce proper behavior in a positive way, and the youth take part in sessions with behavioral therapists that are “focused on skill building in such areas as problem solving, social perspective taking, and nonaggressive methods of self-expression” (Chamberlain, Fisher, & Moore, 2002, pp. 205–206). These programs reduced delinquent behavior because they “caused levels of family management skills [parental supervision, discipline, and positive reinforcement] to increase and deviant peer associations to decrease” (Eddy & Chamberlain, 2000, p. 858).

D. A. Andrews and his associates (Andrews & Bonta, 2003) have developed and tested a successful social learning model (personal-interpersonal and community-reinforcement or PIC-R) for treatment and prevention of criminal and delinquent behaviors based on a “relationship principle” of communicating mutual respect and liking and on a “contingency principle” of differentially reinforcing behavior (modeled and rehearsed) and exposing those in the program to anticriminal ideas, values, and meanings. Their research has found this model and other “cognitive behavioral and social learning” strategies that focus specifically on modifying prosocial, anticriminal attitudes and behavior working with family and peer groups to be more effective than programs that rely on nondirective, insight-oriented psychological counseling in order to enhance self-esteem or affect general psychological states or personality.

The Social Development Model (SDM) is the underlying model used in a series of early intervention, long-term projects developed by J. David Hawkins, Richard F. Catalano and their associates in the Social Development Research Group in Seattle to prevent delinquency and substance use (Brown, Catalano, Fleming, Haggerty, & Abbott, 2005; Hawkins, Catalano, & Arthur, 2002; Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Hawkins, Kosterman, Catalano, Hill, & Abbott, 2005). The SDM:

...Integrates empirically supported aspects of social control, social learning, and differential association theories into a framework for strengthening prosocial bonds and beliefs. Within this framework, the SDM emphasizes that prevention should ... [target] (a) opportunities for involvement with prosocial others (e.g., family, teachers, and peers who did not use substances); (b) students’ academic, cognitive, and social skills; (c) positive reinforcements and rewards for prosocial involvement; and (d) healthy beliefs and clear standards regarding substance use avoidance (Brown et al., 2005, p. 700).

The various prevention projects based on this model have been implemented in programs for families, schools, and peer groups. The school programs train teachers in classroom techniques for rewarding desirable as well as teaching “refusal” skills to students to help them deal with deviant influences coming from peers. The SDM family programs help parents to develop better skills in monitoring their children’s behavior, socializing them into pro-social and anti-delinquent definitions/attitudes, effective application of reward and punishment in disciplining them, and providing a positive family environment that encourages commitment to school and education. After-school programs involve the youth in peer group and individual activities that are designed among other things to “develop prosocial beliefs regarding healthy behaviors ... [and] to learn and practice social, emotional, and problem-solving skills in the classroom and in other social situations” (Brown et al., 2005, p. 701). Follow-up on the children in these programs through

adolescence into young adulthood has shown that they fared somewhat better than those in the control groups with regard to serious delinquency, frequency of use of alcohol and marijuana, heavy drinking, and risky sexual behavior (Brown et al., 2005; Hawkins et al., 2005).

There are programs that have not had the expected effect and there is still much to be learned about making them more effective. However, based on what has been found in the literature thus far, one may say that social learning theory is clearly applicable to and has demonstrated promise for effective efforts to prevent and reduce crime and delinquency.

We would propose that the treatment and rehabilitation application of social learning theory also has relevance to restorative justice programs. Although “restorative justice” programs often focus on reparation for victims and restoration of both offenders and victims while seeming to downplay goals of treatment and rehabilitation, reintegrating offenders into the community necessarily implies some change in offender behavior and reduction of recidivism. There is an implied and sometimes direct reference to offender restoration occurring in part through treatment and rehabilitation of offenders in the restorative justice literature (Ventura, 2008; see also Jennings, Gover, & Hitchcock, 2008). Social learning principles have applicability to restorative justice initiatives meant to induce remorse, change offender thinking, reinforce restitutive and redemptive behavior, and lower the probability of repeat offending. Many restorative justice programs are faith-based approaches that want to produce desired spiritual and faith changes with the same overall goal of pro-social changes in behavior, social interaction, thinking patterns, and attitudes as secular-based programs (Akers, Lane, & Lanza-Kaduce, 2008). The faith-based component may foster change through socialization into pro-social values and differential association with religious groups that replace or offset antisocial associations (Sumter & Clear, 2005), and “a cognitive-behavioral approach seems to be quite compatible with pastoral counseling and education aimed at treating criminal thinking patterns” (Hall, 2003, pp. 108–109).

## SUMMARY

Social learning theory as a general explanation of criminal and delinquent behaviors has a long history in the study of crime and deviance and has come to be recognized as a central perspective in criminology and the sociology of deviance with robust empirical support and applicability to prevention and treatment programs. Its extensions to cross-level integration with meso- and macro-level social structural variables in the SSSL model have shown some promise as an empirically valid explanation for the effects of social structure on crime and deviance. Despite this preliminary evidence, research specifically directed to testing the model is still limited and there have been some findings inconsistent with the predictions of the model with the implication that moderating as well as mediating effects may be appropriately recognized in the model. Nevertheless, social learning has been and remains one of the “core” criminological theories in the discipline and we anticipate that its influence in research, practice, and policy will continue.

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## CHAPTER 7

# Self-Referent Processes and the Explanation of Deviant Behavior

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The theoretical and empirical literatures relating to the causes and consequences of crime and other forms of deviant behavior have long implicated what have been termed self-referent constructs (Kaplan, 1986). Such constructs comprise responses that have the self as their object including: self-cognition (encompassing imagining, perceiving, and conceptualizing one's self); self-evaluation (judging one's self to be more or less proximate relatively salient evaluative criteria); self-feeling (affective responses to one's self such as self-derogation or self-esteem that are evoked by self-evaluation); and self-enhancing or self-protective responses (including distorting or selectively perceiving one's self, reordering self-values, and striving to achieve valued goals that are intended to increase positive and decrease negative self-feelings).

Theories and research about crime and deviance that focus upon self-referent processes, according to one commentator (Tittle, 2000), fall under the rubric of the "identity theme":

The various elements of the identity theme are probably most completely brought together in Kaplan's (1980, 1995) description of self-derogation. According to his account, humans are compelled to maximize positive self-attitudes and avoid negative ones. The theory outlines the main influences on the direction and magnitude of personal evaluations as well as the prior conditions that affect them. When these influences produce negative self-evaluations, people's commitment to the normative system in which they are embedded weakens, and they become motivated to violate its norms. Criminal urges, therefore, come from a combination of absence or weakening of desire to conform to the norms of an aversive social context and of openness to possibilities that might improve the person's self-esteem (p. 61).

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In short, self-referent responses, under specified conditions, have consequences that, in turn, influence deviant behavior; and deviant behavior conditionally (in)directly influences self-referent responses.

What follows is a critical review of the literature and empirical research literatures relating to (1) the direct and indirect effects of self-referent processes on deviant responses and the variables that moderate these effects, and (2) the (in)direct contingent effects of deviance on self-referent processes. In addition, drawing upon contemporary discussions and their historic roots, consideration is given to the implications of the literatures on self-referent processes for the development for an integrative theoretical framework that would accommodate diverse complementary treatments of the causes and consequences of deviant behavior.

## **SELF-REFERENT CONSTRUCTS AND DEVIANT BEHAVIOR**

Self-related constructs are reflected widely in both the theoretical and empirical literatures on crime and deviance. Each of these will be considered in turn.

### **Theoretical Statements**

Although a number of theoretical statements implicate self-referent constructs (particularly negative self-feelings) in the onset and continuity of deviant behaviors, as will be noted below, Kaplan's framework (1972, 1975b, 1980, 1982, 1986, 1995, 1996, 2001) has been characterized as among the more fully developed theories (Scheff, Retzinger, & Ryan, 1989; Tittle, 2000; Tittle & Paternoster, 2000; Wells, 1989) and will be used as a reference point in this discussion. Against this, standard similarities and differences by other theorists are noted.

In Kaplan's framework, negative self-feelings (self-derogation) dispose a person to adopt deviant patterns. The positive effect of self-derogation on later adoption of deviant patterns is mediated by the hypothesized effect of self-rejection on both the loss of motivation to conform to conventional patterns and the acquisition of motivation to deviate from these patterns. Attitudes of self-rejection are the end result of a history of experiences in one's membership groups in which the person is unable to defend against, adapt to, or cope with self-devaluing circumstances. These may include possessing disvalued attributes, performing deviant behaviors, and otherwise being evaluated negatively by people whose good opinion the person desires. Because these self-devaluing experiences in conventional membership groups in fact are associated with the development of self-derogation, the person comes to associate these experiences with the negative self-attitudes. It is this association that causes the individual to lose motivation to conform to the normative patterns that in the past were ineffective in allowing the individual to achieve positive self-attitudes or to mitigate any experience of self-rejecting attitudes that the person had. In addition, the association of the normative patterns with the emotionally distressful self-derogation leads the person to experience the normative patterns as intrinsically distressing. To continue to conform to the normative patterns would be to continue to engage in activities that not only were unrewarding in the past, but also are now intrinsically distressing. The person not only loses motivation to conform to normative expectations, but also becomes motivated to deviate from these patterns.

At the same time the person becomes increasingly motivated to behave in ways that minimize the experience of self-derogation and maximize the experience of positive self-attitudes. Continuing exposure to the same normative environment that produced self-derogation intensifies the self-esteem motive, the need to reduce self-derogation, and increase positive self-attitudes. Because normative patterns are no longer motivationally acceptable responses, deviant patterns represent alternative responses by which the person may effectively act in the service of the intensified self-esteem motive. Given the motivation to deviate from the normative expectations of the person's membership groups and the need to find alternative patterns that will enhance self-esteem, the person is increasingly likely to become aware of and adopt any of a range of deviant patterns. Which patterns are adopted in fact is a function of such factors as situational opportunities and expectations regarding the self-enhancing/self-devaluing outcomes of the deviant patterns.

The argument that deviant behavior is motivated by low self-esteem (that is, the need for self-enhancement) is in the tradition of a number of other perspectives such as those that note that defiance of authority in school evokes positive responses from classmates (Gold, 1978). In this same vein, Covington (1989) argues that a major reason for achievement in school is to protect a sense of self-worth, particularly in competitive situations when achievement is problematic. In such situations, failure-avoidance techniques might include any of a number of strategies including failure itself. Students may avoid failure by cheating, lowering their goal so that their risk of failure is minimized, and handicapping themselves by procrastination or otherwise so that self-blame for failure may be excused because of the handicap. By adopting such self-defeating tactics the student is able to assuage feelings of failure by arguing that the failure is due to the fact that the person did not try rather than because the person lacked the ability to succeed.

Rosenberg, Schooler, and Schoenbach (1989) noted the compatibility of Kaplan's theoretical statement of the relationship between self-esteem and delinquency and Rosenberg's (1979) own statement of the principles of self-esteem formation, particularly with regard to appraisal, social comparison, and self-attribution:

Kaplan (1980) contends that youngsters with low self-esteem have frequently undergone unsatisfactory experiences in the conventional society – experiences that have created painful feelings of doubt about their self-worth. Seeking to alleviate these feelings, many turn to the delinquent reference group to enhance their self-esteem. The delinquent group provides more favorable reflected appraisals, social comparisons, and self-attributions. First it replaces the frequently negative reflected appraisals of the conventional society with the positively reflected appraisals of the delinquent group. In addition, as Gold (1978) notes, the brazen defiance of authority in the school is often played out before an appreciative audience, yielding positive reflected appraisals from the classmates. Second, the delinquent group may provide more favorable social comparisons. The youngster may compare more favorably with delinquent peers in terms of the delinquent activities (for example, stealing, fighting, vandalizing) than he does with straight peers in conventional activities (for example, excelling at school work, getting on the honor role). Third, the youngster may anticipate that he can make more positive self-attributions by observing the success at his efforts in delinquent activities than by judging himself in terms of the valued standards of the conventional society. Self-enhancement theory thus suggests that low self-esteem youngsters may turn to delinquency in order to strengthen their feelings of self-worth (Rosenberg et al., 1989, p. 1006).

Kaplan's theory is thought of as dealing with the motivation to adopt deviant patterns as ways of adapting to or forestalling the experience of self-devaluation in conventional membership groups:

In this perspective, low self-esteem predisposes people to participate in delinquency, because they have little to lose by deviating and something to gain in terms of self-esteem. Delinquent behaviors constitute adaptive or self-protective responses to situations in which conventional activities are derogating and devaluing. Delinquency constitutes a defensive

attempt to enhance self-esteem through trying out alternative, unconventional, or even illegal activities. Such activities represent an attempt both to reject actively the conventional order as the source of negative evaluations and to seek out alternative experiences that may be a source of new positive evaluations (Wells, 1989, p. 227).

However, the *de facto* adoption of such patterns is contingent on a number of circumstances. Kaplan's theory specifies conditions under which deviant behavior will be the outcome of antecedent self-derogation. Many of these conditions are derived from the observation that the person is ambivalent regarding the emotional significance of the normative environment. That is,

although the individual may be motivated to dissociate himself from the perceived source of his distressful self-rejecting feelings and may seek alternatives that will fulfill his need for self-acceptance, he cannot easily completely dissociate himself from the normative world. Having been socialized in a society, the individual has internalized a sense of identification and commitment to the society. A range of quotidian needs depends on the responses of the adults in his environment. To act out dispositions to deviate from normative expectations would threaten the person's sense of identity and commitment to the normative order, as well as the satisfaction of the needs that depend on the positive attitudes of the other adults in the person's environment. The greater the projected deviation from normative expectations, the greater the inhibitory threat to the sense of identity and commitment. Both forces (the dispositions to deviate, and the threat to one's sense of commitment and identity) are simultaneously operative (Kaplan, 1986, p.173).

In the light of this observation, Kaplan (1986) summarizes a number of conditions under which deviant patterns will be adopted in response to severe and pervasive self-derogation:

The devaluation of conventional self-protective patterns and the adoption of deviant patterns are most likely to overcome personal constraints, in the form of devaluation of deviant patterns, under the related conditions whereby the person (1) avoids self-perception of violating self-values by performing deviant behaviors either by redefining the behavior as valued or under circumstances that permit ignoring personal responsibility (as when deindividuation loosens inhibitions against aggressive response), (2) perceives that the self-devaluing costs of remaining committed to the normative order are far greater than any potential threats to the self that may result from contravening the normative expectations defining the conventional order, and (3) perceive that deviant responses may be expected to have self-protective or self-enhancing consequences, whether measured against preexisting conventional or newly acquired deviant self-values (p. 174).

Conversely, self-derogation (under other conditions) inhibits the acting out of deviant impulses, particularly where the individual continues to have a need to evoke positive responses from conventional others, the person has internalized proscriptions against the acting out of deviant impulses, and the person experiences associated feelings of powerlessness that suggest the futility of any purposive behavior whether deviant or conventional. Thus, a theoretical basis exists for competing hypotheses regarding the relationship between self-devaluing experience in groups and disposition to conform to or deviate from the group's normative expectations. On the one hand, it might be expected that individuals who are devalued in the group by virtue of displaying disvalued attributes or behaviors would be motivated to expend greater effort in conforming to group expectations in order to increase their acceptability to other (higher status) group members. On the other hand, it might be argued that the derogation of these "deviants" by other group members would alienate the less accepted members of the group from the group and dispose them to deviate from the normative expectations. The deviant behavior would at the same time be facilitated by the weakening of social controls as a result of the alienation that might otherwise have been effective in constraining behavior and reflect a need to seek alternative self-gratifying (deviant) patterns to those that were associated in the deviant's mind with their disvalued position in the group. Further, individuals who are committed to a conventional socionormative system but who are otherwise disposed to engage in behaviors or manifest traits that deviate from the socionormative system are enabled to initiate or continue such deviance by

providing techniques of neutralization that protect a favorable self-image that otherwise would be threatened by the performance of deviant acts or the presentation of a self that would be construed as deviant (Sykes & Matza, 1957). That is, the availability of techniques of neutralization moderates the relationship between the performance of deviant behavior and an increase in self-derogating attitudes. If an individual is able to deny personal responsibility for the deviant act, deny that injury has occurred, or that a victim was present, condemn those who would condemn the deviant actor, and have recourse to a higher order of responsibility that would justify the act, the person would be less likely to experience negative self-feelings as a consequence of performing the “deviant” act.

The widespread focus on the relation between self-derogation and motivation to engage in deviant behavior in the context of *conventional* membership groups has forestalled recognition that Kaplan’s theory is applicable to the explanation of the adoption of deviant behavior in contexts in which the “deviant” behavior is normatively endorsed. That is, people learn and conform to expectations that the “deviant” behavior should be performed just because it is defined as normative within the group context and in order to reap the self-enhancing rewards that accompany conformity to group expectations (Kaplan, 1984). If predatory crimes, risk taking, truancy, or other patterns were defined as within the realm of the expected and, indeed, obligatory, individuals might adopt these patterns in order to experience the self-enhancing rewards of favorable responses from others because of their “conformity” to the “deviant” patterns. The patterns may be defined as deviant by groups outside of the membership group, but at the same time may be defined as normative within the context of the reference/membership group. On theoretical grounds (Kaplan, 1975b), while it is to be expected that deviant patterns would be adopted in response to negative self-feelings that develop in conventional groups, that is, in groups where the behaviors in question are defined as deviant, there would be no reason to expect that in groups in which the so-called deviant behaviors were regarded as normative that the person would respond to negative self-feelings with such behaviors. Indeed, it is to be expected that the genesis of negative self-feelings in groups in which such patterns were defined as normative would lead to a decrease, if anything, in such behaviors since the negative self-feelings were associated with such a behavioral context. In contexts in which “deviant” behavior is not disapproved and, indeed, is positively valued, *higher* levels of self-esteem may be expected to be associated with engaging in such behaviors, that is, conforming to group norms. In the absence of self-derogation, the person is motivated to continue to engage in such behaviors that were apparently associated with the genesis of positive self-attitudes. High self-esteem leads to performance of deviant behaviors where the maintenance of self-esteem is contingent upon engaging in behaviors that are congruent with salient self-evaluative criteria. When deviant behaviors reflect such criteria, the need for self-esteem will eventuate in deviant behaviors, as when breaking the law is an example of risk-taking behavior that is highly valued by youths. High self-esteem leads to deviance where engaging in deviant behavior is compatible with the values of one’s positive reference groups that serve as a source of one’s self-evaluative standards. Self-esteem decreases the likelihood of engaging in deviant behavior, however, where the basis for one’s self-esteem is the acceptance of the person by conventional positive reference groups. When individuals are emotionally committed to normative systems that others may regard as deviant, that is, when conformity to the “deviant” values is a salient basis for self-approval, far from needing to defend their actions, these individuals would feel called upon to defend deviating from these “deviant” standards (Copes, 2003; Topalli, 2005, 2006). Failure to conform to mainstream values would be to conform to the “deviant” group’s values.

In short, the theoretical relationship between self-derogation (negative self-feelings) and deviant responses is contingent on (1) whether negative self-feelings are generalized within the context of membership group experiences (has the person developed characteristic positive or negative self-attitudes in the course of membership group experiences?) and (2) the normative definition of the “deviant” patterns (are the “deviant” patterns positively endorsed as normative in the context of the membership groups, whether or not they are judged to be deviant from the perspective of other groups, or are the behavioral responses judged to be deviant within the context of the membership group?). If the person develops characteristic intense negative self-feelings in the course of conventional membership group experiences, he would be disposed (motivated) to adopt deviant patterns (that is, patterns defined as deviant within the context of the conventional group). If the individual developed positive self-feelings in the course of conventional membership experiences, she would be disposed to confirm conventional and eschew deviant patterns. If the person developed negative self-feelings in the course of experiences in a deviant group, he would be disposed to eschew *deviant patterns* and adopt conventional patterns. If the person developed positive self-feelings in the context of a deviant membership group, she would be motivated to continue to engage in the “deviant” patterns endorsed by the group. The ability to act out of these motivations would be contingent on yet other circumstances.

## Empirical Tests

Kaplan's (1975b, 1980, 1984) general theoretical statement along with other frameworks have stimulated numerous empirical studies that for the most part have proved to be supportive of models that specify relations between self-derogation and patterns of deviant behavior, as well as the variables that are thought to mediate and moderate these relations. Kaplan's theory, in particular, has been applied to a wide range of patterns defined as deviant within the general society including numerous patterns of delinquency (Kaplan, 1980), substance abuse (Kaplan, Martin, Johnson, & Robbins, 1986), schizophrenia (Kaplan, 1978b), suicide (Kaplan & Pokorny, 1976), unwed motherhood (Kaplan, Smith, & Pokorny, 1979), and membership in religious cults (Freemesser & Kaplan, 1976).

In a series of separate analyses using three-wave panel data and employing partitioning and mean residual gain scores to control on earlier observations of the dependent variables, Kaplan observed the theoretically expected linkages between (1) experiences of rejection by, and failure according to the standards of, conventional groups on the one hand and self-derogation on the other hand (Kaplan, 1976a); (2) self-derogation and disposition to deviance (Kaplan, 1975c); and (3) disposition to deviance and adoption of each of a wide range of deviant responses including substance abuse, interpersonal aggression, and property offenses, as well as other contranormative patterns (Kaplan, 1977a). Kaplan (1975a, 1976b, 1977b) also reported observation of the direct effects of self-derogation on each of a wide range of deviant patterns among subjects who had reported no recent occurrence of the deviant responses.

Among the strongest support for Kaplan's theory is the estimation of several increasingly elaborated models that specify the variables mediating the relationship between self-derogation (the need for self-esteem) and subsequent deviant behaviors in the context of a prospective longitudinal design that employs elaborate multivariate, latent-variable procedures. The series of papers demonstrate the complex, multipath, relationships between self-derogation and later adoption of deviant patterns, specifying the intervening influence of negative social sanctions,

deviant peer associations, and loss of motivation to conform to conventional patterns along with increased motivation to engage in deviant patterns (Kaplan & Fukurai, 1992; Kaplan & Johnson, 1991; Kaplan, Johnson, & Bailey, 1986, 1987, 1988; Kaplan, Martin, & Johnson, 1986). Reanalysis of these models and specification of moderating variables including stage of the life course are summarized by Kaplan and Johnson (2001).

For present purposes the more salient findings relate to the observation that the association of negative self-feelings with perceptions of rejection and failure in family and school (self-rejection) leads to the loss of motivation to conform and the motivation to deviate from conventional expectations (disposition to deviance). Self-rejection is in part the consequence of failure to approximate conventional expectations. The disposition to deviate is the result, not only of earlier self-rejection but also of the negative social sanctions that were elicited by earlier deviant behavior. Negative social sanctions further alienate the individual from the normative order (disposition to deviance).

The theoretical model accounts for 51% of the variance in Time 3 deviant behavior. In view of the facts that the explanatory factors occurred at an earlier point in time than the dependent variable and that the undecomposed portion of the stability coefficient for deviant behavior is quite modest, the explanatory value of the theoretically informed model is noteworthy (Kaplan & Johnson, 1991). The same model, accounting for 42% of the variance in a measure of drug use over the same (seventh to ninth grade) period, was observed (Kaplan et al., 1988).

Consistent with guiding theoretical framework, the general model was elaborated by specifying the theoretically indicated mediating role of self-rejecting attitudes and coping dispositions. In the former case, theoretical premises derived from the labeling perspective and a more inclusive theory of deviant behavior suggest that negative social sanctions in response to deviant behavior affect rejection that in turn has independent effects on attitudes toward conventional society and attitudes toward deviant behaviors and identities. Self-rejection leads to the loss of motivation to conform to, and the genesis of motivation to deviate from conventional expectations (disposition to deviance) and, independently, to the positive reevaluation of, and identification with deviant identities and behaviors. These premises are tested by estimating an elaborated model that specifies self-rejection as mediating and decomposing previously hypothesized and observed direct effects of negative social sanctions on disposition to deviance and drug use (Kaplan et al., 1988). The hypothesized effects were observed, thus lending greater credibility to positions that focus on the mediating role of self-rejection in relationships between negative social sanctions and continuity or amplification of deviance (Kaplan & Fukurai, 1992).

In another elaboration, consistent with the theoretical position that interprets deviant patterns as attempts to cope with self-devaluing experiences in conventional groups, a model was proposed in which the relationships between self-rejection and specific forms of deviant behavior were mediated by coping styles (attack and avoidance) with which the deviant patterns were functionally compatible. Self-rejection at Time 1 was hypothesized and observed to influence both avoidant and attack coping styles measured at Time 2. Also as expected, avoidant coping at Time 2 was related specifically to drug use at Time 3 and attack coping style at Time 2 was related specifically to violence and theft at Time 3. In addition to supporting the position that deviant behaviors serve, or are expected to serve, self-protective and self-enhancing functions, the findings contribute to understanding why one rather than another pattern of deviance is adopted (Kaplan & Peck, 1992).

In addition to the models estimated by Kaplan and his associates reviewed above, in the late 1980s and beyond, numerous empirical reports (most of which are informed by Kaplan's

theory) provide support for the relationship between antecedent self-rejection and subsequent adoption of deviant behavior patterns. Dukes and Lorch (1989) reported that low self-esteem and self-confidence predicted lack of purpose in life and poor academic performance, which in turn affected various forms of deviance. Rosenberg et al. (1989) concluded that their findings corresponded most closely to those reported by Kaplan (1980). Owens (1994) reported findings suggesting “that negative feelings about the self play a somewhat stronger role in the draw toward delinquency than does an erosion of positive self-attitudes, as Kaplan’s (1975b, 1980) delinquency theory suggests” (p. 403). Voleberg, Reitzes, and Boles (1997) reported that low levels of self-esteem have been associated with problem gambling.

Among the more influential empirical support for the relationship between antecedent self-derogation and subsequent adoption of deviant behavior is the three-wave panel study carried out over 20 years after the original study by Kaplan in a different social environment (Dade County, Florida) and a different ethnic-racial sample composition by Vega and his associates (Vega, Apospori, Gil, Zimmerman, & Warheit, 1996). Noting that one of the few theoretical approaches put forward for empirical verification of this relation is the esteem-enhancement theory of Kaplan and his associates, they concluded “findings from our longitudinal study suggest an adequate replication of the Kaplan, Johnson, and Bailey esteem-enhancement model” (Vega et al., 1996, p. 141).

The applicability of the theory to explanations of substance abuse in particular is noteworthy. Warheit and his associates (Warheit et al., 1995) reported that self-derogation was a significant predictor of cigarette and alcohol use 12 months later; and, Taylor, Lloyd, and Warheit (2006) reported the self-derogation-predicted drug dependence 9 years later even when early substance use was controlled. These results were interpreted as support for Kaplan’s (1980) general theory of deviant behavior which informed the analyses. Empirical support for the mediating variables hypothesized by Kaplan (1980) found support in a study of the effect of paternal alcoholism on the adolescent’s substance use growth patterns (Chassin, Curran, Hussong, & Colder, 1996). Paternal alcoholism was associated with elevations in environmental stress which in turn was associated with heightened levels of negative affect. Negative affect was related to affiliation with peers who used drugs. Such affiliation facilitated increases in substance use. These observations were interpreted as supportive of mechanisms in Kaplan’s (1980) theory which offered that those adolescents who experienced low self-esteem are more likely to associate with deviant peer groups, which in turn increased the risk of acting out delinquent behaviors including substance use.

Sischo, Taylor, and Martin (2006), informed by Kaplan’s (1980) general theory of deviant behavior (Kaplan & Johnson, 2001), report the results of a longitudinal study that manifests long-term adverse effects of adolescent self-derogation on the development of eating disorders:

We interpret our findings as supporting Kaplan’s theory about self-derogation and deviance when deviance is framed as disordered eating. While being a girl/woman is the most robust predictor of disordered eating practices in young adulthood, both boys and girls who dislike themselves in their teen years are at increased risk for disordered eating practices in early adulthood (Sischo et al., 2006, pp. 4–5).

Finally, Mason (2001) reports “Consistent with prior research (e.g., McCarthy & Hoge, 1984; Wells & Rankin, 1983), level of self-esteem had a weak, but reliable, negative effect on subsequent delinquency” (p. 97).

In spite of the large number of studies supporting theoretical premises relating to the association of self-feelings with deviant patterns, numerous instances could be cited of weak or



inconsistent relations between these constructs. For example, reviewing the reports regarding the relationship between self-esteem and social problems, observe

One of the disappointing aspects of every chapter in this volume...is how low the association between self-esteem and its consequences are in research to date.... The news most consistently reported... is that the association between self-esteem and its expected consequences are mixed, insignificant, or absent. This non-relationship holds between self-esteem and teenage pregnancy. Self-esteem and child abuse, self-esteem and most cases of alcohol and drug abuse (Smelser, 1989, p. 15).

The weak, inconsistent, or null findings regarding the relationship between self-referent constructs and crime or deviance (most frequently observed in studies conducted in the early part of the 1980s and before) may be accounted for in terms of related issues of methodological inadequacies and/or the absence or misspecification of theoretical premises. Where methodological issues are not problematic and theoretical issues are specified correctly, theoretical expectations regarding the effects of self-feelings on deviant patterns tend to be confirmed.

**METHODOLOGICAL ISSUES.** Numerous methodological limitations preclude observation of theoretically informed expectations. Thus, Kaplan (1980) reported significant relationships between antecedent self-derogation and subsequent adoption of a variety of deviant patterns. However, Bynner, O'Malley, and Bachman (1981) as well as Wells and Rankin (1983) failed to observe such a relationship. These differences in findings might be accounted for by differences in methodological features such as the *characteristics of the subjects*. The latter studies used the same data set, a national sample of high school sophomore boys, while Kaplan collected data from junior high school boys and girls in one large school district. These sample characteristics might reflect unspecified moderating variables that define the conditions under which the hypothesized association would be observed.

The failure to observe or confirm hypothesized relationships between self-referent constructs and deviant behavior might be accounted for by the use of *cross-sectional research designs* rather than prospective longitudinal surveys. Particularly where the hypothesized relationships are in a different direction, associations that would be otherwise observed in longitudinal perspective cancel each other out and suggest no relationship at all. For example, in Kaplan's theoretical framework self-derogation is expected to lead to an increase in deviant behavior, while deviant behavior is expected (under certain conditions) to lead to a decrease in self-rejection. While both hypotheses may be warranted, in the context of a cross-sectional study relationships that would otherwise be observed respectively cancel each other out. As Smelser (1989) speculates,

... a teenage girl, plagued by feelings of low self-esteem and loneliness, may engage in sexual behavior (and even become pregnant) because she needs love and affection at any cost. But through the mechanisms of reinforcement and anticipatory association, she may experience feelings of increased self-esteem from the sexual relationship or the pregnancy.... Through the vicious cycle of shame, guilt, and self-disgust, an individual may strike out in rage at an intimate, but the temporary relief experienced may generate stronger feelings of self-worth and self-realization. In all these cases the causal priority is reversed and the positive association is washed out by the negative one (p. 16).

Even in the context of prospective longitudinal research designs, however, where the general theory dictates countervailing effects of an independent variable, those countervailing effects will not be observed unless the variables that intervene (mediate) in one or both the countervailing effects are specified. In the absence of that specification the countervailing effects

will cancel each other out and it would seem that the independent variable has no effect at all on the dependent variable, when in fact the effects are significant but in the opposite direction. Thus, it might be hypothesized within the context of the same theoretical framework (Kaplan, 2001) that self-derogation increases the likelihood of subsequent deviant behavior because the self-derogation increases alienation from the normative framework that generated the self-devaluing attitudes, at the same time decreasing the influence of social controls that might have forestalled the deviant behavior. Simultaneously, and within the same theoretical framework, it might be predicted that self-derogation decreases the likelihood of future deviance by awakening the need for social approval and decreasing the self-confidence that is ordinarily associated with higher levels of self-esteem and that would otherwise facilitate risk taking. In the absence of the specification of the intervening variables, the relationship might be greatly weakened (perhaps to nonsignificance) as a result of the countervailing predictions. However, a path analysis that specified the intervening variables (alienation, need for social approval, etc) in one or both predicted relations would permit observation of the hypothesized countervailing processes. Although the net effect of the independent variable might be close to zero, the specification of the mediating variables would permit demonstration of the countervailing processes and inform subsequent analyses in which moderators of the alternative relations are specified.

Empirical support does exist for the hypothesized countervailing effects of low self-esteem on deviant behavior. Consistent with hypothesized countervailing effects of low self-esteem are reports by Rosenbaum and deCharms (1962) that low self-esteem individuals were more sensitive to, and angered by, verbal attacks than high self-esteem individuals, while at the same time low self-esteem individuals appeared to be more inhibited in expressing the aggressive impulses. Kaplan and Johnson (2001) also observed these countervailing effects in that self-derogation was positively and indirectly related to deviant behavior via the effect of self-rejection on disposition to deviance; and, self-derogation was inversely related to deviant behavior, presumably due to associated feelings of inefficacy and an increased need to conform to normative standards in order to evoke positive responses from self and others.

The failure of earlier studies to confirm hypothesized relations between self-referent constructs and crime or deviance may in part be accounted for by the failure to use more elaborate multivariate, latent-variable (LISREL) procedures that permit the modeling of effects of *measurement errors* in the analysis which might have weakened estimates of causal effects in the earlier studies (Kaplan & Johnson, 2001). Further, the use of measurement variables reflects at the same time both methodological variability that might account for inconsistent results in empirical studies and misspecification of the theoretical premises underlying the hypotheses. A case in point concerns the measurement of deviant behavior. Within the context of Kaplan's framework (Kaplan, Martin, & Johnson, 1986), low self-esteem was hypothesized to motivate the adoption of deviant patterns. However, it was noted that deviant adaptations may take any of a number of functionally equivalent forms. It was expected that the magnitude of association between self-derogation and any particular manifestation of deviant dispositions would be relatively low (albeit statistically significant). The prediction was not that self-derogation would lead to particular forms of deviance, but rather that it would lead to any of several equivalent forms of deviance. Thus, a cumulative scale that counted the number of deviant patterns engaged in would not be an appropriate operational specification of the underlying theoretical construct. Rather, a latent construct that reflected the possible diverse manifestations of failure to

conform to normative expectations would be a more appropriate operationalization of this latent construct.

Inappropriate measures of self-derogation also may account for the occasional failure to observe that low self-esteem is associated with patterns of deviance such as aggression (Baumeister, Bushman, & Campbell, 2000). The frequently drawn observation that both extremely high *and* extremely low scorers on measures of self-esteem tend to be more aggressive/violent merely reflects the fact that such individuals share low self-esteem, with the extremely high scorers assuming a defensive posture that attempts to deny, but in fact testifies to, the need to protect one's self-esteem that emanates from the de facto low self-esteem that prompts the defensive posture. The issue arises largely from the failure to recognize that measures of self-esteem are less than perfect. Observations that both high and low self-esteem individuals tended to be more aggressive than moderate self-esteem people (for example, Perez, Vohs, & Joiner, 2005) most likely reflect the adoption of narcissistic defenses against a profound self-loathing, a position that is supported by the observation of a moderate association between self-esteem and a measure of narcissism (Raskin, Novacek, & Hogan, 1991).

**THEORETICAL ISSUES.** The weak contradictory or non-existent findings relating to the reciprocal influences among self-referent constructs and deviant outcomes that has been said to characterize the relevant literatures in large measure can be accounted for by either the failure of the empirical studies to be informed by a theoretical framework or by the misspecification of the theoretical premises that compose a particular framework in guiding the hypotheses. Any complex inclusive theoretical statement will elaborate the contingencies under which diverse relations will be observed and will specify the multiple (frequently countervailing) pathways along with the constructs that mediate these pathways. All too often, attempts to test hypotheses that are putatively informed by such an inclusive theoretical framework fail to specify variables that moderate these relationships as well as the variables that intervene in the causal paths. When the theoretical framework is not specified it should not be surprising that often hypotheses are not empirically supported. Regarding *moderating* variables, those occasions where statistically significant effects between antecedent self-derogation and subsequent adoption of deviant patterns have not been observed (Jang & Thornberry, 1998; McCarthy & Hoge, 1984; Wells & Rankin, 1983) may be accounted for by the failure to correctly specify that theoretical scope conditions in fact hold in the studies estimating the theoretically informed model. For example, Jang and Thornberry (1998) could have failed to observe evidence of an effect of low self-esteem on deviance because they oversampled males and youths who lived in census tracts with high arrest rates, that is, because among self-identified deviants low self-esteem would not be expected to lead to deviant outcomes (Kaplan & Lin, 2000). It is not surprising, then, that in the overall sample the investigators would fail to observe the expected effect. A scope condition underlying the hypothesized relationship is that the individuals with self-derogating attitudes have developed those attitudes in the course of conventional membership groups with which they identify. If individuals with a non-deviant (that is, conventional) identity develop significant negative self-feelings in the course of their membership group experiences, the prediction is that they will come to associate their negative self-feelings with their conventional identity and so lose motivation to conform to conventional expectations. Rather they will become motivated to deviate from these expectations that are perceived to be the source of their discomforting self-feelings. Further, they will be disposed to seek and execute alternative deviant patterns that offer

the promise of enhancing their self-attitudes. For individuals with a deviant identity, the development of significant self-rejecting feelings will not unequivocally become disposed to engage in deviant behavior. According to the general theory, such persons are subject to countervailing processes, some of which incline the person toward deviant behavior and others of which inhibit the acting out of deviant behaviors. On the one hand, persons characterized by deviant behavior may be disposed to engage in deviant behavior for any of several reasons. A person might be born into and reared in a group that endorsed behavior patterns which other groups define as deviant. The youth is socialized to recognize the appropriateness of those responses and is motivated accordingly to continue to evoke rewarding responses from group members. If any incongruity is noted between the group definition of the behavior as appropriate and the formal definition of the behavior as delinquent, then group justifications are provided that neutralize the discrepancy. The youth is exposed on a day-to-day basis to people who serve as a membership and positive reference group and who endorse the "deviant" pattern. The youth's every day satisfactions are dependent on people who appear by their behavior to approve these patterns, and the youth learns to model him/herself after those same people who offer the youth a range of satisfactions. Possibly the youth does not even conceive of alternative response patterns. The youth is treated by others and comes to conceive of him/herself as a member of the deviant group and so continues to engage in the "deviant" behavior.

Another process disposing the individual to engage in deviant behavior is the expectation of enhancing self-derogatory attitudes that derive from earlier experiences of rejection and failure in a conventional group. Both the expectation of self-enhancing outcomes and residual feelings of hostility toward the conventional group might dispose the person to engage in deviant behavior. A third process that might dispose individuals with a deviant identity to engage in deviant behavior implicates the experience of receiving negative sanctions from members of conventional groups. These sanctions would alienate the person further from conventional groups and at the same time render less effective the threat of negative sanctions in deterring the acting out of dispositions to engage in deviant behavior.

On the other hand, the general theory also specifies that other processes may be operative through which the person who has a deviant identity and has negative self-attitudes will be inhibited from engaging in deviant activities. If the person associates the deviant identity with distressful negative self-feelings, this could contribute to the person both losing the motivation to conform and gaining motivation to deviate from the expectations associated with the *deviant* identity.

These self-derogatory attitudes that develop among some deviant individuals could derive from any of a number of related circumstances. First the deviant behavior might evoke intrinsically distressful negative social sanctions from conventional social control agents. Second, the person could experience the reawakening of previously internalized conventional standards against which the deviant self-concept would be regarded as a self-devaluing circumstance. In this regard, Kobrin (1951) suggests that the hostile responses of youths in high-delinquency areas toward representatives of the conventional culture testify to the emotional significance of conventional values. To those youths, the gestures of defiance and contempt for the conventional order that frequently accompany delinquent acts were viewed as

... a dramatically exaggerated denial of a system of values which the delinquent has at least partially introjected, but which for the sake of reserving a tolerable self-image, he must reject. In this interplay of attitudinal elements, the vigor of the rejection of the value system is the measure of its hold upon the person (Kobrin, 1951, p. 660).

Third, the individuals with a deviant identity might have failed to conform to the expectations that define the identity within the group and that evoke negative sanctions from others in the deviant group. Finally, the deviant patterns that were adopted in the expectations of self-enhancement might have failed to live up to those expectations. Hence, the disposition to continue to engage in those patterns that were ineffective in assuaging negative self-feelings is weakened.

In support of these theoretical expectations, Kaplan and Lin (2000) observed that deviant identity in fact did moderate the relationship between negative self-feelings and the adoption of deviant patterns. It was hypothesized that for conventional youths, that is, those without a deviant identity, negative self-feelings would have a positive effect on later deviant behavior. For youths characterized by deviant identities, however, no net effect of negative self-feelings on deviant behavior would be observed due to the operation of countervailing effects. Countering the indirect positive effect of negative self-feelings (presumably reflecting alienation from the conventional order) were inverse direct effects of negative self-feeling on later deviant behavior (presumably reflecting alienation from the deviant identity stemming from its association with concomitant negative self-feelings (Kaplan & Lin, 2000).

Just as the relationship between antecedent self-derogation and subsequent levels of deviant behavior is a conditional one, contingent upon such variables as having a conventional identity (Kaplan & Lin, 2000), so is the relationship between negative self-feelings and *decreases* in deviant behavior contingent upon a number of circumstances. Thus, Kaplan and Lin (2005) hypothesized that the combined circumstances of having a deviant identity and having a positive emotional bond to conventional membership groups would moderate the relationship between negative self-feelings and deviant behavior such that negative self-feelings would decrease the likelihood of engaging in deviant behavior. For those who have a deviant identity and nevertheless develop self-rejecting feelings, the association of self-rejecting feelings with a deviant identity would decrease commitment to that identity and therefore the likelihood of engaging in deviant behavior. This would be particularly the case where the individual maintained positive emotional bonds to the conventional society. Implicit in the characterization of high conventional social bonding are the following related circumstances that have implications for the reduction of deviant behaviors in response to the development of negative self-feelings associated with a deviant identity. First, high conventional social bonding precludes long-term immersion in a deviant subculture and concomitant dependence on deviant others for everyday satisfaction of basic needs, including the need for approval by the deviant others. Second, positive bonding to conventional groups mitigates residual hostility to conventional groups despite any past experiences of rejection and failure in such groups that may have prompted the adoption of deviant patterns. Third, being the object of negative social sanctions that is implicit in the deviant identity not only ordinarily increases alienation from conventional society but also concomitantly decreases expectations of being re-accepted into the society as a reward for eschewing deviance in favor of conventional adaptations. However, bonding to conventional groups implies the presence of just such expectations of reintegration into conventional society as a consequence of increasing deviance and increasing conventional activity (Braithwaite, 1989). As hypothesized, Kaplan and Lin (2005) observed that negative self-feelings were associated with significant *decreases* in deviant behavior for the deviant identity/high social bonding group, but were unrelated to deviant behavior in the deviant identity/low social bonding group; as observed in earlier studies, among non-deviant identity groups, negative self-feelings were related to subsequent increased deviant behavior (regardless of level of social bonding).

Theoretical misspecifications that fail to provide for *intervening* variables also may account for the occasional failure to provide strong support for some of Kaplan's (1975b, 1980) hypotheses. A case in point is the expectation that self-rejection arising in the course of membership group experiences will dispose or *motivate* the adoption of deviant patterns, while the acting out of these motivation is contingent on specified moderators. As Mason (2001) observes

Kaplan (Kaplan, Martin, Johnson, & Robbins, 1986) has noted that small direct effects of self-evaluation on delinquency are expected, because self-rejection is presumed to affect motivation rather than behavior. His work (e.g., Kaplan, Johnson, & Bailey, 1986; Kaplan et al., 1987., Kaplan, Martin, Johnson, & Robbins, 1986) has shown that, as expected, self-rejection directly affects disposition to deviance, which affects, in turn, delinquent behavior (p. 97).

In summary, then, weak, inconsistent or null findings that fail to support theoretically informed hypotheses regarding these relationships between self-attitudes and deviant behavior may be accounted for by failure to employ appropriate methodological practices and to specify relevant theoretical premises. Particularly when considering empirical reports that appeared to use appropriate analytic techniques and that were based upon models that specified theoretically informed mediating and moderating variables, it must be concluded that a good deal of support exists for the premise that the need for self-esteem (self-derogation) motivates and increases the likelihood of acting out deviant behaviors, while under other conditions motivation to conform to conventional expectations might be increased.

## DEVIAANT BEHAVIOR AND SELF-REFERENT CONSTRUCTS

Just as self-referent constructs have stimulated numerous theoretical statements and empirical reports regarding their effects on motivation to adopt deviant patterns, and the acting out of these patterns, so have deviant patterns been considered to have important implications for self-referent responses in these literatures. Theoretical statements and empirical reports are considered in turn.

### Theoretical Statements

In a variety of theoretical statements deviant behaviors are said to have direct and indirect (via public deviant identities) consequences for the person's own identity (self-concept), self-evaluation, and self-feelings. These statements differ somewhat, however, in the nature of the consequences that are emphasized. Some theorists (Gold, 1978; Hewitt, 1970) expected that deviant behavior would have negative self-evaluation effects due to the adverse social responses of other group members to the deviant behavior. Others (Kaplan, 2000, 2001) argued that both positive and negative self-evaluative outcomes, along with their concomitant self-feelings, were possible outcomes, depending on a number of specified contingencies.

On theoretical grounds deviant behavior is expected to increase self-esteem under specified circumstances. Deviant acts may satisfy the need for enhancing self-attitudes in any of a number of ways (Kaplan, 1975b, 1980, 1982, 1995, 1996). First, deviant acts might result in the avoidance of self-devaluing experiences through the enforced avoidance of negative responses of people in the conventional environment. Because a person spends more time with deviant peers, is incarcerated, or is otherwise excluded from interacting with conventional others, the

person will necessarily avoid the negative reactions that he has experienced in the conventional environment in the past. Second, deviant acts may have self-enhancing consequences through rejections of the values according to which the individual was judged to have failed. Deprived of self-acceptance by being unable to approximate conventional standards and thereby earn group approval, the person would find rejection of the standards of the other groups that rejected him to be gratifying. The deviant behavior would signify that he considers the standards by which he formerly rejected himself to be invalid.

Third, deviant acts provide new routes to positive self-evaluation. The deviant activity may involve associating with a group that endorses standards that are more easily attainable than those endorsed in the conventional environment and gain gratification from achieving the new standards. Further, conformity to deviant group's norms may result in gratifying acceptance by the group. In addition to whatever gratifications that come from conforming to the standards of deviant associates, the deviant behavior may be self-enhancing as a result of other consequences of the substitution of deviant sources of gratification for conventional ones. For example, deviant activities may provide the individual a new sense of power or control over the environment which leads the person to think of himself as a more effective individual.

Nevertheless, just as self-rejection is expected to have countervailing effects on later deviance, so is early deviance expected to have countervailing effects on later self-rejection. Under some condition deviance will decrease feelings of self-rejection, while under other conditions deviant behavior will increase self-rejection. If conventional reference groups evoke residual feelings of affection and expectations of reintegration of the group, the person may develop a deviant self-concept and concomitant negative self-feelings in response to initial deviance while behaving in ways that are expected to gain social acceptance. However, if the social rejection along with alienation from the conventional group attenuates the effectiveness of social sanctions, a deviant identity may serve self-enhancing functions such as those noted above. The nature of the situational contingencies will be apparent in the discussion of the empirical reports below. In any case, the self-enhancing consequences of deviant behavior have received the greater attention in discussions of Kaplan's theory.

## **Empirical Reports**

As in the case of hypothesized effects of self-attitudes on deviant behavior, so are hypothesized contingent self-enhancing or self-devaluing effects of deviant/conforming behaviors observed when the moderating and mediating variables composing Kaplan's theory are specified and appropriate analytic/measurement decisions are made. For example, Kaplan (1980) has asserted that deviance has self-enhancing effects only among individuals who were previously not deviant and who had a strong need for self-esteem (as this is reflected in poor contemporary self-evaluations). When such contingencies are specified, a decrease in self-derogation following the adoption of deviant patterns is in fact observed. Thus, Wells (1989) observed that self-enhancement from delinquent behavior does in fact occur mainly among youths characterized by extremely low self-esteem and, therefore, an extraordinarily high need for self-esteem. It is consistent with Kaplan's theoretical framework that the self-enhancing effects of deviance are observed only for those with extraordinarily low self-esteem insofar as this may reflect a greater degree of alienation from and, therefore, less amenability to social controls by the socionormative structure in which the extraordinary self-derogatory attitudes were generated. Later analyses

using state-of-the-art analytic techniques and correctly specifying theoretical contingencies confirmed these results and contradicted results of those studies that failed to do so (Mason, 2001):

The strongest finding was support for the hypothesized self-enhancing effects of delinquency. Prior research on this thesis has been mixed, with many studies showing no effect of delinquency on self-esteem (e.g., Owens, 1994; Rosenberg et al., 1989; Wells & Rankin, 1983) or even a self-derogating effect (Jang & Thornberry, 1998; McCarthy & Hoge, 1984). By contrast, the results of this study showed that delinquency prospectively predicted linear growth in self-esteem. Subgroup analyses revealed that delinquency was self-enhancing for boys initially low in self-esteem, but not for boys initially high in self-esteem. This is consistent with both theory and past research (e.g., Bynner et al., 1981; Wells, 1989). However, to my knowledge, no study in the extant literature has demonstrated a positive effect of delinquency on individual differences in intraindividual change in self-esteem among adolescent boys over time using latent growth curve methodology. Overall, these results are supportive of Kaplan's (1975a, 1975b, 1980) contention that involvement in delinquency may be an adaptive or defensive response to feelings of low self-regard, which serves to elevate levels of global self-esteem (pp. 96–97).

Numerous investigators have specified contingencies for the self-enhancing consequences of deviance that are consistent with Kaplan's general theory and have observed such consequences under these conditions. Thus, Wells (1989) reported that the self-enhancing effects of deviance for those with initially low self-esteem were observed in more pronounced fashion for more serious forms of delinquency "theft, vandalism, fighting" than for relatively minor kinds of deviance "running away from home, truancy, poor school performance." Socioeconomic status (as an indicator of social definition of deviance) was expected and observed to moderate the effect of delinquent behavior on self-esteem such that self-enhancing effects of delinquency would be less likely to be observed in the higher class than in the lower class. Therefore,

if higher-class youngsters are more apt to have been socialized to consider delinquent behavior to be wrong, to be more severely condemned by most peers and parents for such behavior, and to recognize potential damage to their future life prospects that a delinquent life style might lead to, then these influences might partly nullify the generally positive self-esteem effects of delinquent behavior. In this event, we would expect delinquency to have a less positive effect on self-esteem in the higher than in the lower class (Rosenberg et al., 1989, p. 1011).

As predicted, it was observed that the effect of delinquency on enhanced self-esteem was significant only in the low socioeconomic status group.

Another moderating variable is the immediacy of the self-enhancing effect that is associated with particular forms of deviance. Substance abuse appears to have short-term effects of reducing self-derogation and depression, although it seems to have long-term effects of increasing these states (Bentler, 1987; Newcomb & Bentler, 1988). Substance abuse as a coping device may provide short-term gratification of assuaging negative self-feelings, but over the long term forestalls the development of socially acceptable and effective coping mechanisms. The momentary experience of gratification could be sufficient to blind the person to the long-term consequences of the deviant adaptation. Indeed, at first, consequences such as social stigma may increase the need for momentary reduction of negative self-feelings.

A comparison of self-attitude scores in sober and intoxicating conditions revealed that alcoholic subjects when intoxicated showed more favorable and less derogatory self-concepts than when sober. However, the self-enhancing effects were observed only for those who had a history of heavy drinking and a dependence on alcohol. For social drinkers, intoxication had an adverse effect on self-attitudes (Berg, 1971). Kaplan and Pokorny (1978) interpreted findings regarding the relationship between alcohol use and self-enhancing consequences in terms of increased feelings of power that assuaged threats to the masculine self-image among subjects (primarily higher socioeconomic status adolescent males) who are particularly vulnerable to such threats.



Other investigators have focused on the mechanisms through which self-enhancing consequences of deviance are achieved. Informed by Kaplan's general theory, Leung and Lau (1989) observed an inverse relationship between delinquency and both academic self-concepts and relationships with parent and school:

This pattern of results can easily be explained by Kaplan's (1978a) model: those who have difficulties in establishing their self-worth in their family and school relationships and in their academic performance would be more likely to commit delinquent acts in answer to sustain their self-worth.

How does the enactment of delinquent behavior enhance one's self-worth? The present results suggest that the enactment of delinquent behavior enhances one's social and physical self-concept. As discussed before, adolescents who are frequently frustrated and rejected by the school and the family will try to seek approval in other reference groups. The obvious choice is their peers (friends and classmates). Individuals in the new referent group are likely to share similar frustrating experience with school and family, and hence reject the behavioral patterns endorsed by these two groups and instead endorse delinquent values and behavior. Thus, individuals who commit more delinquent behaviors are likely to be accepted and approved by this referent group, which is reflected in their positive social self-concept.

The enactment of delinquent behavior usually involves some vigorous physical act. Thus, the positive relationship between delinquent behavior and physical self-concept is expected (p. 356).

In a like manner, others have speculated how individuals who are unable to maintain self-esteem through conventional means might adopt unconventional means to do so. Thus, failing to maintain high self-esteem through skillful performance, individuals may attempt to gain such esteem through the exercise of physical dominance (Staub, 1999). Consistent with such speculations, Marsh and his associates (Marsh, Prada, Yeung, & Healey, 2001) observed that trouble making in school had modest positive effects on subsequent self-concept:

On the basis of speculation by other researchers and some limited previous research. . . , we posited a mechanism whereby low self-concept is a trigger for pursuing trouble-making behavior. . . Thus, low self-concept students seek strategies to enhance their self-concepts. One such strategy might be to engage in trouble-making behaviors. The positive effects of prior trouble-making on subsequent self-concept suggest, at least in the mind of some troublemakers, that this strategy may have been successful. This may occur, for example, because of the positive attention that is given to troublemakers by other students, particularly by members of the opposite sex. Because this reinforcement may be based on the possibly inaccurate perceptions of the troublemakers, it is possible that troublemakers interpret attention by passive bystanders as a social approval that enhances their self-concepts (p. 416).

Conversely, just as empirical support for the conditional self-enhancing consequences of deviance has been reported, so is support from empirical studies available in favor of the conditional *self-devaluing* consequences of deviant behavior. Deviance is hypothesized and observed to lead to low self-esteem in part because it is contrary to the normative expectations that the person has internalized in the course of socialization in conventional membership groups. The internalized standards are used by the person for self-evaluation. Since the person has failed to approximate self-evaluative standards by behaving in a deviant fashion, the person will experience negative self-evaluations and concomitant self-rejecting feelings. In addition, the person will evoke negative social sanctions which contribute to self-rejecting feelings. Thus, it was hypothesized and observed that deviant behavior influences increased self-rejection (low self-esteem) both directly (via failure to conform to self-evaluative standards) and indirectly (via evoking punitive responses from significant others in the environment) (Kaplan & Johnson, 1991).

Stager, Chassin, and Young (1983), consistent with these findings, hypothesized and observed that low self-esteem among labeled deviants occurs particularly when the individual perceives people as personally relevant and also has a negative evaluation of that label. Labeled

deviants who *positively* evaluate the person's relevant label do not display negative self-esteem. Further, citing Kaplan's (1975b) distinction between voluntary and involuntary deviance, these investigators speculate that the determinants of low self-esteem among labeled deviant populations might vary depending on the kind of deviance under consideration. In any case, the effect of deviance on increased self-derogation appears to be a conditional one. This is indicated also by the inconsistent effects of the concomitants of deviant behavior (such as imprisonment) on self-attitudes. As Greve and Enzmann (2003) observe, "the results with respect to the damaging effect of incarceration on self-esteem are, at best, mixed" (p. 12). This suggests that the course of self-esteem development in prison is moderated by individual and situational contingencies. One such moderator is suggested to be individual variation in coping with the onus of imprisonment. Observing a sample of incarcerated young male offenders at the beginning of their prison terms, two months later, and at the end of their prison term, Greve and Enzmann (2003) observed (1) that self-esteem tended to increase during the period of imprisonment and (2) that the increase was contingent on the individual's level of competence in accommodative coping (method in terms of flexibility of goal adjustment). The increase in self-esteem during the period of incarceration tends to occur earlier and at a more rapid rate for individuals who scored high on the measure of high accommodative competence (after a serious drawback, I soon turned to new tasks; I find it easy to see something positive even in a serious mishap). Further, higher levels of self-esteem were observed among incarcerated delinquents with few bonds to conventional society (Fischer & Bersani, 1979), and self-esteem was lower for incarcerated delinquents who were characterized as being aware of a valuing adult's attitudes about delinquency (Chassin & Stager, 1984).

When the focus is upon self-derogation, that is, lack of self-esteem, theoretical explanation tends to focus upon alienation from conventional groups that were implicated in the development of intrinsically distressful negative self-feelings. When the focus is upon the causal implications of high self-esteem, however, the focus tends to be more on control factors which reduce the tendency to act on deviant impulses. Thus, Reckless and his associates (Reckless, Dinitz, & Murray, 1956) posited that strong "inner containment" presumed having a good self-concept as well as high levels of self-control, which enhances the person's ability to resist dispositions to engage in crime. Consistent with the theoretical reasoning underpinning the hypothesized adverse effects of delinquency on self-esteem, Jensen (1973) observed that the inverse effect of delinquency on self-esteem was greater for those boys who were more attached to parents and for white boys who did not have delinquent friends, presumably indicating that "if an adolescent is in a situation where no one is likely to disapprove of what he does, then there would be less reason for low self-image variables to be related to delinquency" (Jensen, 1973, p. 467). It might be added that, conversely, the disapproval of others whose opinion is important to the person would constrain acting out deviant impulses. Foreshadowing this research, Jensen (1972) reported that delinquent's self-concepts had less adverse consequences for self-esteem among those who were less susceptible to social control influences.

Consistent with the results reported by other investigators in studies of the consequences of deviant behavior for self-attitudes, studies which frequently were informed by Kaplan's theory, Kaplan and his associates reported support for conditional self-enhancing consequences of deviant patterns. For a spectrum of deviant responses Kaplan (1978a, 1980) examined the conditions under which deviant responses were related to subsequent decreases in self-derogation among initially high self-derogation subjects. He concluded that highly self-rejecting subjects, who are unable to utilize normative patterns to reduce feelings of self-rejection and are least

likely to be vulnerable to adverse consequences of adopting alternative deviant patterns in the service of the self-esteem motive, were reasonably consistent in displaying an association between antecedent performance of deviant responses and subsequent reduction in self-rejecting attitudes.

The influence of deviant behavior on self-derogation was also hypothesized to be contingent on the presence of other theoretically indicated conditions, in particular, stage in the life course, gender, and race/ethnicity. Specifically, Kaplan and Halim (2000) examined the effectiveness of the disposition to engage in aggressive strategies on coping with (that is, reducing) self-derogation. It was expected that for social identities in which a salient source of self-derogation is the perceived barrier against self-assertiveness, empowerment, or taking action on one's own behalf, the adoption of aggressive dispositions would be self-enhancing. If the source of self-derogation for females and Mexican-Americans is perceived to be the social disempowerment of these identities, then the adoption of aggressive stances by persons characterized by these identities would result in the reduction of self-derogation. If the perceived disempowerment is experienced more intensely at earlier stages in the life course, then the reduction in self-derogation consequent upon the adoption of aggressive behaviors will be associated with earlier stages in the life course (Kaplan & Halim, 2000).

Similarly, it was expected that for social identities in which the adoption of aggressive dispositions is deplored, the adoption of such strategies will increase rather than decrease self-derogation. If females, particularly during adulthood, view aggression as inappropriate and are negatively sanctioned for their disposition to aggressively respond to self-devaluing circumstances, then they will experience exacerbation of their self-derogation following adoption of aggressive coping dispositions.

These expectations were tested using data from a panel tested at three points during the life course (early adolescence, young adulthood, and the latter half of the fourth decade of life). The basic model specified effects of self-derogation on aggression at each point in time, stability effects of self-derogation and aggression between adjacent stages of the life course, and lagged effects of aggression at earlier points in time on self-derogation at later points in time.

This model was estimated for males and females separately, and for white-Anglo, African-American, and Mexican-American subjects separately. We expected that gender and race/ethnicity would moderate the model in accordance with the expectations specified above. In general the estimation of the structural equation models was congruent with our expectations. As expected, for females only, aggression in early adolescence anticipated decreases in self-derogation in young adulthood and aggression increased self-derogation between the third and fourth decades of life. For white-Anglo and African-American subjects, aggression in early adulthood was related to increased self-derogation in later adulthood, but for Mexican-American subjects, early adult aggression decreased self-derogation by later adulthood. The results are interpretable in terms of self-enhancing implications of aggression for disempowered groups and in terms of subcultural differences in acceptability of aggressive adaptations to stress at different stages in the life course.

The theoretical model was effective as well for specifying conditional self-enhancing effects of participation in social movements. Kaplan and Liu (2000a) observed the predicted effect of the interaction between social movement participation and denial that kids like the subject can get ahead by working hard on lower levels of self-derogation. Among subjects who indicated that kids like the subject can get ahead by working hard, participation in social protest activities

in the seventh grade was positively related to later self-derogation scores. Presumably, belief that working hard is associated with rewards reflects an internalization of conventional norms and identification with the membership groups that adhere to these norms. Among individuals who have internalized conventional norms, participation in activities that question validity of the conventional normative structure should be associated with negative attitudes toward one's self. Participation in social protest activities reflects deviation from conventional norms. Insofar as individuals who internalize these norms judge themselves according to the degree that they approximate the normative standards, failure to do so by engaging in social protest activities would lead to self-devaluation.

In contrast, for subjects who deny that individuals can get ahead by working hard, participation in social protest activities has salutary consequences for their self-attitudes. The greater the degree of participation in social protest activities, the lower the level of future self-derogatory attitudes. This was the case whether the later self-derogatory activities were measured in the ninth grade or as young adults, although the effect was more apparent in later adolescent years. The decrease in self-derogation that followed participation in social movements (controlling on earlier self-derogation) for subjects who believed that it was not possible to get ahead even with working hard may be accounted for by any of a number of mechanisms. Subjects who believe that it is not possible to get ahead by working hard likely have lower levels of perceived self-efficacy. Participation in social protest activities perhaps testifies to the individual's capability of controlling his own destiny, albeit outside of conventional parameters.

At the same time, participation in social protest activities reflects affiliation with a group that conforms to different standards than the ones the person was presumably unable to approximate (as reflected in the belief that even with hard work, kids like him will not be able to get ahead). By adopting and conforming to the normative standards of the new reference group the person is enabled to evaluate himself positively by virtue of conforming to the now valued standards (including participation in social protest-related activities). Further, by engaging in contranormative activities, subjects who believe that they cannot get ahead even by working hard express their contempt for the normative activities according to which they must judge themselves to be failures. By rejecting the validity of the standards, these subjects reject the bases for self-derogatory judgments (Kaplan & Liu, 2000b).

In sum, taking into account (1) appropriate specifications of theoretically indicated contingencies and intervening mechanisms in the relationships between deviant patterns and consequent self-referent responses that are affirmed in Kaplan's theory and (2) the appropriate methodological decisions that enable estimates of the theoretically informed models, it may be concluded that ample empirical support for the guiding theoretical framework exists whether considering analyses by Kaplan and his colleagues or those reported by others, many of which are informed by the same theoretical orientation. The discussion now turns to the implications of these theoretical and empirical literatures for more inclusive explanations of the antecedents and consequences of crime and deviance.

## **TOWARD AN INTEGRATIVE THEORY OF CRIME AND DEVIANCE**

The theoretical and empirical literatures that focus on the reciprocal relationships between self-referent constructs and deviant behavior with some justification may be considered in the contexts of three ever more inclusive explanations of deviant behavior. In the least inclusive context these literatures detail the ways in which the related processes of self-conception, self-evaluation, and

self-feelings influence, and are influenced by, the adoption of conforming/deviant patterns. In a more inclusive context these relationships may be regarded as subsuming orientations that regard deviant patterns as more or less effective adaptations to life stress. In the most inclusive context, these relationships are regarded as linchpins that integrate a broad range of processes that explain motivation to adopt deviant patterns, as well as the onset, (dis)continuity, and consequences of the deviant patterns.

### **Self-Referent Constructs and Deviance**

The literatures reviewed above provide theoretical statements and empirical reports that specify reciprocal relationships between self-referent processes and deviant responses, as well as the factors that mediate and moderate these relations. Although concerns about negative self-feelings on deviant behavior and the self-enhancing effects of deviance predominate, the inhibiting effects of negative self-feelings and the self-devaluing consequences of deviance are considered as well.

Toward the goal of integrating these literatures a theoretical framework has been offered (Kaplan, 1975b, 1980, 1984) that is widely regarded as among the more inclusive, testable, integrative, and empirically supported of its kind (Scheff et al., 1989; Wells, 1989; Wells & Rankin, 1983). It has been argued that the inconsistencies and weak findings that appear to some to characterize the abundant literature on the relationship between self-attitudes and deviant behavior are accounted for, in large part, by the failure to consider the relationship in the context of a well-developed inclusive theory that specifies hypothesized positive and negative effects of self-esteem on deviant behavior and positive and negative effects of deviant behavior on self-esteem. In the context of such a theory, as the one that has been focused upon in this work, such relationships no longer appear contradictory. The theory comfortably accommodates both positive and negative reciprocal relationships between self-rejection and deviant behavior by specifying the variables that intervene in, and moderate, these relationships. This theoretical statement is perhaps the only one of its kind that has predicted and provided empirical support for all four processes: self-rejection is both positively and inversely related to deviant behavior; and deviant behavior is both positively and negatively related to self-rejecting attitudes (Kaplan, 2001). Thus, it serves the function of integrating what would otherwise seem to be disparate literatures on the reciprocal relationships between self-referent processes and deviant behavior.

### **Deviant Adaptations**

A very large number of sociological perspectives address motivations to deviate that may or may not explicitly implicate processes related to self-evaluation. These theories of deviant behavior focus upon motivations to forestall or assuage strain associated with frustration of the ability to achieve valued ends. These several theories, however, are interpretable in terms of self-evaluative processes and thus serve the integrative function of accommodating them under the same rubric. In addition to the classical strain theories to be considered below, Agnew (1992) distinguishes between three classes of strain that engender deviance. These include the failure to achieve positively valued goals, the removal of positively valued stimuli, and confrontation with negative stimuli. The strain that results from any of these might lead to deviance insofar as the deviant patterns function to avoid or attack the perceived source of strain. In this respect, the theory is

similar to that of Kaplan (1972, 1975b, 1986) who argues that deviant adaptations to stress may function to permit avoidance of experiences that lead to stressful self-devaluation, attacks upon the conventional normative structure according to the standards of which the individual is caused to devalue himself, and substitutions of new self-evaluative standards that may more easily be approximated.

Numerous other perspectives treat deviant motivation as engendered in similar fashion. Thus, aspects of Tittle's control balance theory are also compatible with the view of deviant behavior as an adaptation to failure to approximate valued goals. A perceived deficit in the ability to exercise control in circumstances where autonomy is valued will dispose the individual to adopt deviant patterns that would permit the individual to alter the balance of control he or she is subject to (Tittle, 1995). For Tittle and Paternoster (2000), "a desire (a) to avoid control, or (b) to exercise more control than one is subject to, constitutes the major compelling force for humans and is implicated especially in criminal or deviant behavior (p. 550)". Thus "deviance can be understood as a maneuver to alter control imbalances and thereby to overcome feelings of humiliation provoked by being reminded of one's unbalanced control ratio" (Tittle & Paternoster, 2000, p. 557, emphasis in original).

Katz (1988) treats the motivation to deviant behavior ("seductions of crime") in terms of needs to protect one's self-esteem, encourage a desired reputation, establish autonomy, demonstrate competence, or other motives (all of which relate to the need to enhance one's self-esteem in one way or another). Similarly, Luckenbill (1977) examined the transactions leading to homicides in terms that reflected the need of individuals to protect their reputation or to attack that of others with whom they were interacting. Both the work of Katz (1988) and Luckenbill (1977) are considered to be instances of interaction analyses in which unique sets of transactions lead to motivated deviant outcomes (Tittle & Paternoster, 2000).

These examples, as well as numerous others approaches, that might have been offered seem to have in common the premise that deviant behaviors are motivated by needs to forestall or adapt to the psychological distress associated with the need to achieve desirable states that could not be achieved through conventional means. This being the case, it was perhaps inevitable that integrative perspectives would arise that encompass these approaches. Thus, Kaplan (1972, 1975b, 1980, 1986, 1995, 1996; Kaplan & Johnson, 2001) argues that in the course of the socialization process the individual learns to value the possession of certain attributes and the performance of certain behaviors as standards for self-evaluation and positive evaluation by others. In specified circumstances, some individuals may experience chronic failure to approximate valued standards and so experience distressful self-rejecting attitudes and disapproval by valued others. These circumstances motivate the individual to behave in ways that will assuage the distress associated with self-derogation and rejection by others. Although the person may well be motivated to attempt to assuage or forestall further distress through normatively prescribed mechanisms, these may prove to be ineffective in reducing the person's distressful self-attitudes. In these circumstances, the person will be motivated to seek alternative (deviant) response patterns that will function to achieve conventional values, avoid further failure and rejection by others, attack the validity of the conventional standards according to which the person was judged to have failed, and substitute new (deviant) standards that the person finds more easily achievable than the conventional standards and that evoke rewarding attitudes of approval from others in the deviant group.

Kaplan offers a theoretical approach that subsumes all of the specific forms of deviance-engendering stress under the rubric of self-derogating experiences. Motives to engage in deviant

behavior whether considered as individual or collective responses are said to reflect the need to avoid self-rejecting attitudes and to maintain or promote positive self-attitudes. Specific motives to attain consensually valued goals by illegitimate means are accounted for by the need to feel positively toward one's self, a prerequisite for which is the achievement of the consensually valued goals. Motivated acts that reflect contempt for the conventional value system and endorsement of values that contradict conventional value systems are intended to function in the service of the self-esteem motive by destroying the validity of the standards by which the person failed and, therefore, which evoked self-devaluing responses. Deviant patterns that appear to be motivated by the need to retreat (whether by decreasing contact with others or by changing one's psychological state) from contact with the conventional value structure function to enhance self-attitudes by (a) avoiding continuing experiences of failure and rejection when measured against conventional standards or (b) avoiding recognition of such failure and rejection. The attraction of individuals who are socialized according to conventional values to groups that endorse delinquent values in addition to serving any of the foregoing self-enhancing functions provides a new set of (deviant) standards that the person can adopt, achieve, and, therefore, use as a basis for positive self-evaluation (Kaplan, 1975b, 1980, 1982, 1995; Kaplan & Johnson, 2001).

### **An Inclusive Explanatory Framework**

At the most inclusive level, in addition to integrating the literatures dealing with the reciprocal relationships between self-referent responses and deviant behavior, and those addressing deviant adaptations to stress, the theoretical framework under consideration has the potential to serve an integrative function for the more inclusive literatures that attempt to explain motivation to engage in deviant behavior, as well as the onset, (dis)continuity, and consequences of deviant behavior.

In discussing "identity" approaches to the study of deviance, Tittle (2000) observes that such theories would benefit from being

... more accommodating of other theoretical processes, such as general strain, learning, and social control. Why and how the search for identity turns toward self-definitions that result in criminal behavior is still not clear, the situational forces that activate deviant behaviors remain incompletely developed, and the convergence of self-phenomena with other variables, such as fear of sanction, deviant opportunities, or moral feelings, could be specified more completely by borrowing from other theories (p. 62).

In fact, Kaplan (1984) attempts to do just that by interdigitating self-relevant theories with a wide range of other approaches to the study of crime and deviance and by offering the outlines of an integrative theory for the study of deviance. Although some commentators place the guiding theoretical framework under the rubric of control theory in particular (Gibbons & Krohn, 1991; Shoemaker, 1990), more often the theory is regarded as integrative in nature. Thus Wells (1978) cites Kaplan's (1975b) orientation as a major example of the synthesis of structural interaction analyses and socialization-control analysis:

The fundamental propositions tying deviance and self-concept to the social structure are: (1) that commitment to the legitimate social order is a positive function of the adequacy of self-esteem level, and (2) that self-esteem is a cumulative product of socialization experiences which may be distributed across different social sectors or different kinds of interpersonal associations. . . . When the situational structure of contingencies works against self-esteem maintenance, then the theory predicts a tendency to seek behavioral alternatives, either individual or collective, which are outside the conventional order and which provide more positive experiences. . . . (p. 194).

Akers (1994) also characterizes the theoretical approach in terms of the integration of several traditional frameworks:

Howard B. Kaplan (1975b) proposed a self-esteem/derogation theory of adolescent deviance that brings together deviant peer influences (social learning theory), family and school factors (control theory), dealing with failure to live up to conventional expectations (strain theory), and self-concept (symbolic interactionism and labeling theory) (pp. 192–193).

The guiding theory is integrative in effect rather than in a purposive sense. The theory did not develop by purposely incorporating the separate ideas contained in diverse theoretical frameworks. Rather, the theory evolved by developing the implications of central theoretical premises. In so doing it was inevitable that ideas developed piecemeal in one or another of the diverse theoretical frameworks would become relevant as part of the explanation of deviant behavior. The following discussion offers, in turn, (1) a description of how several illustrative explanatory approaches are reflected in the integrative theoretical statement and (2) a brief outline of the theory.

**EXPLANATORY APPROACHES.** From the *structured strain* perspective (Cloward & Ohlin, 1960; Merton, 1938), deviant responses are viewed as outcomes of the disjunctions between culturally prescribed (and personally internalized) goals and institutionalized means for achieving these goals. Compatible with this view, in the general theory, such disjunctions reflect both the failure to achieve culturally valued goals and the absence of instrumental resources. These in turn increase the likelihood of pervasive self-rejection and the consequent adoption of deviant responses that are consciously or unconsciously intended to enhance self-attitudes. Among the available mechanisms for accomplishing this is the rejection of culturally prescribed values. Thus the theory is particularly congruent with Cohen's (1955) view of delinquent gangs as collective solutions to the frustration of being unable to attain conventional goals by conventional means. The solution, of course, is to reject the legitimate structure.

Once the "collective solution" is viewed as an ongoing system, Cohen's perspective may be categorized as one of the *subculture* theories (Akers, 1973; Miller, 1958; Sutherland & Cressey, 1974), in that "deviant" responses reflect conformity to shared normative expectations. In the context of the general theory of deviant behavior under consideration, such responses are viewed in like manner as the outcome of normal socialization processes whereby the individual conforms to expectations in order to earn self-acceptance and correlated benign outcomes, such as acceptance by other group members. The failure to conform to these group expectations is deviant from the group perspective and initiates the chain of events leading to motivated deviant responses, that is, responses that purposely contravene the group's expectations. Motivated deviance would not ordinarily result from conforming to the group's expectations (that happen to be judged as deviant from the perspective of other groups), except under conditions where the other groups, as a result of their judgment that the behavior in question was deviant, had the power to engineer outcomes for the subject that were sufficiently self-devaluing in their implications to more than counterbalance the self-enhancing effects of the subject's commitment to the normative structure.

In the context of *control* (Briar & Piliavin, 1965; Hirschi, 1969; Polk & Halferty, 1966) and *containment* (Reckless, 1967; Reckless et al., 1956; Schwartz & Tangri, 1965; Voss, 1969) theories, impulses toward deviant responses are checked by a variety of socially induced factors.



Control theories propose that such factors are related to a person's emotional commitment to the normative order based on earlier gratifications achieved in the course of the normative socialization process. Containment theory introduces a favorable self-concept as an insulator against deviance, in addition to the earlier noted social control factors that inhibit the expression of deviant dispositions. These theories in effect are incorporated under the general theory in a number of ways. To the extent that a subject's gratifications (particularly noteworthy among which are positive self-feelings) are associated with the normative structure, the subject will develop positive affective ties to the normative structure, in addition to a self-concept as one who appropriately seeks valued goals through legitimate means. Conversely, to the extent that normative relations are associated with self-rejecting feelings and correlated adverse outcomes, the person's emotional ties with the normative structure will be attenuated, as will the need to think of himself or herself as a person who conforms to normative expectations. Given the attenuation of these controls, the awareness of alternative deviant routes to self-enhancement and associated ends is likely to eventuate in the onset of deviant responses. The adoption of deviant responses further attenuates one's ties to the social order insofar as the deviant actor becomes the object of negative social sanctions, thus motivating rejection of the normative system in order to justify the earlier deviant responses.

Aspects of a fourth theoretical perspective are also implicit in the general theory. The *labeling* hypothesis (Becker, 1963; Kitsuse, 1962; Lemert, 1951; Scheff, 1966) focuses on responses to initial deviance by agents of social control who in effect define the social identity and, thereby, the self-identity of the actor as deviant. The deviant self-identity in turn influences the stabilization of deviant careers. Those aspects of the labeling perspective that are implicit in the general theory include propositions regarding the influence of labeling on the onset of deviant responses, the self-enhancing self-devaluing consequences of labeling, and the influence of labeling on the stabilization of deviant response patterns. Regarding the first aspect, the subject's anticipation of the reactions of others (including labeling) to proposed deviant adaptations in the service of the self-esteem motive will influence his or her expectations regarding the net self-enhancing or self-devaluing consequences, and thereby his or her adoption of the deviant response. Regarding the second implication, the labeling phenomenon has self-enhancing effects to the extent that it facilitates (1) avoidance of self-devaluing membership group experiences by attenuating the relationship between the subject and the membership groups in which self-rejecting attitudes developed; (2) attack on the basis of the subject's self-rejection, since acceptance of the label symbolizes the subject's opposition to the very normative expectations that were the basis of his failure; and (3) substitution of self-enhancing opportunities for self-devaluing experiences by permitting the deviant identity to attract positive attitudinal responses from others similarly labeled. Insofar as such self-enhancing effects are experienced, the subject will gain a positive emotional investment in the deviant identity. Finally, a third implication of the labeling phenomenon relates to the continuity of deviant careers. Quite apart from any influence on the continuity of a deviant pattern exercised by the resultant positive emotional investment in the deviant identity, labeling may be hypothesized to have at least two other influences on continuity. First, a deviant label raises the psychological costs of attempted reentry into the normative system where, were it not for these labeling-induced barriers, the subject might have adopted newly available, normative, self-enhancing, or self-protective mechanisms. Second, societal labeling increases subject's felt need to justify his or her initial deviant responses in order to assuage the self-rejecting feelings deriving from the negative labeling experience. Insofar as this justification is successful, repetition of the deviant act is facilitated.

**OUTLINE OF AN INTEGRATIVE THEORY.** The integrative theory has been described in detail in a number of places from the perspectives of self-theory and stress-theory as well as from the perspective of deviant behavior (Kaplan, 1972, 1975b, 1980, 1982, 1983, 1984, 1986, 1995, 1996). Only a brief outline will be presented here.

The performance of acts that are defined as deviant relative to a particular normative framework is regarded as adaptations, either to the expectations of groups that define the acts as deviant or to the expectations of groups that define the acts as normative. Where the person is committed to the normative system that defines the acts as deviant but has consistently failed to do or be what was expected, the person loses motivation to conform and becomes motivated to deviate as a way of satisfying unresolved needs. In the course of the normal socialization process, one learns to value the possession of particular attributes, the performance of certain behaviors, and the particular experiences that are the outcome of the purposive or accidental responses of others toward one. These attributes, behaviors, and experiences are the basis for the individual's feelings of self-worth. If the person is unable to evaluate himself or herself positively, then the person will be motivated to behave in ways that will gain the attributes, enable the performance of the behaviors, and increase the likelihood of the experiences that will increase feelings of self-worth and decrease the feelings of psychological distress that are associated with self-rejecting attitudes. If a person perceives an inability to achieve the attributes, perform the behaviors, and enjoy the experiences he or she has been taught to value as the basis for overall positive self-evaluation through conventional behavior, then that person will be motivated to behave in deviant ways that offer promise of gaining attributes, facilitating behaviors, and enjoying experiences that will permit the person to gain a feeling of self-worth. The deviant behavior may involve using illegal means to achieve what the person has learned to value or engaging in deviant activities as a way of rejecting or avoiding the conventional standards by which the person failed, and substituting deviant standards by which he or she could more easily succeed and earn feelings of self-worth.

Failure to approximate self-evaluative standards of membership groups results from misunderstandings of the expectations, conflicting expectations imposed upon the person, or the absence of instrumentally or intrinsically valued resources due to (1) congenital inadequacies, as in strength, dexterity, or intelligence; (2) the failure to acquire the skills and experience necessary for adapting to or coping with the environment as a result of faulty socialization experiences, or the disruption of already acquired adaptive/coping patterns by various life events; (3) placement in inadequate social support systems; (4) the occurrence of life events that impose legitimate requirements on an individual that cannot be met by his or her heretofore adequate resources; and (5) deviant attributions by other social systems.

Where the person is committed to a normative system that endorses the behavior in question, the need to approximate self-evaluative standards motivates performance of the act. The person internalizes the standards either by being born into and reared in a group that shares a deviant subculture or by later becoming attracted to such a group and becoming emotionally committed to the subcultural standards shared by the group. The person may become attracted to the group originally because of the deviant activities that promise gratification. Alternatively, the person may become attracted to the group independent of the deviant activities but adopt the deviant subculture as a means of evoking continued identification with the group whose approval he or she needs.

People act out or constrain their motives to perform deviant acts depending upon (1) the presence of counteracting motives not to perform the act and (2) the situational context and

other opportunities to perform the act. Counteracting motives encompass those needs ordinarily included under the rubric of social controls. The effectiveness of counteracting motives in forestalling the acting out of deviant dispositions is moderated by two general conditions. These conditions relate to emotional attraction to the conventional order and to the ability to define the deviant act as compatible with the conventional order. The opportunity to perform the act includes physical, personal, and interpersonal resources as well as the situational context that provides the occasions and the stimulus for the deviant behavior.

Once a person has performed deviant acts, what circumstances will lead to the continuation, repetition, or escalation of the person's degree of involvement in deviant activity? The first set of circumstances includes those that provide positive reinforcement of the need to perform deviant acts. The second set includes those circumstances that weaken the effects of motives that previously deterred the individual from performing deviant acts. The third set of circumstances increases or establishes ongoing opportunities for the performance of deviant behavior.

Deviant behavior is self-reinforcing in two ways. First, the performance of deviant behavior may satisfy important needs for the person. Because the behavior satisfies the needs, as the needs continue or recur, the deviant behavior will continue or be repeated in the expectation that the need will still or once again be satisfied. Second, regardless of the motivation for the initial performance of deviant behavior, the deviant behavior creates a need (specifically a need for self-justification) that is satisfied by continuation or repetition of the deviant act or by the structuring of the social environment in ways that facilitate the continuation or repetition of the deviant act.

Social controls are weakened by circumstances that either decrease expectations of adverse consequences or decrease attraction to conventional values. Decreased expectation of adverse consequences is accounted for directly by observation that few adverse consequences of initial deviance occurred and indirectly by the circumstances surrounding stigmatization of the deviant actor following initial deviance. In the latter case, when the initial deviance is observed and harshly responded to, the person effectively is expelled from conventional society and the interaction between the individual and representatives of conventional society is thereby markedly reduced. The attraction to the values of conventional society and to membership in conventional groups as a basis for positive self-evaluation is weakened both by the very same processes that influenced the person's initial motivation to perform deviant acts and by the responses of society to the initial deviance. The person's inability to succeed by conventional standards leads to negative self-attitudes and to the disposition to perform deviant acts that might lead to more positive self-feelings. At the same time, the person's association, in his own mind, between the distressful self-rejecting attitudes and the conventional standards that are the measure of his failure decreases his attraction to these standards. The self-rejection is increased by the negative sanctions applied in response to the initial deviance.

The early performance of deviant acts frequently has consequences that increase the individual's opportunity to perform deviant acts. As a result of the person's rejection of and by the conventional society, the person becomes increasingly attracted to deviant associates and increases the amount of social interaction with other deviants. With increasing interaction comes the motivation to conform to the expectations of deviant associates on whom the person depends for satisfaction of his or her day-to-day needs.

The theoretical statement clearly incorporates a number of concepts other than those of self-attitudes and deviant behavior. Nevertheless, all of the factors are plausibly, and more or less directly, related to self-attitudes. It is around the central explanatory significance of self-rejecting

attitudes that an outline for a general theory of deviant behavior has emerged, one that is congruent with aspects of numerous theories of deviant behavior. Perhaps the most important outcome of this exercise in reviewing the literatures dealing with the reciprocal relationships between self-referent constructs and deviant behavior is the recognition of the potential of these literatures for generating an inclusive integrative explanatory framework for the study of the antecedents and consequences of deviant behavior.

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## CHAPTER 8

# Self-Control Theory: Research Issues

ALEX R. PIQUERO

### INTRODUCTION

In the annals of criminological thought, there have been a handful of theories that have been proffered that have altered and shaped the theoretical imagination of criminologists. The most recent of these theories is Gottfredson and Hirschi's (1990) general theory of crime. Their theory places particular importance on the personal, individual characteristic of (low) self-control, or the tendency to pursue immediate gratification at the expense of consideration for long-term consequences. To Gottfredson and Hirschi, the higher order construct of self-control is comprised of six characteristics, all of which coalesce within the individual with (low) self-control: impulsivity, preference for simple tasks, risk seeking, preference for physical as opposed to mental activities, self-centeredness, and a quick or volatile temper. When (low) self-control combines with the ready stock of available opportunities for crime, the general theory of crime anticipates that the probability of all types of antisocial and criminal activity will increase in a generally linear fashion, and this interaction should be a principal ingredient of crime over and above most other traditional correlates of crime, which the theorists claim are simply manifestations or selection effects associated with self-control. Finally, the specified causal process is believed to be invariant across all demographic characteristics, over time, places, cultures, and crime types. In other words, self-control is the principal cause of crime regardless of its place in time, history, and context, and offenders are presumed to engage in all sorts of criminal acts, i.e., versatility is the norm and specialization is the rare exception.

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Formed in childhood as a result of parental socialization efforts (produced largely through monitoring of offspring behavior, recognition of deviance, and punishment of deviance), differences in self-control between persons are believed to be relatively constant throughout the life course. That is, although socialization continues to occur over the life course – and individuals could differ in their absolute levels of self-control, the differences in self-control that exist across persons at one age are believed to be approximately the same at other ages. Moreover, given these expectations, changes along the continuum of self-control (especially movement from lower to higher amounts) are expected to be difficult to achieve by more formal agents of social control or change. This leads to the hypothesis that the prospects for change (among offenders with low self-control) are quite bleak. Thus, the ideal set of policy prescriptions that emanate from the general theory of crime are aimed primarily at altering patterns of parental socialization in the first decade of life, the period of the life course where Gottfredson and Hirschi believe the options for change are highest. Responses by the formal criminal justice system after this period are believed to exhibit little effect in reducing criminal activity, with the sole exception, perhaps, of altering the situations and opportunities associated with certain forms of crime (i.e., situational crime prevention efforts such as target hardening).

Given the above set of statements, Gottfredson and Hirschi's theory represents what I would consider to be criminology's null hypothesis. To them, the explanations of crime are simple and the complexity associated with multiple causes at multiple periods of the life course for different types of people across any number of contexts is simply inconsistent with the facts of crime and criminals. Crimes are believed to be easy to carry out and criminals all share the same personal, individual characteristic in that involvement in crime in the pursuit of force and fraud provides immediate gratification that maximizes short-term interests at the forsaking of long-term consequences – to which criminals do not attend (i.e., self-control).

Given these strong statements it is not surprising to learn that the theory has attracted much attention and generated much discussion and of course, controversy. For example, the theory has been criticized for being tautological (Akers, 1991), for not paying close attention to issues of theoretical clarity, linkage, and conceptualization (Barlow, 1991), and its relation to other crime types (Geis, 2000), for not considering the relationship between self-control and Hirschi's early social control theory explanation (Taylor, 2001),<sup>1</sup> and for neglecting more enduring psychological (Wiebe, 2003) and biological characteristics (Cauffman, Steinberg, & Piquero, 2005).

Nevertheless, their book, *A General Theory of Crime*, has accumulated over 1,700 citations (Google Scholar, April 10, 2008). But has all the fuss and fury done much to advance our understanding of crime and criminals? In other words, is criminology in a better position in understanding crime and criminals now than it was before the theory was introduced? One's answer to this question, of course, is likely to be influenced both by their view of the theory as well as their interpretation of the impressive amount of empirical evidence that has accumulated around many of Gottfredson and Hirschi's critical hypotheses.

<sup>1</sup> To be sure, Gottfredson and Hirschi's general theory of crime does allow for social control (and bonds in particular) to be important within the general theory of crime, but only insofar as social control influences self-control prior to ages 8/10; thereafter, social control is deemed to be largely irrelevant in influencing both self-control and criminal activity.

## EXTANT RESEARCH

### Defining, Conceptualizing, and Measuring Self-Control

Other than to say that the six characteristics that comprise self-control “come together” within persons, in the initial statement of the theory Gottfredson and Hirschi defined self-control in such a way that precluded any assistance with respect to the best way to operationally measure self-control in empirical research. Because of this, researchers were left to their own imagination as how best to measure the key construct in the general theory of crime. The first two empirical tests of the theory employed contrasting approaches to measuring self-control. Grasmick, Tittle, Bursik, and Arneklev (1993) used an attitudinal measure of self-control, based on commonly used personality assessments, to measure respondent’s self-control and found that the measure was significantly associated to crimes of force and fraud but that its effect was also contingent on opportunity. Keane, Maxim, and Teevan (1993) collected observations of seat belt use – a behavioral measure of self-control – assuming that using a seat belt was indicative of displaying high self-control and vice versa. These authors also found a linkage between refraining from seat belt use (reflecting low self-control) and drunk driving. In their reaction to these two studies, Hirschi and Gottfredson (1993) viewed the behavioral measure as a preferred operational measure of self-control, in part because of their assumption that an individual’s self-control may influence their responses to survey responses, as well as their view that some index of the behavioral problems engaged in by the individual (i.e., a variety index) provides the ideal measure of self-control (Hirschi & Gottfredson, 1995). That is, Hirschi and Gottfredson believe that the best indicator of self-control would consider involvement in problematic behaviors because it is an observable characteristic of what an individual actually physically does and not necessarily the individual’s attitudes or personality characteristics that may (or may not) be measured adequately.

Given the centrality of this issue to the key theoretical construct in the theory, it is no surprise to learn that the measurement of self-control has generated a significant amount of research (MacDonald, Morral, & Piquero, *in press*; Marcus, 2003). In an early study, Longshore, Turner, and Stein (1996) collected attitudinal information from a sample of offenders to examine the measurement invariance associated with self-control (i.e., whether a one-factor structure was equally viable for all respondents). Their evidence was not entirely consistent with Gottfredson and Hirschi’s hypotheses on this issue, but a replication by Piquero and Rosay (1998), using the same data, but with different model specifications (i.e., exclusion of correlated error terms not based on theoretical expectations, etc.) reached a somewhat more supportive set of results with respect to Gottfredson and Hirschi. Piquero, MacIntosh, and Hickman (2000) followed these two studies with an examination of self-control’s factor structure and built upon these efforts by assessing how an individual’s self-control influenced respondent’s self-reports to the Grasmick et al.’s attitudinal self-control survey scale. Using data collected on college students, they found that, consistent with Gottfredson and Hirschi, an individual’s self-control did influence their responses to the self-control instrument, and thus claimed that while attitudinal responses were not necessarily fatally flawed, the other methods of assessing self-control – including behavioral approaches and in particular third-party/external ratings of self-control – should be seriously considered. One other study by Tittle, Ward, and Grasmick (2003) deserves specific mention. Using a single data set, these authors directly compared the ability and strength of both attitudinal and behavioral measures of self-control in relation to acts of force/fraud. Their analysis uncovered

that both approaches appeared to equally predict such outcomes and in the end argued that the use of either approach provided a satisfactory assessment of the general theory of crime.<sup>2</sup>

Clearly, there is much variation in the measurement of self-control and it does not appear that researchers have come to full agreement (and perhaps never will) as to which approach, attitudinal or behavioral, should be the guiding approach for empirical assessments of Gottfredson and Hirschi's conception of self-control. Nevertheless, this has not precluded researchers from further development and conceptualization of different self-control measurement approaches. For example, following the psychological research by Muraven, Tice, and Baumeister (1998) which conceptualizes self-control like a muscle (which becomes more exhausted as it is used) and examines whether "self-control demands" throughout one's day (e.g., having to call on considerable self-control amid experienced stress) lead to a depletion of one's reserve of self-control. Tremblay (1995) conceptualizes self-control in a traditional manner, but uses data from third-party observations to measure it. And finally, Piquero and Bouffard (2007) consider self-control as set of inhibitions one carries wherever one happens to go and measure self-control using respondent's indication of the number and salience associated with the costs and benefits in crime-engendering situations.

### **Self-Control → Crime Linkage**

Critical parts of the theory have been subjected to intense empirical scrutiny, especially the proposed link between self-control and antisocial/criminal activity. In general, this line of research, using an array of different conceptualizations and operationalizations of self-control and crimes of force/fraud, has routinely indicated a significant relationship indicating that (low) self-control relates to deviant outcomes in ways that were anticipated by the theorists (Pratt & Cullen, 2000; Tittle et al., 2003). Although the effects of self-control on force/fraud have not always been the largest in any statistical model, it is true that the significant effects of self-control emerge across many different demographic factors, cultures, and crime types – with the sole exception for prediction of white-collar/corporate crime (Piquero, Langton, & Schoepfer, 2008; Simpson & Piquero, 2002). In the end, however, while the jury is still out on how best to operationalize self-control, it does appear that through a myriad array of such approaches, whatever self-control is and however self-control is measured, does continually relate to a wide range of antisocial, deviant, delinquent, and criminal acts throughout the life course.

### **Sources of Self-Control**

Much less studied has been the more distal causal process, i.e., explaining the sources of self-control, which Gottfredson and Hirschi attribute strictly to a process centered around parental

<sup>2</sup> To be sure, several commentators (Akers, 1991) criticize Gottfredson and Hirschi's insistence on the use of behavioral measures of self-control, primarily because of the notion that deviant behavior is used, in effect, to predict deviant behavior, and thus any such relationship is not surprising because the two measures are of the same underlying construct. This continues to be a source of contention in the literature, as critics, such as Akers, continue to believe that the use of deviant behavior to predict deviant behavior is tautological, while Gottfredson and Hirschi remain steadfast in their position that it is not.

socialization (monitoring of child behavior, recognition of child deviant behavior, and punishment of deviant behavior). Among the handful of studies that have examined this process, a few have shown effects consistent with Gottfredson and Hirschi but most studies do not contain the full array and type of parental socialization efforts articulated by the theorists; thus, any definitive statement regarding the parental socialization → self-control linkage awaits much more careful analysis. What has been identified as important in this line of research, and which was not anticipated by Gottfredson and Hirschi, is that there appear to exist *other* sources of self-control that do not fall under the sole purview of parental socialization efforts. In particular, researchers have identified other sources of self-control that influence self-control above and beyond the effect of parenting, including characteristics of neighborhoods and information social control (Pratt, Turner, & Piquero, 2004), as well as the influence of schools and teachers (Gottfredson, 2001; Turner, Pratt, & Piquero, 2005) in samples combining childhood and adolescent time periods (but well before the mid-teens).

### Stability of Self-Control

One other ill-studied but certainly critical hypothesis is the stability of self-control. Recall that Gottfredson and Hirschi claim that, once established by the early teens, self-control is reasonably stable between persons over time, and largely impervious to change by any external socializing agent. Due to data constraints, however, this hypothesis has not received a sustained amount of attention. The data that do exist on this issue suggest that while there is some degree of stability across persons, there still appears to be a non-trivial amount of change within persons (i.e., there is significant change, within individuals, of their self-control, with most individuals gaining or improving their self-control (i.e., moving from lower self-control to higher self-control), but also some closing of the gap across persons over time (Arneklev, Grasmick, Tittle, & Bursik, 1998; Hay & Forrest, 2006; Mitchell & MacKenzie, 2006; Turner & Piquero, 2002; Winfree, Taylor, He, & Esbensen, 2006). To the extent that such efforts can be replicated, extended, and better studied, any definitive statement with respect to the stability hypothesis is premature.

### Versatility of Offending

Prior to the delineation of the general theory, criminologists have long studied the range and types of criminal activity engaged in by offenders. This line of research has overwhelmingly showed that most offenders are versatile; that is, they engage in a wide range of antisocial, delinquent, and criminal activities and very few specialize in specific types of offenses (see reviews in Blumstein, Cohen, Roth, & Visher, 1986; Piquero, Farrington, & Blumstein, 2003).<sup>3</sup> And although Gottfredson and Hirschi do allow for some very limited specialization due to opportunity structures, i.e., offenders who live near a shopping center have more opportunities to engage in theft, offenders view crime as a short-term solution to obtain the things they desire. Research

<sup>3</sup> To be sure, there are some accounts of limited specialization among certain types of offenders and/or among offenders within a narrow range of offense types (Steffensmeier & Ulmer, 2005), but this is generally the exception and not the rule.

exploring Gottfredson and Hirschi's versatility thesis has routinely found that individuals with low self-control tend to engage in a wide range of imprudent behaviors as well as delinquent and criminal acts and evince little tendency toward specialization (Arneklev, Grasmick, Tittle, & Bursik, 1993; Evans, Cullen, Burton, Dunaway, & Benson, 1997).

### **Invariance Across Persons, Time, Culture, and Place**

With respect to the invariance thesis, there have only been a small number of empirical studies thus precluding any sort of summary statement, especially with respect to the time-invariance thesis – simply because the theory has not been around long enough to be assessed over a long period of time. Nevertheless, studies do tend to suggest that self-control differences explain crime – to somewhat different degrees of success – fairly well across race/ethnicity (Vazsonyi & Crosswhite, 2004), sex (Burton, Cullen, Evans, Alarid, & Dunaway, 1998), and age (Burton, Evans, Cullen, Olivares, & Dunaway, 1999). Moreover, there appears to be good predictive ability for self-control to also explain acts of force and fraud in different places and cultures (Tittle & Botchkovar, 2005; Vazsonyi & Belliston, 2007; Vazsonyi, Pickering, Junger, & Helsing, 2001). In short, the current state of the evidence suggests that there is a relationship between self-control and crime and that it appears (to varying degrees of strength) significant across the main demographic characteristics.

### **The Role of Opportunity**

Finally, the accumulated evidence with respect to the general theory of crime has tended to focus primarily on the role of self-control and has largely neglected the role of opportunity in influencing criminal activity. Although this is, in large part, due to the problem of defining, operationalizing, and measuring opportunity (and collection of such data in criminological data sets), it still represents a key portion of their theory. Some of the evidence on this hypothesis does show that opportunities are an important component of the causal process articulated in the theory (Longshore, 1998), but the theorists have largely abandoned this portion of the theory because of their view that opportunities for some type of crime are routinely available (Gottfredson & Hirschi, 2003).

## **GOTTFREDSON AND HIRSCHI'S THEORETICAL ADJUSTMENTS AND RESTATEMENTS**

As could be expected, the original statement of the theory, the ensuing empirical research, and the theorists' reaction to this line of research have generated much discussion and controversy, and while the theory and its central tenants remain largely unchanged, there have been two important modifications. First, as noted above, Gottfredson and Hirschi have largely abandoned the portion of their theory concerning the role of ubiquitous opportunities for crime and how it interacts with (low) self-control to produce crimes of force and fraud. Gottfredson and Hirschi (2003) now suggest that "...opportunities for *particular crimes* may vary immensely over time and place" (p. 10, emphasis in original). Yet, empirical research on this aspect of their theory suggests

that opportunities do moderate some aspect of the self-control → crime linkage and that some individuals differentially perceive opportunities compared to other individuals (Smith, 2004). Moreover, in the more criminological and decision-making research areas, evidence indicates that the nature and type of particular opportunities vary across time and space (Cohen & Felson, 1979; Cornish & Clarke, 1987). And in addition to the difficulties associated with defining and operationalizing opportunity, this remains a source of controversy with respect to the general theory.

The second modification made to the theory concerns the definition and operationalization of self-control. Recently, Hirschi (2004) redefined self-control to be broader and more contemporaneous offering it as the tendency to consider a wide range, both in terms of number and potential salience, of potential costs when considering a criminal act, things that were not explicitly or outwardly specified in the original statement of the theory nor in its few suggestions for measurement and operationalization. Specifically, self-control is now defined as the “set of inhibitions one carries with one wherever one happens to go” (Hirschi, 2004, p. 543). He also suggested that self-control is influenced by the extent to which the individual is socially bonded, such that those with fewer social bonds anticipate comparatively fewer costs and find those costs less salient.

In an early empirical assessment of this reconceptualized version of self-control, Piquero and Bouffard (2007) collected information on perceptions of the number and salience of the costs and benefits associated with hypothetical offending situations and found evidence in support of Hirschi’s proposed redefinition.<sup>4</sup> The “new” measure of self-control was significantly related to hypothetical offending intentions, and this new measure appeared to have more predictive ability (in relation to offending intentions) than traditionally used self-control measures.

But this restatement, which amounts to conceptualizing self-control as a more situationally based measure, now allows aspects of opportunity to somehow moderate the influence of self-control on crime. In this regard, because certain situations may elicit high self-control reactions (i.e., more costs and relevant salience), while other situations may elicit low self-control reactions (i.e., less costs and salience) (Piquero & Tibbetts, 1996), it becomes especially important to assess why individuals may or may not exhibit self-control in certain situations (Mischel, Shoda, & Rodriguez, 1989). For example, persons with lower self-control (offenders) may sometimes refrain from crime when a crime opportunity is presented to them, whereas persons with higher

<sup>4</sup> Specifically, participants were presented with seven blank lines for which they were asked to develop a list of up to seven “bad things” (costs) that might occur if they engaged in the offending behavior depicted in each scenario, a method which follows Hirschi’s suggestion that the number of consequences to which an individual attends when making decisions to offend is related to that individual’s self-control. Also, because Hirschi suggests that self-control is also a function of the salience of the consequences that the individual considers, individuals were asked to provide data on the salience of potential inhibiting factors associated with criminal activity. After the listing of any relevant costs, participants were asked to indicate “*How important* each one of these things would be *when making your decision* whether or not to (offense behavior) under the circumstances in the story.” These items were rated using a similar 0% (Not Important) to 100% (Very Important) scale. Given Hirschi’s statements about the relevance of both the number of costs attended to and their salience, the redefined self-control measure took the number of costs generated by the respondents and multiplied them by the average salience applied to these groups of costs (i.e., all costs) by the participants, thereby providing a measure that focuses on the inhibiting/costs factors (i.e., where higher scores are indicative of higher self-control) that can be quite broad (depending on the respondent’s nomination) and is contemporaneous because the data are obtained immediately after the individual is asked to rate their likelihood of engaging in the hypothetical criminal act.

self-control may sometimes engage in deviance when a crime opportunity presents itself. Thus, Hirschi's redefinition now allows opportunity (masked as situational factors) to be a relevant consideration in the crime-production process, and while this is not inconsistent with the general theory's friendliness toward the rational choice perspective, it does allow for opportunity (situations) to be more important than perhaps the theorists had originally assumed.

## OUTSTANDING ISSUES AND DIRECTIONS FOR THE FUTURE

It is clear that Gottfredson and Hirschi's general theory of crime has generated a significant amount of theoretical and empirical attention and controversy. It has also spurred the development of further criminological thought, especially as researchers have sought to empirically assess the theory's central hypotheses and whether it provides an improved understanding of crime and criminals. At the same time, there exist several outstanding issues with respect to the theory's development and where future theoretical and empirical research is needed for further refinement and improved explanation. In this section, several of these issues and research directions are identified with the intent of providing some much-needed theoretical refinement and identification of important empirical research.

### Conceptualization of Self-Control

The first of these issues regards conceptualization of the theory's key construct, self-control. When Gottfredson and Hirschi initially developed their theory, they unfortunately did not attend much to conceptual, definitional, and measurement matters with respect to self-control. In fact, the theorists did very little to help researchers other than to take a construct that was largely and historically under the purview of psychology and infuse it into the criminological discussion. Since then, while Hirschi (2004) has done some lifting with respect to proposing a (new) more concrete theoretical definition of self-control, providing an operational definition of the construct, and then conducting a preliminary empirical investigation of the new definition, much more effort is needed. Along these lines, several researchers have made some headway in this regard, including the work of Baumeister, Muraven, and their colleagues who investigate how self-control, choice, and decision making interrelate generally, and how self-control can become depleted in particular (Muraven et al., 1998; Muraven, Pogarsky, & Shmueli, 2006), by showing how under various circumstances individual's self-control is taxed and its strength can bend or break depending on certain situations.

One very recent and potentially exciting conceptualization of self-control was developed by Wikström and Treiber (2007). These authors propose an alternative conception of self-control that builds on Wikström's (2006) earlier situation action theory of crime. Akin to Hirschi's (2004) redefinition of self-control, and in particular Piquero and Bouffard's empirical operationalization of Hirschi's redefined self-control, Wikström and Treiber offer that self-control is best conceptualized as a situational concept (a factor in the process of choice) rather than as an individual characteristic as conceived in the general theory. In this regard, the authors can be seen as challenging the very premise of Gottfredson and Hirschi's original general theory of crime. It may no longer be self-control theory per se, but rather self-control becomes a significantly modified concept that, while remaining important, exists within an entirely different theoretical perspective.

This is accomplished by noting that the core individual trait influencing an individual's ability to exercise self-control is executive capability and that there are important environmental influences on an individual's ability to exercise self-control. Unlike the original and updated conceptualizations of self-control proposed by Gottfredson and Hirschi and now Hirschi, Wikström and Treiber suggest that the ability to exercise self-control is a relevant factor in crime causation only in situations where an individual considers (deliberates) whether or not to engage in an act of crime. To them, whether or not individuals engage in crime in most circumstances is not a question of their ability to exercise self-control but rather a question of their morality.

A related, modified conceptualization of self-control has been developed by Tittle, Ward, and Grasmick (2004), who distinguish between an individual's capacity for self-control and their own interest in restraining themselves. According to Tittle et al. (2004), "Some people may have a strong capacity for self-control but may not always want to exercise it, while others may have weak self-control ability but have such a keen interest in controlling their deviant impulses that they end up conforming" (p. 146). This conceptualization leads to the hypothesis that

People who simultaneously lack the capacity for strong self-control and who possess little desire to control themselves may be especially prone to criminal conduct, while those with strong capability for self-control and with great interest in exercising self-control may be especially unlikely to offend. Logically, then, self-control ability and interest in exercising self-control should interact in producing misbehaviors (Tittle et al., 2004, p. 146).

In a preliminary empirical investigation of this hypothesis, Tittle and his colleagues used data from the Oklahoma City Survey and measured both self-control capability and the desire to practice self-control, the former which was measured using the earlier-referenced Grasmick et al.'s (1993) self-control scale, and the latter which was measured with items tapping various theories, including social learning, social control, social bond, and rational choice. Their analysis indicated that (1) both the capacity and the desire to exercise self-control exhibited independent, cumulative, and interactive relationships with each other; (2) depending on the measure of crime and deviance, self-control capability was stronger when the individual's interest in exercising self-control was low, but its effect was reduced when desire to exercise self-control was high; and (3) combinations of capacity and desire to exercise self-control were particularly important (i.e., the magnitude of the coefficient for self-control ability decreased as the magnitude of self-control desire increased, and the coefficient for self-control ability became smaller (less negative), moving from low scores on self-control desire to higher scores, even becoming more significant for some crime indexes at the higher level of self-control desire (Tittle et al., 2004, pp. 163–164). In short, the distinction between one's desire to exercise self-control and their ability in doing so is one that will provide fruitful insight into crime decision-making patterns. Further assessment of the hypothesis that strong desire to exercise self-control may help "override" the potential influence of weak self-control ability in producing crime may provide some important knowledge about offenders' decision-making process.

### **The Role of Opportunity**

One originally important component of the general theory of crime was the role of opportunity. As noted earlier, that portion of the theory was neglected in several respects including its theoretical development and operational/measurement strategy. After remaining silent on its importance, Gottfredson and Hirschi (2003) claimed that because opportunities for some sort of



deviance/crime were readily apparent, consideration of opportunity in empirical research with respect to assessing the general theory was unnecessary. Recently, Hirschi (2004) brought back opportunity into the picture and focused on how key aspects of the situation may influence an individual's decision making. It is difficult to not conceive of situations and situational factors as being somehow part of how individuals (differentially) perceive opportunities (i.e., not all individuals perceive the opportunity to steal from a store in a shopping mall) or the larger, more objective opportunity structures (i.e., shopping malls contain many stores). And while it is obvious that an offender needs some sort of opportunity (however perceived as big or small) in order to offend, neglecting this dimension does not appear to be a productive course for any serious criminological theory. Of course, there has been great difficulty associated with defining and conceptualizing opportunity, and other researchers have recognized such problems as well, but this does not detract from the theory's consideration of it – especially since the theorists have noted its importance. There has been some work undertaken in this regard within the context of assessing the general theory, but clearly more work remains. More importantly, what is needed is some headway with respect to measure both perceived and objective opportunities and how self-control relates to them.

### **The Role of Moderators**

The original statement of the theory provided that the influence of self-control on deviance/crime was largely direct, with some interaction afforded to opportunities in producing crime outcomes. Since then, several researchers have examined the conditions under which self-control provides a better explanation of crime, and this has led to some important insight that could not be gleaned from the linear-based hypothesis. For example, aside from the distinction regarding ability/desire as an important moderation hypothesis, others have specified that (low) self-control appears to have better predictive power when situations are conducive to crime, when individuals are less morally restrained, and when unstructured social groups/activities are present. More refined theoretical and empirical articulation of these moderating conditions is likely to provide better specification of the theory's hypothesis, better predictive power, and ultimately will produce many more research opportunities than simple, linear-based assessments of which another one is not necessary.

### **Selection/Causation**

Recall that Gottfredson and Hirschi's theory is a dynamic one up until self-control is formed by the end of childhood such that the causes of self-control can be altered and the individual characteristic of self-control can change. After this point, Gottfredson and Hirschi strongly assert that any other "correlate of crime," such as the influence of delinquent peers and other informal and formal social control agents is not causal but instead spurious. Yet, there exists much theoretical and empirical controversy with respect to this issue.

For example, to the extent that researchers included a measure for self-control – and assuming that self-control was measured well and to the specification of the original theorists – what are we to make of a finding that other correlates of crime, like delinquent peers or being married, still relate to deviance/crime over and above self-control? For example, whether measured

using attitudinal, behavioral, or criminal propensity markers, several studies using a range of samples, measures, and outcomes continue to find that while self-control is an important correlate of offending, other correlates are important as well and some exert even stronger effects on crime outcomes (Horney, Osgood, & Marshall, 1995; Pratt & Cullen, 2000). And while Hirschi and Gottfredson (1995) view such findings as evidence of self-selection and not social causation, i.e., persons with low self-control self-select into crime-engendering situations, they seek out antisocial peers, they do not marry but when they do they marry persons like them. This does not seem like a satisfying response to the collection of findings that continually show such effects even after carefully considering and measuring self-control. To the extent that this issue can be resolved, it remains a source of controversy.

### **Effect of Self-Control in Other Life Domains**

Gottfredson and Hirschi's original statement was one designed to explain crime; yet, they did note that (low) self-control would likely be an important correlate across other life domains. For example, the authors noted that the effects of (low) self-control would infiltrate other life domains including social relationships (peers, significant others, spouses), the employment arena, health and eating habits, emotional reactions, premature and unnatural death, accidents, victimization, and so forth. On this hypothesis, some research has amassed suggesting that (low) self-control influences these non-crime outcomes. For example, low self-control has been associated with increased risk of victimization (Schreck, 1999), the risk of premature and unnatural death (Piquero, MacDonald, Dobrin, Daigle, & Cullen, 2005), increased negative emotionality in the context of anger (Piquero, Gomez-Smith, & Langton, 2004), and a high risk of accidents (Junger, 1994). It will be important going forward to further unpack the wide range of potential outcomes of low self-control, perhaps transcending the theory's originally main focus of the crime outcome.

### **Self-Control and the Life Course**

One of the interesting aspects of Gottfredson and Hirschi's theory has been their unwavering insistence that longitudinal data are unnecessary for understanding crime and criminals. In fact, this viewpoint along with the theorists' long-standing view of the age/crime relationship likely underpins their hypothesis that self-control is assumed to be relatively stable across persons, with little to no meaningful change in self-control – especially change that could be attributed to some sort of social control agent. Their hypothesis that self-control is the cause of deviance/crime at all ages also presumes that its effects (on deviance/crime) are relatively consistent at various stages of the life course; in other words, self-control is important for understanding deviance/crime at age 10, 20, 30, and so on.

This hypothesis is actually one that cuts across and stands in contrast with some of the more life course/developmental criminological theories that have risen in popularity since publication of the general theory of crime. For example, Sampson and Laub's (1993) age-graded informal social control theory anticipates (and finds) that social controls vary over the life course, both with respect to their emergence and importance and with how they relate to crime. Other developmentally/group-based theories of crime also presume that while there is indeed strong

stability in individual characteristics and antisocial behavior over time, there is also a significant amount of change both across and within persons that are not trivial enough to dismiss.

Thus, while Hirschi and Gottfredson (1995) see the life course perspective as providing little insight into criminology's understanding of crime and criminals, there is sufficient evidence documenting that self-control is not as stable as originally believed and that it is not impervious to change. For example, while researchers have found that there is rank-order stability in self-control over time, there is non-trivial movement – both within and across persons – in self-control over time, with some persons moving from lower to higher self-control and others moving from higher to lower self-control, and these self-control changes emerge across a wide range of samples and ages. At the same time, the extent to which these changes are short lived is unknown, as data constraints covering the full life course have precluded a complete assessment of the stability of self-control hypothesis.

## Crime Types

Based on a century of research on criminal careers showing that offenders do not specialize in crime types, Gottfredson and Hirschi subsequently argued that all forms of deviance/crime shared the same characteristic: they provided short-term gains and were generally easy to commit. Because all acts shared this characteristic and because offenders were versatile, the theorists saw little value in specifying unique causes of crime and across types of crime, instead preferring the general hypothesis that the causes of *all* crimes at *all* times were the same, i.e., self-control. They even went so far as to suggest that some crime types were so ill-frequently committed that they were not only beyond explanation but also not in need of explanation, including in particular corporate crime.<sup>5</sup>

It has indeed been the case that self-control is related to a wide range of deviant and criminal acts. On this score then, one can see Gottfredson and Hirschi's view that there is little to be gained by specifying unique causes of crime types. Yet, and depending upon one's definition of what a general theory is and how it should be evaluated (i.e., should self-control be the main and strongest cause of all crime types or simply be related to all crime types?), it is not entirely clear that self-control is the principal cause of all crime types, at all ages, for all persons. In fact, there seems to exist some important variation along these lines and with respect to key deviance/crime outcomes. Moreover, the theory has not yet been subject to much empirical scrutiny with respect to how the theory predicts deviance/crime in traditionally understudied areas like medical deviance and corporate crime. It is precisely these crime types that appear to offer some unique insight into how the theory under-predicts certain crimes. For example,

<sup>5</sup> It is important to note here the distinction between corporate and white-collar crime. Gottfredson and Hirschi do indeed deal with white-collar crime, but their conceptualization of white-collar crime is one that is reliant on the FBI's Uniform Crime Reporting definition, i.e., fraud, embezzlement, forgery, etc. And while they have dealt with white-collar crime specifically in their own research, specialist researchers in the white-collar crime area have criticized the theorists for their misunderstanding and misapplication of the term. To be sure, there is a wide array of crime types under the white-collar and especially corporate umbrella including price fixing, environmental pollution, collusion, etc., and this line of research indicates that not only do these crime types exert a significant toll on victims and society, but their causes do not appear consistent with those found in the general theory.

given that there needs to be some modicum of (high) self-control<sup>6</sup> necessary to occupy such high-level positions that require significant education (which is also likely correlated with self-control), how does the theory explain why some doctors become addicted to drugs, why some doctors prescribe illegal prescriptions, why some CEO's engage in price fixing, collusion, and other forms of deviance. Simply taking the easy way out and saying that these types of crime are so infrequent as to render their empirical examination uninteresting or irrelevant to the larger study of most crime is not a satisfying response. As a general theory of crime, the theory must be held to a standard such that it explains a full range of crime types, however, frequently or infrequently they are committed.

### Self-Control and Public Policy

At first glance, it may not be readily apparent how the general theory of crime, with its focus on an individual characteristic, has any relevance or import for public policy. After all, Gottfredson and Hirschi claim that self-control, as the principal cause of crime, cannot be altered once it is developed by the beginning of the second decade of life. The theorists however, do allude to two key policy proscriptions that emerge with respect to their conception of crime and criminals.

First, they do believe that self-control is dynamic in the first 10 years of life. Because of this, self-control can be altered (increased) through effective socialization. This implies that consistent with the family-training models and programs produced by Gerald Patterson, David Olds, Richard Tremblay and others, early-childhood prevention programs that target parental socialization, training, and education such that it alters how they socialize their children to have higher self-control, can be one avenue of instilling self-control among children and subsequently reducing the incidence of deviance/crime (e.g., Tremblay et al., 1992).

Second, Gottfredson and Hirschi do pay particularly more attention to the formal social control-based public policy efforts that do *not* work in preventing crime as opposed to the few that do work, including rehabilitation programs for offenders, increasing the police force, and increasing the use of incapacitation. Their review of the evidence of these efforts in curtailing crime is that in general, such efforts do little to alter the progression of criminal careers at the individual level or crime rates at the aggregate level. Thus, the public policy implications emanating from the general theory appear to be more reliant on moving away from the current, short-term fixes of crime and more onto the longer term crime prevention efforts.<sup>7</sup>

At the same time, there is another public policy implication that emerges from their theory generally, and in regard to Hirschi's redefined view of self-control in particular, and that is the notion of situational crime prevention (Cornish & Clarke, 1987). Based on routine activities theory, which shares common ground with the general theory's friendliness toward rational

<sup>6</sup> Certainly not low self-control.

<sup>7</sup> In a study that has not drawn much attention, Gottfredson and Hirschi (1995) do indicate that aside from strengthening parental socialization efforts in the first few years of life (which is the most direct and relevant aspect of their theory that allows for modifications of self-control), one public policy effort that can aid in crime prevention would focus on preventing teenage pregnancy, i.e., increasing condom use. The argument here is that increased condom use is likely to lead to fewer teenage pregnancies, which in turn will lead to fewer teenage parents who are ill-equipped to be effective socializing agents of their children.

choice conceptions of decision making, situational crime prevention focuses on making crime-engendering situations and opportunities more difficult. Thus, to the extent that offenders perceive some crime situations and opportunities as more difficult they may bypass that particular opportunity and refrain from committing that specific crime. Many situational crime prevention efforts and programs have been studied, and several have shown promise in reducing crime. Whether offenders pick up on these cues at the point of decision making has not been assessed in sufficient detail, but the cost associated with these programs, given their modest reductions in crime, seems to warrant further scrutiny as one policy approach that may work under some circumstances.

## CONCLUSION

There is no denying that Gottfredson and Hirschi's general theory of crime has become a central theory in criminology. Its original delineation and publication in 1990 has invigorated the theoretical discourse surrounding crime and criminals and has certainly led to the development of more intense thought and empirical research on the causes and patterning of deviance/crime. On this alone, criminologists are indebted to the theorists, while at the same time the theorists themselves have much to consider and ponder moving ahead. The identification of the controversial issues and directions for future research identified above was not meant to serve as a dartboard backdrop with the theory at the bull's-eye; instead, it was meant to encourage the continued dialogue that we should all be in the business of carrying out on the day to day: what are the causes of crime and what is our conception of the criminal. Just as Gottfredson and Hirschi developed their theory with these two questions, so too should we all follow.

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## CHAPTER 9

# General Strain Theory

ROBERT AGNEW

The core idea of general strain theory (GST) is quite simple: individuals who experience strains or stressors often become upset and sometimes cope with crime. Such individuals may engage in crime to end or escape from their strains. For example, an individual with a desperate need for money may engage in theft or an adolescent being abused by her father may run away from home. Individuals may engage in crime to seek revenge against the source of their strains or related targets. For example, a student may assault the peers who are harassing him. And individuals may engage in crimes such as illicit drug use to make themselves feel better.

GST elaborates on this core idea in several ways (see Agnew, 1992, 2006a, 2006b). In particular, GST (a) lists the major types of strain, (b) explains why strains cause crime, (c) describes the characteristics of those strains most likely to cause crime, and (d) lists the factors that increase the likelihood that individuals will respond to strains with crime. And while GST has been used primarily to explain individual differences in crime, it has also been used to explain offending over the life course, to explain group differences in crime, and to suggest strategies for controlling crime. These elaborations are described below.

### THE MAJOR TYPES OF STRAIN

Strains refer to events or conditions that are disliked by individuals (Agnew, 1992, 2001, 2006b). GST states that strains fall into three broad categories. People may lose something they value (lose something good). For example, their money may be stolen, a close friend may die, or a romantic partner may leave them. People may be treated in an aversive or negative manner by others (receive something bad). For example, they may be verbally or physically abused by

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others. Finally, people may be unable to achieve their goals (fail to get something they want). For example, they may be unable to obtain the money or respect they want.

A distinction is made between *objective* and *subjective strains* (Agnew, 2001, 2006b). Objective strains refer to events and conditions that are disliked by most people in a given group. Subjective strains refer to events and conditions that are disliked by the particular person or persons being examined. This is an important distinction because people often differ a good deal in their subjective evaluation of the same objective strains. Some people, for example, view their divorce as one of the worst experiences in their lives, while others view it as a cause for celebration. We would expect crime to be more strongly related to subjective than objective strains, and some research indicates that this is the case (e.g., Arter, 2008; Froggio & Agnew, 2007). Most researchers, however, employ objective measures of strain. That is, they ask individuals if they have experienced events and conditions which are assumed to be disliked. They do not measure the respondent's subjective reaction to such events and conditions.

Further, a distinction is made between *experienced*, *vicarious*, and *anticipated strains* (Agnew, 2002). We would expect crime to be most strongly related to strains that are personally experienced. Crime, however, may also be related to vicarious strains or strains experienced by others. This is especially the case when the strains are experienced by close others, the individual feels some responsibility for protecting these others, and the strains have those characteristics said to be conducive to crime (see below). Agnew (2002), for example, found that individuals were more likely to engage in crime when their family members and friends had been the victims of violence. Further, crime may be related to anticipated strains or strains that individuals expect to experience in the future. This is especially the case when individuals believe the strains have a high probability of occurring in the near future and the strains have those characteristics conducive to crime. For example, some evidence suggests that individuals are more likely to engage in crime if they expect that they will be the victims of physical violence in the near future (Agnew, 2002).

## WHY STRAINS INCREASE THE LIKELIHOOD OF CRIME

Strains may increase crime for several reasons, with GST placing most emphasis on the mediating role played by negative emotions (Agnew, 1992, 2006a, 2006b).

### Strains Lead to Negative Emotional States

Strains lead to a range of negative emotional states, including anger, frustration, depression, and fear. These emotions create pressure for corrective action. Individuals feel bad and want to do something about it. Crime is one possible response. As indicated above, crime may be a means for reducing or escaping from strain, seeking revenge, or directly alleviating negative emotions (through illicit drug use). These emotions may also reduce the individual's ability to cope in a legal manner. Angry individuals, for example, are less able to accurately assess their situation and effectively communicate with others. Further, these emotions may reduce the perceived costs of crime. The misery associated with depression, for example, may foster the view that

there is little to lose by engaging in crime. Finally, these emotions may create a disposition for crime. Angry individuals, for example, often develop a strong desire for revenge (see Agnew, 2006a, 2006b).

One interesting possibility being explored by some researchers is that particular types of strain may be more conducive to certain emotions than others. For example, strains involving unjust treatment by others may be especially conducive to anger. Strains that people feel powerless to alter may be especially conducive to depression. And anticipated strains that people feel powerless to stop may produce fear (see Ganem, 2006). In addition, it may be the case that some negative emotions are more conducive to certain types of crime than others. Anger, for example, may be especially conducive to violence, depression to drug use, and fear to escapist offenses such as running away and truancy (for further discussions, see Agnew, 2006b; Bao, Haas, & Pi, 2004; Capowich, Mazerolle, & Piquero, 2001; Ganem, 2006; Jang, 2007; Ostrowsky & Messner, 2005; Piquero & Sealock, 2004).

### **Strains May Reduce Social Control**

Strains may also lead to crime by reducing the individual's level of social control, including direct control, stake in conformity, and the belief that crime is wrong. The reduction may be temporary or, if the strain is chronic, it may be long term. Many strains involve negative treatment by conventional others, such as parents, teachers, employers, and the police. For example, parents may harshly discipline their children, teachers may give bad grades to students, and employers may terminate or otherwise mistreat their employees. These strains reduce the individual's stake in conformity, including their emotional bond to conventional others and investment in conventional society. These strains may also reduce direct control (i.e., the extent to which conventional others monitor the individual and consistently sanction misbehavior). The reduction in direct control occurs because strained individuals may have less contact with conventional others (e.g., children avoid their abusive parents, people terminated from their jobs lose all contact with their employers). Finally, strained individuals – given their desperation and weakened ties to others – are more likely to adopt a value orientation that minimizes concern for others and prioritizes their own self-interest (Konty, 2005).

### **Strains May Foster the Social Learning of Crime**

This occurs, in part, because certain strains involve exposure to others who model crime, reinforce crime, and present beliefs favorable to crime. Students who are bullied at school, for example, are regularly exposed to others who model aggression. Also, strains may foster the belief that crime is desirable, justifiable, or excusable. This is especially the case if the strains are seen as unjust and legal-coping options are unavailable. Individuals who are chronically unemployed, for example, may come to believe that theft and drug selling are excusable. Finally, individuals subject to chronic strains may join with other criminals in an effort to cope with their strains. Individuals who cannot achieve status through legal channels, for example, may join gangs in an effort to feel important or respected (also see Cloward & Ohlin, 1960; Cohen, 1955; Klemp-North, 2007).

### **Chronic Strains May Foster the Traits of Negative Emotionality and Low Constraint**

Traits refer to relatively stable ways of perceiving, thinking about, and behaving toward the environment and oneself. Individuals high in negative emotionality are easily upset, tend to blame their problems on others, and experience intense emotions when upset. Individuals low in constraint are impulsive, like to take risks, reject social norms or rules, and have little concern for the feelings or rights of others. These traits overlap a good deal with Gottfredson and Hirschi's (1990) concept of low self-control (see Caspi et al., 1994). Not surprisingly, these traits create a strong predisposition for crime (see Agnew, Brezina, Wright, & Cullen, 2002). Individuals who experience chronic or repeated strains may be more likely to develop these traits. Such strains tend to overwhelm their ability to cope in a legal manner, thus making them more easily upset and more prone to extreme emotions when upset. Also, individuals who experience certain chronic strains may fail to develop the ability to exercise self-restraint, may have little concern for others, and may be quick to take advantage of whatever opportunities present themselves – regardless of risk (Agnew, 2006b; Colvin, 2000).

Research in the above areas suggests that strains do increase negative emotional states and that such states partly explain the effect of strains on crime (e.g., Capowich et al., 2001; Ellwanger, 2007; Jang, 2007; Mazerolle, Piquero, & Capowich, 2003). Research on the other mediating mechanisms listed above is less common, although some studies suggest that strains reduce social control, increase association with delinquent peers, foster beliefs favorable to crime, and contribute to negative emotionality and related traits (e.g., Aseltine, Gore, & Gordon, 2000; Brezina, 1998; Hay & Evans, 2006; Klemp-North, 2007; Paternoster & Mazerolle, 1994; see Agnew, 2006b for a summary).

## **THE CHARACTERISTICS OF STRAINS CONDUCIVE TO CRIME**

Hundreds of specific strains fall into the broad categories of strain identified by GST. Research indicates that certain of these strains cause crime and others do not (Agnew, 2002, 2006a, 2006b). For example, the inability to achieve one's educational and occupational goals does not appear to be related to crime. However, parental rejection and harsh/erratic discipline are among the strongest causes of crime. GST predicts that strains are most likely to cause crime when they (a) are seen as high in magnitude, (b) are seen as unjust, (c) are associated with low social control, and (d) create some incentive or pressure to engage in crime. Strains with these characteristics are more likely to produce strong negative emotions, reduce the ability to cope in a legal manner, reduce or further reduce social control, foster the social learning of crime, and contribute to the traits of negative emotionality and low constraint.

### **Strains Seen as High in Magnitude**

The magnitude of a strain refers to the extent to which the strain is negatively evaluated; that is, the extent to which it is disliked and viewed as having a negative impact on one's life. Strains are more likely to be seen as high in magnitude when they have several characteristics: The strains are high in degree or size. So, for example, a large monetary loss or severe physical assault is more likely to be seen as high in magnitude than a small loss or a minor assault. Also, the strains are frequent, recently experienced, of long duration, and expected to continue into the future. Further, the strains threaten the core goals, needs, values, activities, and/or identities of

the individual. For example, the strain threatens a core identity, perhaps one's masculine identity, rather than a secondary identity, perhaps one's identity as a good tennis player.

### **Strains Seen as Unjust**

Strains are more likely to be seen as unjust when they involve the voluntary and intentional violation of a relevant justice norm. Most strains involve perpetrators who treat victims in a negative manner (e.g., a peer hits a classmate). Such negative treatment is more likely to be seen as unjust when it is *underserved* and *not in the service of some greater good*. Perceived injustice is also likely to be higher when the victim had *no voice in the decision to inflict the strain* and *no rationale is provided for the negative treatment*. In addition, strains are more likely to be seen as unjust when they *violate strongly held social norms or values*. Further, perceived injustice is higher when the victim's negative treatment is *very different from their past treatment in similar circumstances and/or from the treatment of similar others*.

A prime example of a strain likely to be seen as unjust is criminal victimization. Such victimization is typically seen as undeserved and not in the service of some greater good. The victim seldom has a say in the decision to victimize and the perpetrator seldom provides a good rationale for the crime. The victimization violates strongly held social norms. And the victimization is likely quite different from the victim's past treatment in similar circumstances or the treatment of similar others. By contrast, consider a parent who places her child in time-out for shoving a sibling. The child may not like being in time-out, but this type of strain is unlikely to result in crime – partly because it is much less likely to be seen as unjust. Among other things, this act is deserved, the parent likely provides a rationale for it, it is compatible with social norms, and other children who shove are often treated in the same way.

### **Strains Associated with Low Social Control**

Certain strains are associated with low levels of social control. This is the case, for example, with parental rejection. Parental rejection is associated with a weak bond to parents, low direct control, and amoral beliefs. Such strains are more likely to result in crime since, among other things, the individuals experiencing them have less to lose through crime and are frequently less likely to be caught (given their lower direct control). Other strains, however, are associated with high social control. For example, this is the case with students who spend many hours studying. While the students may dislike studying, this type of strain is associated with a strong investment in conventional society. As a consequence, the students are less likely to engage in criminal coping. These arguments help explain why the inability to achieve educational and occupational goals is unrelated to crime. Individuals pursuing lofty educational and occupational goals are typically higher in social control; they have internalized conventional beliefs and likely have some attachment to conventional others.

### **Strains Create Some Pressure or Incentive for Criminal Coping**

Certain strains are more easily resolved through crime than others. As a consequence, individuals have more incentive to cope with these strains through crime. For example, strains involving a desperate need for money are readily resolved through a range of crimes. Strains involving

the inability to achieve educational and occupational goals, however, are not so easily resolved through crime. Also, certain strains are associated with exposure to others who model crime, reinforce crime, teach beliefs favorable to crime, or otherwise pressure or entice the individual into crime. For example, juveniles who are abused by parents or bullied by peers are exposed to violent models.

### **The Specific Strains Most Likely to Cause Crime**

There has not been much research on the extent to which the above characteristics influence the effects of strains on crime (see Agnew, 2001, 2006b for research suggestions; also see Arter, 2008; Baron & Hartnagel, 1997; Ellwanger, 2007; Ireland, Smith, & Thornberry, 2002; Slocum, Simpson, & Smith, 2005; Spano, Rivera, & Bolland, 2006; Thaxton & Agnew, 2004, for examples of research). However, Agnew (2001, 2006a, 2006b) has drawn on these characteristics to develop a list of the specific strains that should be most conducive to crime – and there has been some research in this area. Those strains predicted to be most conducive to crime include

- Parental rejection.
- Supervision/discipline that is erratic, excessive, and/or harsh (use of humiliation/ insults, threats, screaming, and/or physical punishments).
- Child abuse and neglect.
- Negative secondary school experiences, including low grades, negative relations with teachers, and the experience of school as boring and a waste of time.
- Abusive peer relations, including insults, ridicule, gossip, threats, attempts to coerce, and physical assaults.
- Work in the secondary labor market, with such work commonly involving unpleasant tasks, little autonomy, coercive control, low pay, few benefits, low prestige, and very limited opportunities for advancement.
- Unemployment, especially when it is persistent and blamed on others.
- Marital problems, including frequent conflicts and verbal and physical abuse.
- The failure to achieve selected goals, including thrills/excitement, high levels of autonomy, masculine status, and monetary goals.
- Criminal victimization.
- Homelessness, which is associated with a range of problems – including a desperate need for money, food, and shelter; frequent conflicts with others; and criminal victimization.
- Residence in very poor urban communities, which is associated with a range of problems – including conflicts with others and criminal victimization.
- Discrimination based on characteristics such as race/ethnicity, gender, and religion.

Research indicates that most of the above factors are associated with crime, with many being among the strongest correlates of crime (see Agnew, 2001, 2006a, 2006b for summaries). It is not entirely clear, however, to what extent these factors affect crime for reasons related to strain theory. For example, it is not clear to what extent these factors affect crime through their impact on negative emotions such as anger. Other of these factors have not been the subject of much research, but recent studies – many stimulated by GST – are finding that they too impact crime. This is the case with peer abuse, discrimination, criminal victimization, homelessness, and mone-

tary dissatisfaction (e.g., Agnew, 2002; Agnew & Brezina, 1997; Agnew, Cullen, Burton, Evans, & Dunaway, 1996; Agnew, Matthews, Bucher, Welcher, & Keyes, in press; Aseltine et al., 2000; Baron, 2004; Baron & Hartnagel, 1997; De Coster & Kort-Butler, 2006; Eitle, 2002; Hagan & McCarthy, 1997; Harrell, 2007; Hay & Evans, 2006; Hinduja & Patchin, 2007; Kaufman, 2005; Simons, Chen, Stewart, & Brody, 2003; Spano et al., 2006; Wallace, Patchin, & May, 2005).

One interesting topic researchers are beginning to investigate is whether certain strains are especially relevant to particular types of crime. For example, De Coster and Kort-Butler (2006) find that there is some tendency for strains in a particular life domain – such as family, school, and peer group – to be especially relevant to delinquency in that domain. Other researchers have suggested that certain strains may be especially relevant to types of crime such as drug use, white-collar crime, hate crime, police deviance of various types, and traffic delinquency (e.g., Agnew, Piquero, & Cullen, 2009; Arter, 2008; Blazak, 2001; Drapela, 2006; Ellwanger, 2007; Gibson, Swatt, & Jolicoeur, 2001; Slocum et al., 2005; Swatt, Gibson, & Piquero, 2007). To give an obvious example, financial problems faced by a corporation may be especially relevant to corporate crime.

## WHAT FACTORS INCREASE THE LIKELIHOOD OF CRIMINAL COPING

Individuals most commonly respond to strains by employing one or more of several legal-coping strategies. Certain of these strategies involve efforts to reduce or escape from strains. For example, individuals may negotiate with those who are mistreating them, divorce their abusive spouses, move out of their crime-ridden neighborhoods, or borrow money from their parents. Individuals may also cognitively reinterpret their strains so as to minimize their subjective adversity. For example, they may convince themselves that money is not an important goal or that they really are a good student – despite their low grades (Agnew & Jones, 1988). And individuals may alleviate the negative emotions that result from strains through such things as religion, exercise, and music.

Some individuals, however, do respond to strains with crime; but given the relative infrequency of this response it is critical to describe those factors that increase the likelihood of criminal coping. According to GST, criminal coping is more likely among individuals who have

- Poor conventional coping skills and resources, including poor problem-solving skills, poor social skills, limited financial resources, and low self-efficacy.
- Criminal coping skills and resources, including physical strength, fighting ability, and “criminal self-efficacy.”
- Low levels of conventional social support, including financial support, emotional support, advice, and direct assistance in coping. This support may come from family, friends, teachers, coworkers, neighborhood residents, religious figures, and government agencies.
- Low social control, including low direct control, low stake in conformity, and amoral beliefs.
- Criminal peers, who model, differentially reinforce, and otherwise encourage criminal coping.
- Beliefs favorable to criminal coping, such as the belief that one should respond to disrespectful treatment with violence.

- Traits such as negative emotionality and low constraint, which reduce the ability to cope in a legal manner, reduce concern for the costs of criminal coping, and create a disposition for such coping.
- Exposure to situations where the costs of crime are low and the benefits are high.

Individuals with the above characteristics lack the ability to cope in a legal manner, have the ability to cope in a criminal manner, have little to lose through criminal coping, are disposed to criminal coping, and are in situations where the perceived benefits of criminal coping are high (see Agnew, 1992, 2006a, 2006b).

Researchers have examined whether certain of the above factors increase the likelihood of criminal coping. The results of their studies have been mixed; some studies find evidence for the conditioning effects predicted above and others do not (for summaries, see Agnew 2006a, 2006b; for selected studies, see Agnew et al., 2002; Aseltine et al., 2000; Bao, Haas, & Pi, 2007; Baron, 2004; Hay & Evans, 2006; Jang, 2007; Johnson & Kercher, 2007; Mazerolle & Maahs, 2000; Paternoster & Mazerolle, 1994; Robbers, 2004; Walsh, 2000). One reason for these mixed effects may have to do with the difficulty of detecting interaction effects in survey research (McClelland & Judd, 1993). Another may be the fact the researchers typically only examine one or a few of the above factors; determining if each factor conditions the effect of strains on crime while the other factors are held constant. A more appropriate strategy may be to classify individuals according to their *overall* standing on all or most of the above factors. Whether individuals engage in criminal coping may depend not so much on their standing on a single factor, such as social support, but on their standing on several factors. Criminal coping may only be more likely among those whose standing on most or all of the above factors is favorable to crime (see Agnew, 2006b; Mazerolle & Maahs, 2000).

## EXPLAINING PATTERNS OF OFFENDING OVER THE LIFE COURSE

GST focuses on explaining why some individuals are more likely to engage in crime than others. The theory, however, can also be used to explain patterns of offending over the life course (see Agnew, 1997, 2006b; Hoffmann & Cerbone, 1999; Slocum et al., 2005). Several such patterns have been identified, with “adolescence-limited offending” and “life-course persistent offending” receiving the most attention (Moffitt, 1993).

### Adolescence-Limited Offending

The adolescence-limited pattern is characterized by an increase in offending as individuals enter the adolescent years and a decrease as they enter the adult years. GST explains this pattern by arguing that the adolescent years are characterized by increased exposure to strains conducive to crime and an increased tendency toward criminal coping.

Adolescents experience more strains than children and adults partly because they *live in a larger, more demanding social world*. Adolescents leave elementary school and enter secondary school. Secondary schools are larger, more diverse, and more demanding. Among other things, adolescents interact with many more teachers and students, including students from diverse backgrounds. They are also subject to more rules, given more work, and graded in

a more rigorous manner. In addition, romantic relationships become important during adolescence. Further, interactions with peers are governed by a more subtle set of social cues and frequently occur away from the watchful eyes of adults. Taken together, these types of changes increase the likelihood that adolescents will experience a range of strains conducive to crime, including peer abuse, criminal victimization, academic failure, and negative relations with teachers. As adolescents become adults, however, their social world narrows and they have more control over this world. They often limit social interaction to a small circle of friends, select a single romantic partner, and interact with a small number of people at work and in their community.

Also, adolescents come to desire many of the privileges of adulthood, but are often prevented from obtaining these privileges through legal channels. Partly as a consequence of their physical maturity and exposure to older peers, adolescents come to desire such things as increased autonomy, status, and spending money. It is often difficult for them to obtain these things legally, however. Their lives at school and sometimes at home are closely regulated, they continue to be treated like children by many adults, and legal sources of income are frequently limited. As a consequence, they may try to obtain their goals through illegal channels, such as truancy, running away from home, and theft. They may also seek revenge against those who deny such goals, such as the teachers who belittle them. In contrast to adolescents, children are less likely to pursue such goals and adults are better able to achieve these goals through legal channels (see Greenberg, 1977). This is essentially the explanation that Moffitt (1993) offers for adolescence-limited offending in her well-known theory, although she does not phrase her explanation in terms of strain theory.

In addition to higher levels of strain, adolescents are also more likely than children and adults to cope with strains through crime. Parents and other adults tend to closely supervise children and cope on their behalf. Parents, for example, often detect disputes between children and intervene before they escalate to a serious level. Adolescents, however, experience a dramatic reduction in adult supervision as well as the willingness of adults to cope on their behalf. Unfortunately, adolescents lack the social and problem-solving skills of adults. This stems both from a lack of experience and their limited brain development, which incline them toward impulsive behavior. Adolescents also lack key coping resources, such as power and money. Further, the costs of crime are lower for adolescents. In addition, adolescents are more disposed to crime, partly because they are more likely to associate with delinquent peers. As a consequence of all these factors, adolescents more often respond to strains with crime.

Data provide some support for the above arguments (see Agnew, 1997, 2006b). Adolescents are higher in many strains conducive to crime, such as criminal victimization and negative school experiences. Data suggest that adolescents may be more likely than children and adults to be upset by the strains they experience (Agnew, 1997, 2006b). And data indicate that adolescents are more likely to cope with strains in “immature” ways, including delinquency. (Agnew, 1997, 2006b).

### **Life-Course Persistent Offending**

The life-course persistent pattern is characterized by high rates of offending from childhood well into adulthood. GST explains this pattern by arguing that some individuals experience high levels of strain over much of their lives and have a tendency to cope with this strain through crime.



Life-course persistent offenders experience much strain partly because they possess the traits of negative emotionality and low constraint. Recall that individuals with such traits are easily upset, become very angry when upset, tend to act without thinking, and care little about the feelings and rights of others. Such individuals consistently provoke negative treatment from others, such as parents and teachers. They select themselves into aversive environments where the likelihood of negative treatment is high. For example, they associate with delinquent peers, are placed in the lower tracks at school, work in the secondary labor market, and get involved in “bad” marriages. Further, such individuals are more easily upset by the negative treatment they encounter (i.e., they are higher in subjective strain). Moffitt (1993) makes a very similar argument when explaining life-course persistent offending.

Life-course persistent offenders are also more likely to reside in “troubled” families and live in very poor communities. As a consequence, they experience a host of strains, including harsh/erratic discipline, parental rejection, poor academic performance, and peer abuse. These strains, in turn, contribute to strains later in life – such as work and marital problems. (The aversive environment of life-course persistent offenders also contributes to the traits of low constraint and negative emotionality. These traits, in turn, help maintain the aversive environment, as just indicated.)

Finally, life-course persistent offenders are more likely to cope with strains through crime. This partly stems from their traits of negative emotionality and low constraint. Also, the environments of these offenders are such that they are more likely to lack legal-coping skills and resources, lack conventional social supports, have little to lose from crime, and have a disposition for criminal coping.

## **EXPLAINING GROUP DIFFERENCES IN CRIME**

GST has also been applied to the explanation of group differences in offending, including gender, age, class, race, community, and societal differences (e.g., Bao et al., 2004, 2007; Cernkovich, Giordano, & Rudolph, 2000; Cheung, Ngai, & Ngai, 2007; Eitle & Turner, 2003; Harrell, 2007; Kaufman, 2005; Landau, 1998; Maxwell, 2001; Morash & Moon, 2007; Pratt & Cullen, 2005; Pratt & Godsey, 2003). The basic argument here is straightforward: group differences in crime are partly due to the fact that the members of different groups differ in their level of exposure to strains conducive to crime and in their tendency to cope with these strains through crime. Much of the research in this area has focused on the explanation of gender differences in offending.

### **Gender Differences in Offending**

Research on gender and strain indicates that females are perhaps more likely than males to experience strains. However, many of these strains are not conducive to crime, particularly other-directed crime. This includes strains such as excessive parental supervision and the burdens associated with the care of others. There is reason to believe that males are more likely to experience several strains conducive to crime. These strains include harsh parental discipline; negative secondary school experiences, such as low grades; abusive peer relations; criminal victimization; homelessness; and the inability to achieve such valued goals as autonomy, masculine status, and monetary success. Females may of course sometimes experience these strains, and females are

more likely to experience select strains conducive to crime, such as sexual abuse and gender discrimination (see Eitle, 2002). Overall, however, males may be more likely to experience strains conducive to crime than females (e.g., Agnew, 2006b; Broidy & Agnew, 1997; De Coster, 2005; Harrell, 2007; Jang, 2007; Morash & Moon, 2007).

Further, males may be more likely to cope with strains through crime, especially other-directed crime. There are several reasons for this, the first of which involves gender differences in the emotional reaction to strains. Both males and females tend to get angry when they experience strains, but there is reason to believe that the anger of males differs from that of females (Agnew, 2006b; Broidy & Agnew, 1997; De Coster, 2005; Jang, 2007; Robbers, 2004; Sharp, Brewster, & Love, 2005). The anger of females is more often accompanied by emotions such as depression, guilt, and anxiety. This stems from gender differences in socialization and social position; anger is viewed as inappropriate for females and females are more concerned about hurting others and disrupting valued relationships. Males, however, more often experience moral outrage in response to strains. This moral outrage is more conducive to other-directed crime.

Males also differ from females on the other variables that influence the effect of strains on crime (Agnew, 2006b, 2009a; Broidy & Agnew, 1997; Jang, 2007). Males are lower in constraint and higher in negative emotionality. Males are lower in certain types of social control, such as parental supervision, school ties, and household ties. And males are more likely to associate with delinquent peers, hold beliefs favorable to crime, and hold gender identities favorable to crime (e.g., tough, aggressive, independent). As a consequence, males are less able to cope in a legal manner, the costs of criminal coping are lower for males, and males are more disposed to criminal coping. Data provide some support to these arguments, with most studies – but not all – indicating that males are more likely than females to respond to strains with crime, especially other-directed crime (e.g., Agnew, 2006a; Baron, 2007; Broidy, 2001; De Coster, 2005; Harrell, 2007; Hay, 2003; Hoffmann & Su, 1997; Jang, 2007; Jang & Johnson, 2005; Landau, 1997; Mazerolle, 1998; Morash & Moon, 2007; Piquero & Sealock, 2004; Robbers, 2004; Sharp et al., 2005).

### **Other Group Differences in Offending**

Similar arguments can be made to explain other group differences in offending. For example, GST explains the higher crime rates in deprived communities by arguing that such communities are higher in several types of strain (Agnew, 1999). Among other things, the residents of such communities are less able to achieve their economic and status goals. Associated with this, they more often experience chronic unemployment and work in the secondary labor market. These economic problems, in turn, contribute to a variety of family, school, and peer strains. Further, abusive treatment is more common in such communities because residents are more likely to interact with other strained, angry individuals. In addition, the residents of high crime communities are more likely to cope with strains through crime. They have limited coping skills and resources, particularly financial resources; they have lower levels of conventional social support; social control is lower in such communities; and the members of such communities are more likely to associate with other criminals and hold beliefs favorable to crime. A few preliminary studies have provided support for these arguments (Brezina, Piquero, & Mazerolle, 2001; Hoffmann, 2003; Warner & Fowler, 2003).

It is important to note, however, that while GST can explain group differences in crime, it cannot explain the origin of such differences. GST, for example, cannot explain why males

are more likely than females to experience many strains conducive to crime and to engage in criminal coping. Likewise, GST cannot explain the origins of high-poverty communities in the United States. Many macro-level theories, both within and outside of criminology, address these issues. A major challenge for researchers is to link GST to these theories so as to develop a more complete explanation of crime. Both GST and these macro-level theories would benefit from such efforts at integration. GST can help macro-level theories better explain how macro-level variables impact crime rates, while macro-level theories can shed additional light on those social and cultural forces that influence variation in the exposure and reaction to strains. GST, in particular, seems particularly amenable to integration with conflict theories, institutional anomie theory, feminist theories, cultural deviance theories, modernization theories, and dependency theories (see Agnew, 2006a, 2006b; Colvin, 2000; Cullen & Agnew, 2006; Currie, 1998; Messner & Rosenfeld, 2001).

## THE POLICY IMPLICATIONS OF GST

GST has not yet had an impact on efforts to control crime, although many existing programs are compatible with GST and the theory points to several approaches that might be effective in controlling crime (see Agnew, 1995a, 2006b, *in press*). In particular, these programs and approaches involve the following efforts.

### **Alter the Social Environment so as to Reduce Exposure to Strains**

Perhaps the most obvious policy suggestion from GST is to reduce the exposure of individuals to strains conducive to crime. This may be done by altering the social environment. A number of rehabilitation and prevention programs attempt to reduce or eliminate several strains conducive to crime, including parental rejection, the use of harsh/erratic discipline, child abuse, academic failure, forms of peer abuse such as bullying, chronic unemployment, work in the secondary labor market, and criminal victimization. Early home visitation and parent-training programs, for example, have shown some success in reducing a variety of family-related strains.

It is sometimes difficult to eliminate or substantially reduce the exposure of individuals to certain strains. Teachers, for example, will continue to give out low grades and some people will continue to work in the secondary labor market. We can, however, alter these strains so as to make them less conducive to crime. As indicated, strains are conducive to crime when they are high in magnitude, perceived as unjust, associated with low social control, and create some pressure or incentive for criminal coping. It is often possible to alter one or more of these dimensions. Teachers, for example, can be taught procedures that reduce the perceived injustice of low grades. Also, students receiving very low grades can be targeted for a range of interventions designed to increase social control (e.g., they can be assigned mentors and placed in special school programs).

In addition to eliminating or altering strains, we can make it easier for people to avoid strains. Parents, teachers, and others can be taught to more clearly state rules for behavior and the consequences of their violation, enabling juveniles to better avoid those behaviors that result in negative treatment. Individuals can be better warned about those circumstances likely to result in negative treatment (e.g., they can be told to avoid certain locations at certain times). We can

make it easier for adolescents to change classes or even schools when they are having ongoing problems with teachers or peers. In extreme cases, we can better isolate those places where strain is common and those people most likely to inflict strain. Also, we can remove individuals from strainful places and people, including high crime neighborhoods and abusive parents.

### **Alter the Characteristics of Individuals in an Effort to Reduce Exposure to Strains**

Some individuals are more likely than others to interpret certain events and conditions as negative, provoke negative treatment from others, select or sort themselves into environments where the likelihood of negative treatment is high, and have difficulty achieving their goals. This is especially true of individuals who are low in constraint and high in negative emotionality. Among other things, such individuals are more easily upset, are more likely to provoke negative treatment from people such as parents and teachers, and are more likely to end up in delinquent peer groups, bad jobs, and bad marriages – where the likelihood of negative treatment is high. Several programs, however, have shown some success at instilling constraint and teaching anger management (Agnew, 2009b).

### **Reduce the Likelihood that Individuals Will Cope with Strains Through Crime**

In addition to reducing the exposure of individuals to strains, we can also reduce crime by reducing the likelihood that individuals will engage in criminal coping. Among other things, we can improve the coping skills and resources of individuals. For example, we can strengthen their problem-solving and social skills. We can also increase their level of conventional social support by, for example, providing them with mentors or increasing various types of government assistance, such as unemployment compensation. We can increase their level of social control by, for example, improving parental supervision or academic performance. We can attempt to alter those beliefs favorable to criminal coping and reduce association with criminal peers. And we can attempt to reduce exposure to situations where the costs of criminal coping are low and the benefits are high.

A number of programs have shown some success at achieving many of the above goals (Agnew, 2006b, 2009b). More generally, we can achieve many of the above goals by altering the larger social environment. The larger social environment contributes both to the strains that individuals experience and their ability to cope with these strains in a legal manner. Most notably, problems in the economy contribute to a range of family, school, peer, and other strains (Agnew, 2006b; Colvin, 2000; Currie, 1998).

## **CONCLUSION**

GST represents a major alternate to control, social learning, and other explanations of crime. GST is distinguished by its explicit focus on strains or disliked events and conditions, the key role it assigns to negative emotions, and its recognition of the many factors that condition the effect of strains on crime (Agnew, 1995b). At the same time, GST is intimately related to other theories of crime (see Agnew, 2006b). As indicated above, strains may contribute to reductions

in control, foster the social learning of crime, and contribute to the development of those traits conducive to crime. Further, variables associated with control, social learning, and other theories influence or condition the effect of strains on crime.

Evidence provides much support for certain of the key propositions of GST, suggesting that the strains identified by the theory are among the most important causes of crime and that these strains influence crime partly through their effect on negative emotions. Research on those factors said to condition the effect of strains on crime has produced mixed results, however. Further, GST has been extended in important ways since its development in 1992. Most notably, the theory is being used to explain group differences in offending and offending across the life course. GST, in sum, has established itself as one of the major explanations of crime.

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## CHAPTER 10

# Labeling Theory

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### INTRODUCTION

Labeling theory provides a distinctively sociological approach that focuses on the role of social labeling in the development of crime and deviance. The theory assumes that although deviant behavior can initially stem from various causes and conditions, once individuals have been labeled or defined as deviants, they often face new problems that stem from the reactions of self and others to negative stereotypes (stigma) that are attached to the deviant label (Becker, 1963; Lemert, 1967). These problems in turn can increase the likelihood of deviant and criminal behavior becoming stable and chronic. In the words of Lemert (1967), deviant behavior can become “means of defense, attack, or adaptation” (p. 17) to the problems created by deviant labeling. Thus, being labeled or defined by others as a criminal offender may trigger processes that tend to reinforce or stabilize involvement in crime and deviance, net of the behavioral pattern and the social and psychological conditions that existed prior to labeling.

Labeling theory has at times been hotly debated among deviance and crime researchers. The theory became widely accepted during the 1960s as a viable approach to crime and deviance, but a series of critiques that came out during the 1970s undermined its popularity. According to critics (Hirschi, 1980; Mankoff, 1971; Tittle, 1980; Wellford, 1975), labeling theory was vague, simplistic, and ideological, and empirical tests had failed to provide consistent support for the proposition that labeling reinforces deviant behavior. Since that time, however, scholars have pointed out that this critique led to a premature demise of labeling theory. According to these scholars (Palarma, Cullen, & Gersten, 1986; Paternoster & Iovanni, 1989), the critics of labeling theory overstated and simplified the claims made by labeling theory. Moreover, a large part of

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the research that had undermined labeling theory was methodologically flawed and thus did not constitute valid testing of the theory.

During the past two decades, there have been significant attempts to improve the scientific rigor of labeling research. Researchers have clarified and elaborated the processes by which labeling influences deviant behavior, and they have attempted to overcome methodological flaws that have often plagued the research. The current chapter aims to extract a “current” account of labeling theory, incorporating the recent theoretical and empirical developments pertaining to the criminogenic effects of labeling.<sup>1</sup>

## Deviant Labels and Stigma

While social labels generally constitute a part of the cultural framework that people use to define and categorize the social world, deviant labels are special in that they are stigmatizing labels or markers. This assumption is fundamental to labeling theory. Deviant labels, criminal labels in particular, are associated with *stigma*, which means that the mainstream culture has attached specific, negative images or stereotypes to deviant labels (Link & Phelan, 2001). Negative stereotypes of criminal offenders are manifested in the mainstream culture in various ways, for example in films, books, mass media, and even everyday language (Becker, 1963; Goffman, 1963; Scheff, 1966). Walt Disney’s *Beagle Boys* provide an example of how criminals are often portrayed as innately immoral, devious, and fundamentally different from other people. Such examples remind us that the learning of criminal stereotypes is a part of childhood socialization.

Individuals labeled as criminals or delinquents tend to be set aside as fundamentally different from others, and they tend to be associated with stereotypes of undesirable traits or characteristics (Goffman, 1963; Link & Phelan, 2001; Simmons, 1965–6). Becker (1963) has argued that the deviant status may become a master status for the person, that is, the negative images attached to the deviant label can override other attributes a person may have. “To be labeled a criminal,” Becker (1963) writes, “carries a number of connotations specifying auxiliary traits characteristics of anyone bearing the label” (pp. 33–34). Specifically, people presume that the labeled person is unable or unwilling to “act as a moral being and therefore might break other important rules.” Moreover, once individuals have been typified as deviant, any future (or past) misbehavior on their part tends to be taken as an indication of their essential deviant or criminal nature. The stigma attached to criminal labeling promotes widespread distrust and distain for people with a criminal label (see Travis, 2002).

## Formal and Informal Labeling

Labeling theory is concerned with problems that emerge after the social environment has defined or typified the individual as a deviant, raising the question of how deviant labeling is imposed on individuals. After all, deviant behavior is common and often does not lead to labeling (Becker,

<sup>1</sup> The current chapter focuses on the effect of labeling and stigma on the development of criminal or deviant behavior and thus does not provide a comprehensive overview of the various dimensions of labeling theory, including its implications for social construction and conflict theory (see Becker, 1963; Melossi, 1985; Paternoster & Iovanni, 1989).

1963; Lemert, 1967). For instance, juvenile delinquency is often not considered particularly deviant by those who witness such behavior (other juveniles) and thus often does not lead to special reactions by the social environment. Such reactions occur only when there is a social audience that labels the behavior (and the individual) as particularly deviant—or criminal, in the case of criminal labeling (Becker, 1963).

In this regard, labeling theorists have emphasized that formal labeling, police and criminal justice labeling in particular, is a salient source of labeling. In contemporary society, the state has a formal monopoly over the sanctioning of criminals (Garfinkel, 1956). To be formally processed as a criminal or a delinquent, therefore, testifies to and brings attention to the person's immorality and inability to follow important social norms. Tannenbaum (1938) referred to such public reactions as the "dramatization of evil." Erikson (1966) has argued that formal reactions entail ceremonies ("rites of transition") that mark a change into a deviant status, such as "the criminal trial, with its elaborate formality and exaggerated ritual" (p. 16). Moreover, when punishment has been carried out, there are no analogous official ceremonies in place to cancel the criminal stigma and thus bring the person back into society. Thus, the stigma of having been formally processed as a criminal offender tends to "stick" to the person.

It may be noted that by highlighting official labeling as a salient source of criminal labeling, labeling theory contradicts the classic notion of specific deterrence, namely the notion that the pain of apprehension and punishment should deter the offender from deviation in the future (Gibbs, 1975). From the vantage point of labeling theory, this notion of rational decision-making ignores the reality of stigma and its consequences for individual development.

Although underscoring the salience of formal labeling, the notion of informal labeling is at the heart of labeling theory. As will be discussed below, labeling theory argues that formal labeling influences subsequent individual development largely because it triggers labeling and stigmatization in everyday social settings (Paternoster & Iovanni, 1989). For example, an arrest may have no impact on a youth's life if it is kept secret from school authorities and members of the local community. But, if school authorities are notified of the event or if it becomes widely known in the community, it can trigger exclusionary reactions by teachers and community members. Moreover, social audiences may impose deviant labels on actors in the absence of formal labeling (Matsueda, 1992; Paternoster & Iovanni, 1989; Triplett & Jarjoura, 1994).

## **Labeling and Discrimination**

An important aspect of labeling theory argues that disadvantaged groups are more likely than other groups to experience labeling. Aggressive policing of lower class communities raises the likelihood of lower class people and minorities experiencing police intervention (Smith, Visher, & Davidson, 1984). Moreover, stereotypes of minorities and disadvantaged groups often entail images of criminality and dangerousness (Quillian & Pager, 2001), and hence members of such groups may be more readily policed, sanctioned, and stigmatized, even net of actual criminal offending (Warren, Tomaskovic-Devey, Smith, Zingraff, & Mason, 2006). Research has found that encounters between police and citizens are more likely to lead to an arrest if the citizen is a minority, net of the nature and seriousness of the offense (Worden & Shepard, 1996). Also, studies have found that minorities and individuals of low socioeconomic status tend to receive more severe sentences, net of the seriousness of the offense that they have been charged with

and prior criminal record (Bontrager, Bales, & Chiricos, 2005; Steffensmeyer, Ulmer, & Kramer, 1998), but not all studies support this finding (Albonetti & Hepburn, 1996).<sup>2</sup>

Minorities and impoverished individuals may be more vulnerable to informal labeling as well. Due to stereotypes that associate criminality with racial minorities and impoverishment, members of such groups may be more likely to be associated with criminal stigma. Bernburg and Krohn (2003) have suggested that formal labeling may be more likely to trigger stigma for members of racial minorities and the impoverished, because such groups are already associated with stigma to begin with. While direct research on this point is limited, there is research that shows that African-American youths are more likely than white youths to be perceived as rule breakers by their parents, net of their self-reported delinquency (Matsueda, 1992).

## THE CRIMINOGENIC PROCESSES TRIGGERED BY LABELING

One reason why labeling theory sometimes has appeared vague is that different authors have specified different processes by which labeling may influence subsequent deviant behavior. Another reason is that theoretical statements have sometimes lacked specificity and elaboration (hence the history of debate about what labeling theory entails; Goode, 1975; Paternoster & Iovanni, 1989). Hence, it is important to provide an explicit discussion of these processes, taking into account the current work on this issue. In what follows, I discuss the main processes by which labeling is held to influence subsequent deviance and crime, namely (1) the development of a deviant self-concept, (2) the processes of rejection and withdrawal, and (3) involvement in deviant groups.

### Deviant Self-Concept

The emphasis on the effect of labeling on the self-concept is grounded in symbolic interactionism (Lemert, 1967; Scheff, 1966; Schur, 1971). This school of thought emphasizes the role of self-concept in motivating and controlling behavior, assuming that individuals' concept of self is shaped by their experience of past and present interactions with others. Matsueda (1992) has argued that the individual's image of self is formed in the process of *reflected appraisals*, that is, individuals form their self-concept on the basis of their experience of interacting with other people. Through such experience, people learn how to define themselves (what they are, what they do) on the basis of how they perceive the attitudes of others toward them. Moreover, since, again, the attitudes of others toward individuals defined as deviants tend to be shaped by negative stereotypes, individuals that are defined or labeled as deviants tend to experience stereotypical

<sup>2</sup> Relatedly, conflict theory argues that racial minorities and the impoverished have restricted access to law-making and criminal justice policy, and hence their interests are often not represented in the laws, policies, and organizations that determine the criminalization (labeling) process (Reiman, 1995). Accordingly, deviance associated with the powerless tends to be labeled as criminal, whereas deviance associated with the powerful often escapes criminalization and stigma.

expectations toward themselves. Such a perception of oneself from the standpoint of others may lead to a change in self-concept; the person may begin to see himself or herself as a deviant person, taking on the role of the deviant.

### Processes of Social Exclusion

The stigma attached to deviant labeling can stir up processes that can lead to exclusion from relationships with conventional others and from legitimate opportunities. Specifically, labeling may lead to social exclusion through two analytically separate processes (Link, 1982). First, conventional others, including peers, community members, and gatekeepers in the opportunity structure (e.g., teachers and employers), may reject or devalue the labeled person. Again, stereotypical images of criminality can become defining features of individuals labeled as criminal offenders, thereby bringing on negative reactions by others that are driven by fear, mistrust, self-righteousness, and so on, as well as people's fear of being associated with stigma.

Second, labeling may lead to social withdrawal due to anticipated rejection or devaluation. Goffman (1963) has argued that the social interaction of "normal" people and stigmatized individuals often entails uneasiness, embarrassment, ambiguity, and intense efforts at impression management. "The very anticipation of such contacts can . . . lead normals and the stigmatized to arrange life so as to avoid them" (Goffman, 1963, p. 13). Link, Cullen, Struening, Shrout, and Dohrenwend (1989) argue that individuals labeled as deviants often internalize commonly held beliefs about how people devalue and react negatively to labeled deviants. Labeled individuals may often expect others to devalue and even reject themselves, thereby avoiding situations in which they anticipate that their deviant label may stir up stigma. In turn, "withdrawal may lead to constricted social networks and fewer attempts at seeking more satisfying, higher-paying jobs" (Link et al., 1989, p. 403). Also, stigmatized individuals may internalize their perception of their devaluated status, resulting in low self-worth (Kaplan & Johnson, 1991; Zhang, 2003). Individuals labeled as criminal offenders may believe that most people will distrust, devalue, and reject individuals that have been labeled as criminal offenders, and hence they may often avoid routine social encounters that most people see no reason to avoid, but that are vital for maintaining social bonds to mainstream groups and institutions (Bernburg, 2006; Winnick & Bodkin, 2008).

Sampson and Laub (1993, 1997) have underscored that labeling theory complements social bonding theory, particularly when emphasizing the exclusionary processes triggered by labeling. Sampson and Laub (1997) incorporate labeling theory into the lifecourse framework, highlighting the detrimental effects of labeling on the subsequent development of social bonding and future life chances. Sampson and Laub argue that, insofar as labeling undermines social ties to conventional others and insofar as labeling leads to blocked opportunities, most notably reduced educational attainment and employment instability, labeling and stigma may have a long-term impact on the development of crime and deviant behavior. Such effects can influence adult criminal behavior, because reduced educational attainment and employment instability weaken the "social and institutional bonds linking adults to society" (Sampson & Laub, 1997, p. 144). Thus, labeling may directly impact individual development temporarily, but this impact may produce a "snowball effect" that can last much longer than the actual experience of labeling and stigmatization. Thus, stigma may only have to "stick" to the person for a short

period to have a long-term effect on the lifecourse, and thereby on the development of crime and delinquency.

Involvement in Deviant Groups

Deviant labeling may lead to involvement in deviant groups, which is by itself an important risk factor for crime and deviance (Becker, 1963; Braithwaite, 1989). Elaborating on this point, Bernburg, Krohn, and Rivera (2006) have argued that deviant groups represent a source of social support in which deviant labels are accepted, while at the same time providing collective rationalizations, attitudes, and opportunities that encourage and facilitate deviant behavior. Bernburg et al. suggest that labeling may increase juvenile involvement in deviant peer groups due to three main processes. First, labeling can bring on rejection from conventional peers and from other community members who may fear and mistrust them. For example, parents may prevent their children from associating with known delinquents. By associating with deviant groups, known delinquents can receive a more positive image of themselves from the standpoint of significant others (Braithwaite, 1989; Matsueda, 1992). Second, labeling may result in withdrawal from encounters with conventional peers, because such encounters may entail shame, embarrassment, and uneasiness. Finally, youths tend to make friends with those who are similar to themselves. Youths that have a deviant self-concept may seek the friendship of individuals that share the deviant self-concept.

The path diagram shown in Figure 10.1 summarizes the processes discussed above. Informal and formal labeling may be more likely to be imposed on racial minorities and the disadvantaged. Formal labeling should influence individual development indirectly through informal labeling, but also directly due to social withdrawal. Again, individuals that have been formally labeled may avoid situations in which they fear that they *might* experience stigmatization. Research on mental illness labeling indicates that anticipated rejection may hurt individual outcomes independently from the experience of rejection (Markowitz, 1998). Furthermore, weak bonds to mainstream society and blocked opportunities influence deviant behavior directly, due to weaker informal social control and reduced life chances, but also indirectly through involvement in deviant groups. The formation of a deviant self-concept may influence deviant behavior directly, because the labeled person may internalize the deviant role, and also indirectly due to involvement in deviant groups. Finally, there may be a reciprocal relationship between self-concept changes and changes in social bonds. A deviant self-concept is made “more plausible when actor’s access to conventional (normal) roles and opportunities becomes problematic” (Paternoster & Iovanni,

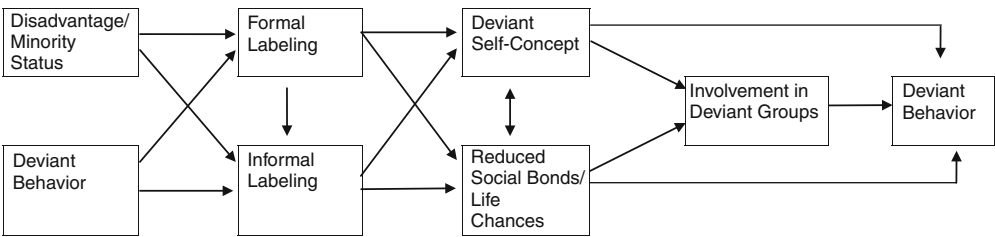


FIGURE 10.1. Intermediate processes.

1989, p. 380). In this vein, the formation of a deviant identity may lead to weaker bonds to the conventional order.

## RESEARCH ON THE CRIMINOGENIC EFFECTS OF LABELING

In a review article published almost two decades ago, Paternoster and Iovanni (1989) argued that a large part of the labeling research had been methodologically flawed, and hence few conclusions could be drawn from it. Although the research has improved since the late 1980s, Paternoster and Iovanni underscored a few methodological issues that are particularly important for labeling research. It is useful to review these issues before turning our attention to the research.

### Methodological Issues

First, research on the effect of formal reactions on subsequent deviance often uses samples of individuals drawn from police records and similar non-random sources, containing no comparison between formally labeled individuals and individuals that have no formal labeling. Such research is thus restricted to examining the relative (severity of formal reaction), rather than the absolute (formal reaction vs. no formal reaction) effects of formal labeling. Such restricted comparison may underestimate the impact of labeling. “When one takes for study a group which appears at the end of a long series of discretionary decisions, it is reasonable that the labeling process has run its course by that time” (Paternoster & Iovanni, 1989, p. 385).

Second, labeling research needs to examine directly the theoretical processes involved. Again, labeling theory argues that specific processes—changes in the self-concept, processes of social exclusion, and involvement in deviant groups—mediate the effect of labeling on deviant behavior. That labeling triggers such processes constitutes the distinct contribution of labeling theory and, hence, these intermediate processes need to be examined directly. Thus, for example, incarceration can undermine social bonds and life chances because individuals are often unable to participate in social routines and to work toward conventional goals during the time of incarceration. Also, incarceration places the person in the company of offenders and may thus create ties with deviant others. Such processes may be criminogenic, but they are not directly driven by the intermediate (criminogenic) processes discussed above. In their 1989 review, Paternoster and Iovanni (1989) argued that bulk of the labeling research had been invalid because it had failed to examine intermediate processes.

Relatedly, scholars (Paternoster & Iovanni, 1989; Triplett & Jarjoura, 1994) have criticized labeling research for failing to examine informal labeling and stigmatization processes (e.g., rejection and withdrawal). As underscored above, informal labeling and stigmatization processes comprise the core focus of labeling theory. Thus, formal labeling is thought to influence subsequent deviance in large part because it leads to informal labeling and stigmatization. The role of informal labeling and stigmatization cannot be demonstrated without directly measuring these concepts.

Finally, the criminogenic processes triggered by labeling may be contingent on social context, and hence researchers may often need to specify the conditions that enhance or moderate labeling effects, including the situational context of labeling (e.g., whether or not a person is able to hide the fact of his or her arrest), the social status of the labelee (and perhaps also of

the labeler), and the broader national or societal context (Braithwaite, 1989). Scholars (Hagan & Palloni, 1990; Palarma et al., 1986; Paternoster & Iovanni, 1989) have criticized the research for the frequent failure to specify such contingencies empirically.

These methodological issues guide the following discussion of the empirical research. In what follows, I discuss the research on (1) the effect of labeling on subsequent deviance, (2) intermediate processes, and (3) contingent effects.

### **The Effect of Labeling on Subsequent Deviance**

Again, the study's sampling method determines the sample variation in labeling. Studies based on longitudinal surveys of samples from general populations (usually adolescents) unambiguously contain a comparison between individuals who have been formally labeled and individuals who have not. As Paternoster and Iovanni (1989) pointed out, such studies tend to provide consistent support for labeling effects. Such research usually finds that formal labeling (arrest and formal sanctions) positively influences subsequent delinquent behavior, net of initial delinquency and other controls, even as late as in early adulthood (Bernburg & Krohn, 2003; Bernburg et al., 2006; Farrington, 1977; Farrington, Osborn, & West, 1978; Hagan & Palloni, 1990; Johnson, Simons, & Conger, 2004; Palarma et al., 1986; Ray & Downs, 1986; Stewart, Simons, Conger, & Scaramella, 2002).

By contrast, more inclusive reviews of studies on the effect of formal labeling on subsequent behavior, that is, reviews that do not categorize the research based on the sampling method used, yield more mixed results (Barrick, 2007; Huizinga & Henry, 2008). In a recent review by Huizinga and Henry (2008), the majority of studies found a positive effect of both arrest and justice system sanctions on delinquency, a substantial number of studies found no effect, and a small minority of studies found a negative effect. Barrick (2007) came to a similar conclusion, but pointed out that the most consistent support for labeling theory tends to come from the most sophisticated research (that is, with respect to sample size and measurement).

There are situations in which samples drawn from official or non-random sources can provide meaningful tests of labeling effects. Chiricos, Barrick, Bales, and Bontrager (2007) have studied the effect of formal adjudication on recidivism in a sample of men and women found guilty of a felony and sentenced to probation in Florida between 2000 and 2002. The research setting provided a unique opportunity to examine labeling effects, because Florida judges have the option to withhold formal adjudication of guilt for convicted felons who are sentenced to probation. "For those offenders who have adjudication withheld . . . no civil rights are lost and such individuals can legitimately say on employment applications and elsewhere that a felony conviction did not occur" (Chiricos et al., 2007, p. 548). Chiricos et al. found that formal adjudication increased the likelihood of recidivism, net of prior record, type and seriousness of the offense, and social demographic factors.

Nonexperimental research on any social topic is subject to the threat of omitted variable bias. Any effect of labeling on subsequent behavior may be spurious due to important variables that have been left out of the analysis or due to measurement error in the control variables that have been included. Carefully selecting control variables based on current theory and prior research (e.g., controlling for initial deviance) reduces the problem, but does not eliminate the threat of bias (Smith & Paternoster, 1990). In this respect, field experiments that randomize formal



reaction to apprehended offenders are particularly important. Although experiments that provide a meaningful test of labeling effects have been rare, the current findings lend some support for labeling theory. Klein (1986) conducted a field experiment that randomized whether apprehended youths were counseled and released or whether further action was taken (referral to social service system, referral with purchase of service, or petition toward juvenile court). Klein found that youths who were counseled and released had a lower probability of recidivism after 27 months than youths referred to community agencies or petitioned toward juvenile court (the last group was most likely to recidivate).<sup>3</sup>

Berk, Campbell, Klap, and Western (1992) and Sherman and Smith (1992) examined the effect of arrest for domestic violence on subsequent violence in field experiments that were conducted in four US cities. The studies found that arrest for domestic violence increased the likelihood of subsequent violence, but only if the perpetrator was unemployed. Some evidence indicated that arrest decreased subsequent violence for employed subjects, consistent with deterrence theory. The findings indicate that formal labeling amplifies deviance only under certain conditions.

Again, an important limitation of the research is that it rarely examines informal labeling. But, there are important exceptions. Matsueda (1992) has used longitudinal data from the National Youth Survey (NYS) to examine the effect of informal labeling on subsequent delinquency among adolescent males. Matsueda found that objective parental labeling (that is, parents' self-reported perception of whether they see their child as someone who gets into trouble/breaks rules) and subjective labeling (respondents' perception of whether friends, parents, teachers see them as someone who gets into trouble/breaks rules) influenced subsequent delinquency, net of initial self-reported delinquency and other factors. Subsequent analyses have supported these findings (Adams & Evans, 1996; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Triplett & Jarjoura, 1994; Zhang, 1997), but they are also based on the NYS data and thus need to be replicated. In this respect, Triplett and Jarjoura (1994) have pointed out that informal labeling by significant others, such as parents, teachers, peers, and community members, may trigger exclusionary reactions toward children and adolescents and impact their self-concept before formal agencies come into the picture. Sampson and Laub (1997) have suggested that defiant or difficult children may become subject to labeling and stigma that can undermine family, school, and peer attachments. Thus, labeling may contribute to the stability in deviant behavior. Moreover, childhood labeling may have a profound, long-term impact on the self-concept. Research is needed on these issues. In this respect, researchers should examine informal as well as formal labeling, including medical labels that are by now frequent reactions to child and adolescent deviance. Specifically, I am thinking about the trend toward the medicalization of childhood deviance (Conrad & Schneider, 1992), which has entailed an expansion of formal deviant labels that have medical connotations (e.g., hyperactivity diagnosis). Whether or not such labels give rise to the criminogenic processes discussed above constitutes an important research topic for future research.

<sup>3</sup> Klein (1986) reports that the treatment condition had no effect on self-reported delinquency in a follow-up survey that was conducted about 9 months later on a subsample of the initial sample of offenders. However, the subsample consisted of only those subjects that participated in the follow-up survey, about 60% of the initial sample. These findings are suspect. The null findings may be due to sampling bias in which the more serious offenders tend not to be included in the follow-up survey.

## Research on Intermediate Processes

While intermediate processes have often been missing in labeling research, attempts to examine mediated effects have become more frequent, especially during the 1990s and 2000s. As tests of intermediate processes are critically important for the development of labeling theory, I now discuss this work in some detail.

**DEViant SELF-CONCEPT.** The previously mentioned study by Matsueda (1992) examined whether youths' subjective labeling mediated the effect of objective parental labeling on delinquent behavior. The findings showed that parental labeling influences subsequent youth delinquency, in part because it increases subjective labeling. Other analyses of the NYS data have supported Matsueda's findings (Adams & Evans, 1996; Bartusch & Matsueda, 1996; Heimer & Matsueda, 1994; Triplett & Jarjoura, 1994; Zhang, 1997), but, again, as these findings are all based on the same survey sample, replication is needed.

Some research exists on the effect of formal labeling on deviant self-concept, net of initial delinquency. Jensen (1980) and Horowitz and Wasserman (1979) found that formally labeled youths tend to have a more deviant self-concept than nonlabeled youths, net of delinquent behavior, while Hepburn (1977) found no support for such an effect. Relatedly, studies have found an effect of formal labeling on delinquent orientations (Ageton & Elliott, 1974), deviant attitudes (Kaplan & Johnson, 1991), and low self-esteem (Zhang, 2003).

**SOCIAL EXCLUSION—WEAK SOCIAL TIES, REDUCED LIFE CHANCES, AND INVOLVEMENT IN DEViant GROUPS.** A few studies have found support for a negative effect of formal and informal labeling on mainstream social ties. Examining the reactions of Chinese youths toward hypothetical official delinquents, Zhang (1994) found that severity of official punishment triggers peers' rejection from nonlabeled youths, but not from labeled youths. This finding supports the notion mentioned above, namely that deviant groups represent a source of social support in which deviant labels are accepted. Zhang and Messner (1994) examined the effect of severity of official sanctions (police imposed sanction vs. court sentence) on estrangement from significant others in a sample of Chinese delinquents. The study found that severity of punishment increases estrangement from friends and neighbors, but not from parents and relatives. Analyses of the NYS data discussed above have found some support for the effect of informal labeling on reduced social ties to mainstream groups, including social isolation from family, friends, and school (Zhang, 1997) and reduced school attachment (Triplett & Jarjoura, 1994).

Stewart et al. (2002) examined the effect of formal labeling on parenting practices and delinquent behavior in a panel survey of 407 rural youths. Stewart et al. found that delinquent behavior influences legal sanctions (a cumulative index for police contacts and juvenile justice involvement) that in turn influence subsequent poor parenting practices, thereby reinforcing subsequent delinquency. The researchers argued that formal labeling of juveniles increases parental stress and rejection of the child, thereby leading to poor parenting practices, which in turn increases subsequent delinquency.

There is research that supports the detrimental effect of formal labeling on life chances. Formal labeling has been found to negatively impact educational attainment, net of initial delinquency and controls (Bernburg, 2003; Bernburg & Krohn, 2003; De Li, 1999; Hjalmarsson, 2008; Sweeten, 2006). Bowditch (1993) found ethnographic evidence indicating that school officials

routinely define students as troublemakers, and once the troublemaker label has been designated, the student's misbehavior brings on harsher disciplinary procedures than normally would be used, including suspension, transfer to another school, or even expulsion. Bernburg (2003) has found that when the school is notified by the authorities that there has been a juvenile justice intervention, the odds of dropping out of high school increase.

More extensive research supports the negative effect of formal labeling on employment. Many jobs have restrictions on hiring people that have a criminal record (Irwing, 2005), and criminal background checks in hiring decisions are widespread (Harris & Keller, 2005). Field experiments and vignette studies show that employers are less likely to hire applicants that have been convicted or incarcerated, even those convicted for minor offenses (Boshier & Johnson, 1974; Buikuisen & Dijksterhuis, 1971; Pager, 2003; Schwartz & Skolnick, 1962). Further support comes from survey research that shows that having a conviction, or having been charged or apprehended by police as early as adolescence, has a long-term, negative effect on employment (Davies & Tanner, 2003; Freeman, 1991; Western & Beckett, 1999). Lanctot, Cernkovich, and Giordano (2007) found that, net of self-reported adolescent delinquent behavior, institutionalization of adolescents predicted several negative adult outcomes, including socioeconomic disadvantage, premature transitions to adulthood, job instability, conjugal instability, and weak social bonds to parents and peers. With regard to adult deviance, institutionalization positively influenced adult drug use, but not adult criminal behavior.

In spite of all the research that supports the negative effect of formal labeling on life chances, especially employment, only a handful of studies have examined whether reduced life chances mediate the effect of formal labeling on subsequent crime and deviance. As Sampson and Laub (1997) have pointed out, such questions require data that span long-term individual development. Bernburg and Krohn (2003) examined the long-term effect of formal labeling during adolescence on adult criminal behavior, using panel data on a sample of urban youth in the United States (Rochester Youth Developmental Study). Bernburg and Krohn examined both police records (arrest/police contact) and self-report data on juvenile justice intervention (probation, correctional center, community service, detention, brought to court, treatment program). The study found that formal labeling during adolescence had a positive effect on self-reported crime in late adolescence and early adulthood, net of serious adolescent delinquency, academic aptitude, and social background. These effects were in part mediated by educational attainment and early adult employment. Other studies that have provided support for these processes include De Li (1999) and Sampson and Laub (1993).

Some research has examined whether involvement in deviant groups mediates the effect of labeling on subsequent deviance. Formal labeling has been found to influence subsequent involvement in deviant groups (Bernburg et al., 2006; Johnson et al., 2004; Kaplan & Johnson, 1991), although not all studies agree on this point (Farrington, 1977). Bernburg et al. (2006) found that, net of initial delinquency, drug use, involvement in deviant groups, and other controls, juvenile justice intervention had a positive effect on the odds of serious delinquency 1 year later. Furthermore, about one-half of this effect was mediated by increased likelihood of involvement in gangs and association with delinquent peers at an intermediate period. The previously mentioned analyses of the NYS data have found that the effect of subjective labeling on subsequent delinquency is mediated in part by association with delinquent peers (Adams & Evans, 1996; Heimer & Matsueda, 1994; Triplett & Jarjoura, 1994).

In sum, there is research support for the negative impact of formal labeling on social ties and life chances, and some support for the impact of labeling on involvement in deviant groups. However, very limited research exists on the processes that are held to be responsible for creating these exclusionary effects, namely processes of rejection and withdrawal. In a rare study, Winnick and Bodkin (2008) surveyed convicts about their perception of stigmatization of being an ex-convict and how they intended to manage stigma upon their release from prison. The study found that many convicts believe that most people will distrust and reject ex-convicts, and that this belief was positively associated with an intention to withdraw from social participation upon release from prison. Bernburg (2006) conducted open-ended interviews with individuals that had been convicted for crimes. Underscoring the theme of situational stigmatization, the study provided accounts from juvenile delinquents describing how their peers were awkwardly “polite” and “not themselves” around them and how they would feel ashamed when confronted with their peers’ parents. Moreover, underscoring social withdrawal, the study found that offenders often dread the thought of experiencing situations in which stigma becomes a part of others’ definition of them. Many offenders felt that such encounters entail shame, embarrassment, and an inability to present themselves in a favorable light (“I could just as well be naked”), a notion that was sometimes based on experience and sometimes based on anticipation. Many offenders stated that they tried to avoid situations that could entail such encounters, including “meeting new people.”

Very few studies have examined the experience of being rejected and devalued by others due to criminal labeling. Given the central role of rejection and devaluation in labeling theory (Becker, 1963), the research should develop measures that tackle such experiences. This work should be aided by conducting qualitative research that can illustrate how the relevant processes are manifested in concrete situations (e.g., see Bowditch, 1993; Bernburg, 2003; Kaufman & Johnson, 2004). Also, this work can build on some of the measures that have been developed to measure anticipated and experienced rejection in research on mental illness labeling (Markowitz, 1998). But, we should keep in mind that measuring rejection may require the research to go beyond the subjective experience of labeled individuals. Rejection and devaluation by others may hurt social ties and life chances without the labeled person being aware of it. This point has been underscored by Matsueda (1992) who found that objective parental labeling (based on interviews with parents) influenced youth delinquency, over and beyond the effect of the youth’s subjective or perceived labeling. Future research should attempt to measure objective labeling and even rejection on the part of those individuals that comprise the person’s relevant social environment, including perhaps school peers, teachers, and selected community members.

In summary, Table 10.1 provides an overview of findings from longitudinal studies that have directly examined intermediate processes in the effect of labeling on subsequent deviance. In line with the methodological discussion above, the table includes only studies that use population-based samples. The table shows that, while there is support for some of the intermediate processes proposed by labeling theory, the volume of research is limited, and key findings need to be replicated across samples. Also, the evidence is fragmented as intervening variables have usually been studied separately. Moreover, there have been few attempts to measure informal labeling and stigmatization, including the processes of rejection and withdrawal. This failure to examine key concepts constitutes a serious limitation of the research.

TABLE 10.1. Tests of Mediated Effects

Study	Target population/study's time frame	Type of labeling examined (type of data)	Support for the effect of labeling on deviance?	Intervening variables examined/support for a mediated effect?
Informal labeling Adams and Evans (1996) Matsueda (1992) and Heimer and Matsueda (1994)	US males aged 11-17, 2-year follow-up <sup>c</sup>	Subjective labeling (self-reports)	Yes	Peer delinquency/yes
	US males aged 11-17, 3-year follow-up <sup>c</sup>	Objective parental labeling (parent reports)	Yes	Subjective labeling/yes
		Subjective labeling (self-reports)	Yes	Peer delinquency/yes
		Objective parental labeling (parent reports)	Yes	Subjective labeling/yes
Triplett and Jarjoura (1994)	US males aged 11-17, 4-year follow-up <sup>c</sup>	Subjective labeling (self-reports)	Yes	Parental attachment/no
				School attachment/yes Delinquent peers/yes Subjective labeling/yes
Zhang (1997)	US males aged 11-17, 2-year follow-up <sup>c</sup>	Objective parental labeling (parent reports)	Yes	
		Subjective labeling (self-reports)	Yes	Social isolation/mixed <sup>e</sup>
Formal labeling Bernburg and Krohn (2003)	Early adolescence to early adulthood, urban US males <sup>d</sup>	Juvenile justice Intervention (self-reports)	Yes	Educational attainment/yes
		Police intervention (police records)	Yes	Nonemployment/yes Educational attainment/yes Nonemployment/yes ( <i>cont.</i> )

**TABLE 10.1.** (Continued)

Study	Target population/study's time frame	Type of labeling examined (type of data)	Support for the effect of labeling on deviance?	Intervening variables examined/support for a mediated effect?
Bernburg et al. (2006)	Early to middle adolescence, urban US males <sup>a</sup>	Juvenile justice intervention (self-reports)	Yes	Gang membership/yes
De Li (1999)	Early adolescence to early adulthood/English working-class males <sup>b</sup>	Conviction (official records)	Yes	Peer delinquency/yes Unemployment/yes
Farrington (1977)	Early to middle adolescence, English working-class males <sup>b</sup>	Conviction (official records)	Yes	Peer delinquency/no
Johnson, et al. (2004)	Early adolescence to early adulthood, rural US males	Criminal/juvenile justice involvement (self-reports)	Yes	Peer delinquency/ mixed <sup>d</sup>
Kaplan and Johnson (1991)	US adolescents, 3-year follow-up	Index for negative social sanctions (self-reports)	Yes	Dispositions to deviance/yes
Stewart et al. (2002)	US adolescents from two parent families/early to mid-adolescence	Index for police and juvenile justice intervention (self-reports)	Yes	Deviant peer association/yes Poor parenting practices/yes

NOTE. The table reports on longitudinal studies that examine mediated effects.

<sup>a</sup> Rochester Youth Developmental Study (RYDS).

<sup>b</sup> Longitudinal data on British working-class males (Farrington, 1977).

<sup>c</sup> National Youth Survey (NYS).

<sup>d</sup> Formal labeling was found to impact deviant peer association, but deviant peer association did not impact subsequent delinquency.

<sup>e</sup> Subjective labeling was found to impact social isolation, but social isolation did not impact subsequent delinquency.

### Contingencies in Labeling Effects

Various conditions may enhance or moderate the impact of labeling on individual development and subsequent deviance. First of all, we should expect formal labeling to be more criminogenic when it triggers informal labeling. Formal labeling is more likely to trigger stigmatization and exclusionary reactions by others in cases where the formal label is known to others (Paternoster & Iovanni, 1989). Accordingly, formal labeling should have a larger, detrimental impact on individual development, and hence a more pronounced effect on subsequent deviance, when information about the formal label is brought to the attention of community members, significant others, or gatekeepers in the opportunity structure (e.g., teachers, employers). Researchers have rarely tested such hypotheses; although such tests could provide important evidence for labeling effects (*vis-à-vis* omitted variable bias). Hjalmarsson (2008) compared the effect of formal labeling (arrest and incarceration) on high-school dropout in two different contexts, that is, (1) in states that mandate school notification of arrest and (2) in states that do not mandate notification. Hjalmarsson found that the observed effects of both arrest and incarceration on high-school dropout were about 50% larger in states that mandate notification, but these interaction effects were statistically insignificant, and thus the differences found were not beyond chance.

Even if formal labeling is known to others, it may not necessarily lead to informal labeling and stigmatization (Covington, 1984). As Paternoster and Iovanni (1989) have pointed out, “Rather than accepting the deviant label as indicative of actor’s essential character, others [may] . . . neutralize the consequences of negative character attribution by what Orcutt (1973:260) calls ‘inclusive reactions’ ” (p. 276). That is, other actors attempt to bring the person’s behavior into conformity with the group without excluding the person from it (also on this point, see Braithwaite, 1989). Moreover, individuals can be active players in negotiating the meanings that emerge in social interaction, and hence they may resist when others try to typify them as deviants (Davis, 1961).

The likelihood that labeling will be successfully resisted or neutralized may be contingent on the characteristics of the actors involved. First of all, formal labeling may be more likely to trigger stigmatization if the individual is seen as different to begin with. Thus, when an individual who already is associated with stigma is formally labeled, actors may be more likely to attach negative stereotypes (stigmatize) to that person. In such cases, formal labeling should have a larger effect on subsequent deviance. Hagan and Palloni (1990) have argued that “labels may be most likely to affect the behavior of adolescents when they are imposed in the context of a family that has previously been labeled deviant” (p. 268). Hagan and Palloni found that the effect of conviction on subsequent delinquency was stronger among boys whose parents had a criminal conviction, net of controls. Palarma et al. (1986) found that the effect of arrest on subsequent delinquency was more pronounced among youths who also had a mental illness label.

Another potential conditional factor is delinquent involvement prior to labeling. Individuals who are already heavily involved in deviance may not be affected by labeling as much as those who are less involved in deviance prior to labeling. The reason is that some or all of the processes discussed above—identity change, social exclusion, involvement in deviant groups—may already have occurred in the past (due to various reasons, including prior labeling). As Paternoster and Iovanni (1989) have argued, “hard-core” delinquent offenders may be “immune to additional labeling effects” (p. 385). Accordingly, labeling should have a larger effect on subsequent deviance among novice delinquents. There is some research that supports this notion, although the results are not entirely consistent. Studies have found that the severity of disposition

increases the rate of recidivism among first offenders only (e.g., Horowitz & Wasserman, 1979). Chiricos et al. (2007) found that the effect of adjudication on recidivism among adult offenders was stronger among those who did not have a prior criminal record before the age of 30. Jensen (1980) found the effect of formal labeling on delinquent self-concept to be stronger among youths with low delinquent involvement. By contrast, Thomas and Bishop's (1984) study of high-school students found that the effect of formal labeling on delinquent self-concept did not interact with prior delinquency.

There are two opposite hypotheses regarding the conditional effects of minority status and disadvantage (Sherman & Smith, 1992). First, labeling (especially formal labeling) may have a larger criminogenic effect among minorities and the impoverished. Several points are relevant in this respect. Sampson and Laub (1997) have argued that disadvantaged groups tend to have lower stakes in conformity, due to weaker social bonds and constrained life chances, and hence they are more vulnerable to the negative effects of labeling. In a sense, these individuals cannot "afford" to miss out on anymore opportunities and social bonds. Braithwaite (1989) has argued that labeled individuals that have weak social bonds are less likely to experience forgiveness and acceptance by significant others ("reintegrative shaming") but more likely to experience stigmatization. Again, formal labeling may be more likely to trigger stigma for members of racial minorities and the impoverished, because such groups are already associated with stigma to begin with (Bernburg and Krohn, 2003). Relatedly, powerlessness can undermine the ability to resist labeling. In an ethnographic study of student discipline in an inner-city high school, Bowditch (1993) observed that "a student's vulnerability to suspension, and to identification as a 'troublemaker,' may . . . depend upon his or her parents' ability to influence the actions of school personnel" (p. 501). Moreover, "The relatively disadvantaged parents of most parents vis-à-vis school workers meant that many parents often received disrespectful and dismissive treatment. Parents had few, if any, social or political resources with which to challenge a disciplinarian's actions" (p. 502).

On the other hand, scholars have suggested that social disadvantage may weaken the impact of labeling, because disadvantaged individuals have reduced stakes in maintaining a respectable identity to begin with (Ageton & Elliott, 1974; Harris, 1976). Thus, the identity of such individuals is already compromised by the stigma that is attached to their group membership, and hence labeling may have a weaker effect on the self-concept of members of such groups, which implies that labeling should have a weaker effect on subsequent deviance among racial minorities and the disadvantaged.

There is some research that supports both viewpoints, although the former hypothesis has received more substantial support. Bernburg and Krohn (2003) found that the effects of official labeling during adolescence on late adolescence and early adult crime were stronger among African-Americans and among those that had impoverished backgrounds, after controlling for educational attainment and employment instability. However, the effects of official labeling on educational attainment and employment instability were not contingent on race or poverty status. As noted above, the field experiments by Berk et al. (1992) and Sherman and Smith (1992) found that arrest for domestic violence had a larger positive effect on subsequent violence when the perpetrator was unemployed. Adams, Johnson, and Evans (1998) found that the effect of subjective labeling on delinquency was larger among blacks than among whites.

By contrast, some research indicates that disadvantage may sometimes moderate the effect of formal labeling on subsequent offending. Chiricos et al. (2007) found that the effect of adjudication on recidivism was significantly larger among whites. This study also examined whether



neighborhood concentrated disadvantage interacted with the effect of adjudication on recidivism, but found no evidence of such effects. Klein (1986) found that the effect of formal processing on recidivism were larger among whites and high-SES youths. Ageton and Elliott (1974) found formal labeling to influence delinquent orientations only among white youths. However, both Klein (1986) and Ageton and Elliott (1974) failed to report significance tests to demonstrate statistical interaction, and hence these findings should not be generalized.

Research on the conditional impact of gender has produced mixed results. Ray and Downs (1986) found an effect of formal labeling on subsequent drug use among males but not among females. Bartusch and Matsueda (1996) found that informal labeling had a larger impact on delinquency among males than among females. Bernburg (2003) found that the negative impact of official labeling on educational attainment was larger among males than among females. By contrast, Chiricos et al. (2007) has found the effect of adjudication on recidivism to be larger among females than among males.

Braithwaite (1989) has drawn attention to the role of the broader societal context in specifying the impact of formal criminal labeling. Braithwaite argues that in communitarian societies, that is, societies that are characterized by high levels of social cohesion, trust, and group loyalty, moral condemnation ("shaming") is often followed by informal and even formal efforts to reintegrate offenders back into the community through forgiveness, efforts to maintain social bonds, and even ceremonies that symbolize that the offender is no longer a deviant. By contrast, highly individualistic societies have fewer procedures that reintegrate offenders, resulting in frequent stigmatization. Thus, formal labeling should be more criminogenic in individualistic societies than in communitarian societies. There is some research that has examined aspects of this theory (e.g., Hay, 2001), but societal-level tests have been rare. Baumer, Wright, Kristinsdottir, and Gunnlaugsson (2002) have examined whether recidivism rates are lower in communitarian countries, relative to countries characterized by individualism, but found no support for this hypothesis. More cross-national research is needed to evaluate Braithwaite's theory.

To conclude, we may expect various contingencies in the effects of labeling. The research has underscored some conditions that enhance the impact of labeling on subsequent deviance, including the presence of previous stigma and little prior involvement in delinquency. However, more research is needed. We should keep in mind that social context not only shapes the likelihood that stigma will be resisted or escaped, but it also influences various other factors, including the availability of criminal or delinquent opportunities and roles. Again, the lack of research that includes measures of informal labeling and stigmatization prevents us from drawing any firm conclusions about the conditions under which formal labeling is most likely to lead to informal labeling and stigmatization, under what conditions stigmatization is most likely to reinforce subsequent delinquency, and so on. The inclusion of such measures is needed to develop general propositions regarding the conditional impact of social context.

## CONCLUSION

Schur (1980) has pointed out that the critics of labeling theory have often assumed that labeling theory and alternative approaches are "mutually exclusive," which has caused critics to ignore the theory's "most valuable features" (pp. 278–279). Current work on labeling theory, in particular efforts to clarify and elaborate the criminogenic processes involved, underscores that the theory not only fits well with other theories of crime and deviance, but that its primary

focus on social exclusion complements other sociological theories arguing that weak social bonds, blocked opportunities, and association with deviant groups are important factors explaining individual deviant behavior. Labeling research has improved in recent years, but there are still important gaps in the research. Criminological research has become increasingly sophisticated in recent years, partly due to increased availability of measurement rich, longitudinal data. Labeling research has benefited from this development. However, since available survey data rarely include measures that are systematically designed to examine labeling processes, crucial variables are often missing in the research. Accordingly, major hypotheses have not been properly tested. I have highlighted above the frequent absence of measures of informal labeling (see Matsueda, 1992) and experienced and anticipated stigmatization (see Markowitz, 1998; Winnick & Bodkin, 2008). As these processes are central to labeling theory, developing such measures and including them in longitudinal survey projects that span long-term individual development is a pressing issue in this area at the moment.

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## CHAPTER 11

# Institutional Anomie Theory: A Macro-sociological Explanation of Crime

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## INTRODUCTION

Criminologists have formulated a wide range of explanations for the causes of crime, as reflected in several chapters of this volume. One useful means for classifying these explanations is according to their primary level of analysis. Micro-level theories direct attention to characteristics of individuals (e.g., biological, psychological, and social psychological traits) or their immediate social context (e.g., family and peer influences) to explain individual differences in criminal offending. Macro-level theories, in contrast, explain the variation in *rates* of crime across population “aggregates.” The nature of these aggregates varies in different theories. For example, social disorganization theories focus attention on features of relatively small-scale aggregates – the collection of people who live in the same neighborhood. The core insight of these theories is that variation in levels of crime reflects the degree of informal social control that residents are able to exercise over the geographic territory that comprises their neighborhood.

The purpose of the present chapter is to describe a macro-level theory of crime, institutional anomie theory, which is formulated at a very high level of aggregation – the level of the

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social system of a society. The key explanatory factors of this theory are the basic features of social organization: the prevailing social structures and cultural orientations as encapsulated in the major social institutions. We originally developed institutional anomie theory (hereafter IAT) as part of an effort to understand how dominant features of the culture in the United States – the American Dream itself – might promote high levels of serious crime (Messner & Rosenfeld, 1994/2007). Over time, the initial arguments have been further developed and expanded to extend the scope of the theory to explain variation in crime rates across advanced capitalist nations more generally.

Our exposition of IAT unfolds as follows. We first trace important intellectual influences that provide the foundations for the theory. We then explain how IAT is based on a synthesis of these insights with additional elements of conventional criminological theory, and we review some of the evidence that has emerged from research designed to test propositions derived from IAT. Our review of the empirical assessments of IAT prompts us to explicate briefly some of the key problematics that need to be addressed for further development of this macro-sociological perspective on the causes of crime. Finally, we conclude with a brief comment about our general approach to criminological theorizing.

## INTELLECTUAL INFLUENCES

### **Cultural Imbalance and Stratified Opportunities: Merton's "Social Structure and Anomie"**

As suggested by the title of the theory, IAT can be located within the anomie perspective more generally.<sup>1</sup> Within the field of criminology, the classical variant of anomie theory is the formulation put forth by Robert Merton in his famous essay "Social Structure and Anomie." This essay was originally published in the *American Sociological Review* in 1938, and the basic ideas were elaborated and reworked subsequently in the two editions of *Social Theory and Social Structure* (Merton, 1938, 1957, 1968). IAT adopts key elements of Merton's analytic framework and incorporates some of his principal substantive arguments. At the same time, IAT represents an attempt to overcome significant limitations in Merton's treatment of the institutional dynamics that underlie crime.

The ideas advanced in "Social Structure and Anomie" can themselves be located in the more general intellectual tradition of sociology associated with the founding figure, Emile Durkheim. The most obvious indebtedness of Merton to Durkheim involves the appropriation of Durkheim's concept of "anomie," which appears most prominently in Durkheim's treatise on suicide (1987/1966). Anomie in a general sense refers to weaknesses in the normative order of a society. Durkheim explains how social norms operate to set limits on personal desires and, in so doing, make it possible for people to achieve a sense of fulfillment. When the social norms fail to exert appreciable regulatory force, desires are limitless, which will lead some people to take their own lives. Merton similarly maintains that norms play a central role in restraining – or failing to restrain – deviant behavior.

<sup>1</sup> For a more extended discussion of the similarities and differences between Merton's anomie theory and IAT, see Messner (2003).

Merton also shares an overriding meta-objective that motivated much of Durkheim's theorizing. Specifically, Merton intends to develop a distinctively *sociological* explanation for crime and deviance to serve as an alternative to psychological, and particularly Freudian, explanations that were popular at the time of his writing (Merton, 1968, p. 175; see also Messner, 1988). In so doing, Merton is essentially advancing the case for sociology as a scientific discipline that offers a unique perspective on human behavior (cf. Durkheim, 1895/1964).

The questions addressed in "Social Structure and Anomie" are thus quintessentially sociological in nature. In Merton's (1968) words,

For whatever the role of biological impulses, there still remains the further question of why it is that the frequency of deviant behavior varies within different social structures and how it happens that the deviations have different shapes and patterns in different social structures... Our perspective is sociological. We look at variations in the rates of deviant behavior, not at its incidence<sup>2</sup> (pp. 185–186).

Given the nature of the questions under examination, Merton quite naturally turns to sociological concepts to look for the answers. He adopts a general framework that has been labeled "structural-functionalism" (Parsons, 1951) and conceptualizes social organization in "systemic" terms. According to this approach, any large-scale social system can be described with reference to two fundamental properties: a culture structure and a social structure.

Merton does not provide rigorous definitions of either culture structure or social structure in his original essay, but he clarifies their meaning while formulating his explanation for deviant behavior and in his subsequent writings (Merton, 1964, 1968). The key elements of the culture structure are the prescribed goals (or ends) of action and the normatively approved means for realizing these goals. The other component of social organization, social structure, refers to "... that organized set of social relationships in which members of the society or group are variously implicated" (1968, p. 216).

To illustrate the application of these basic conceptual tools of sociology to the explanation of deviant behavior, Merton focuses his analytic lens on one particular social system – the social system prevalent in the United States in the early part of the 20th century. The distinguishing feature of this social system, according to Merton, is "malintegration." The social system is malintegrated in two senses: (1) the main subcomponents of the culture are out of balance and (2) messages emanating from the culture are at odds with the realities of the social structure. With respect to the culture structure, the goals and means receive differential emphasis. The culture places a strong emphasis on the pursuit of goals, especially the goal of monetary success. Comparatively less emphasis is placed on the importance of using the normatively prescribed means to realize goals. Instead, societal members tend to be governed mainly by "efficiency norms" in the selection of means. They are prone to use whatever means are technically expedient in striving to reach their goals, regardless of the normative status of these means. These twin features of culture – the strong emphasis on monetary success goals and the weak emphasis on normative means – are part of the dominant cultural ethos of the society; they are intrinsic to the "American Dream" itself. Moreover, for Merton (1964, p. 226), the "breakdown" in the culture structure associated with the American Dream constitutes the essence of anomie or normlessness: "when a high degree of anomie has set in, the rules once governing conduct have lost their savor and their force."

<sup>2</sup> Our citations to "Social Structure and Anomie" refer to the elaborated version published in the second edition of *Social Theory and Social Structure* (Merton, 1968).



The second sense in which the social system in the United States exhibits “malintegration” according to Merton involves the interrelationship between culture and social structure. Merton underscores the extent to which the cultural goals are universalistic. Everyone is encouraged to strive for great wealth. However, social structure distributes access to the normatively approved means unequally. Opportunities to reach the cultural success goals through legitimate means vary in accordance with social position, especially class position. It is precisely this disjuncture between features of social structure (inequality of opportunity) and elements of culture (universal success goals) that undermines the integrity of the culture and leads to anomie.

Merton thus advances a provocative explanation for deviance and crime that is radically sociological. It is cast in terms of the basic properties of social systems and their interconnections rather than individual propensities or psychological dispositions. High rates of deviant behavior can be traced to anomie, a cultural imbalance in the emphasis on goals versus means. Anomie, in turn, is generated by a system disjuncture: an intrinsic incompatibility between universalistic goals and unequal opportunities.<sup>3</sup>

We concur with Merton that a useful starting point in the formulation of a macro-sociological explanation of crime is an analytic framework built around the interplay of cultural and social structural dynamics. We also find much merit in Merton’s insights about the criminogenic consequences of a preoccupation with monetary success goals and a widespread willingness to substitute technically expedient means for the normatively approved means to achieve these goals. But Merton’s classical variant of anomie theory suffers from several limitations.

First, on close examination, it becomes apparent that Merton employs a highly restrictive conceptualization of social structure. He concentrates almost exclusively on the role of social *stratification* in determining access to legitimate means and the implications of social stratification for the distribution of crime within society. The strain toward anomie should be strongest for those at the bottom of the class structure, for whom opportunities are limited, and thus crime rates should vary inversely with social class position. While this is certainly a plausible position to advance, there is much more to social structure than the stratification system. A major deficiency in the Mertonian anomie tradition, in other words, is the lack of systematic attention to the broader range of social structure, specifically to *social institutions* and the interrelationships among them.

Second, Merton’s explanation for the proximate causes of crime and deviance encompasses an extremely narrow range of sociological factors. Merton quite correctly calls attention to the salient role of norms as inhibitors of misbehavior. Widespread crime and deviance are indeed likely when such internal cultural restraints are weak. However, Merton fails to incorporate into his explanation other social controls, especially those emphasized in influential criminological theories such as bonding theory (e.g., Hirschi, 1969). Bonding theory underscores how ties to the conventional order, established largely through the performance of institutional roles, encourage socially approved behavior.

<sup>3</sup> Merton recognizes that the structural strains toward anomie can elicit different responses on the part of the members of a society, and he develops his well-known typology of modes of individual adaptation to enumerate these responses. Although Merton makes fleeting references to social class differences in family socialization when illustrating various adaptations, he never systematically incorporates his typology of individual adaptations with his abstract model of social system dynamics.

Finally, Merton's thesis of social structure and anomie is not grounded in any historical or comparative context. He focuses exclusively on American society, yet some of the tendencies and processes that he describes can be understood within the broader context of the political economy of capitalist development. To understand this context, it is useful to turn to some of the writings of the institutional economist, Karl Polanyi.

### **The Political Economy of Capitalist Development: "The Great Transformation"**

In a series of influential writings, Polanyi (1944/1957, 1947/1968a, 1957/1968b) provides an incisive account of the evolution of industrial capitalism over the course of the 19th and early 20th centuries.<sup>4</sup> Polanyi identifies two, essentially dialectical, processes that constituted a "double movement" in the history of capitalism and that profoundly altered the organization of economic and social life. One process involved the unprecedented expansion of the market as the mechanism for coordinating economic activity. The other process involved "counter-moves" to prevent the market from undermining the very foundations of the social order. Taken together, these processes resulted in what Polanyi referred to as "The Great Transformation."

To explicate these changes, Polanyi distinguishes between three types of economic transactions or transactional modes: reciprocity, redistribution, and market exchange. Reciprocity is characterized by obligatory gift-giving, usually between kinship units. Redistribution refers to obligatory contributions to central political or religious authorities, who then use these resources for their own sustenance and for collective purposes (Dalton, 1968, p. 14). Market transactions involve the exchange of goods and services in response to prices among actors motivated by the pursuit of economic gain. Each of these transactional modes is present to some degree in virtually all societies, but their relative importance is highly variable.

The defining characteristic of mature capitalist societies, according to Polanyi, is the preeminence of market exchange as the transactional mode around which economic activity is organized. This increased reliance on the market has profound implications for social relations. Reciprocity and redistribution intrinsically express non-economic social relationships (Dalton, 1968, p. 14). Reciprocity typically occurs within the context of family ties or status relationships, whereas redistribution usually entails political or religious affiliations. As a result, economic activity involving these two transactional modes not only yields benefits in satisfying the needs for material subsistence; such economic activity is at the same time *socially integrative*.

Market exchange, in contrast, is more readily divorced or "disembedded" from other social relationships. It can be conducted with little regard for the social ties between parties and thus entails minimal social obligations. In that sense, market behavior is more purely "economic," and it lacks the integrative qualities characteristic of the other transactional modes. Moreover, given the necessity of material resources for human survival, the separation of economic activity from other social relations implies that these other relations will become subservient to economic relations.<sup>5</sup>

<sup>4</sup> See Messner and Rosenfeld (2000) for a more detailed discussion of the similarities between Polanyi's views on capitalist development and key themes in IAT.

<sup>5</sup> For more recent analyses of how the market economy encroaches on other realms of social life, see Bellah, Madsen, Sullivan, Swidler, and Tipton (1991), Currie (1991), and Schwartz (1994).

Polanyi emphasizes the dangers associated with total reliance on market mechanisms in the organization of economic life, a situation he refers to as the “self-regulating market.” He warns that any effort to allow the market-free rein would ultimately be self-destructive because it would undermine the cultural and moral foundations of human existence. Capitalist societies responded to the social devastation accompanying the expansion of markets by developing welfare capitalism – the companion component of the “double-movement.” The welfare state can be viewed as an arrangement for “re-embedding” the economy by regulating markets (Dalton, 1968, p. 26). The welfare state uses redistributive mechanisms to enable citizens to meet material needs independently of the market. As a result, personal well-being does not depend solely on an individual’s capacity to sell his or her labor power. Rather, human labor power is “de-commodified” (Esping-Andersen, 1990). It is not treated as a commodity identical to other commodities. Economic activity is thus once again embedded in social relationships involving mutual obligations of fellow citizens to one another.

In sum, Polanyi identifies an important and an enduring institutional challenge that confronts all market capitalist societies. To forestall the destructive tendencies of the “self-regulating market,” these societies must be able to create and sustain an institutional order wherein the economy does not subvert and undermine non-economic institutions. Polanyi also points to institutional arrangements that might serve this function, specifically those associated with the modern welfare state. However, he devotes little attention to criminal behavior, referring to it only fleetingly as one form of social disorder likely to arise along with the self-regulating market. Institutional anomie theory applies and extends Polanyi’s insights about the challenges of market capitalism for social order to explain the specific phenomenon of crime. It does so by blending these insights with themes from Mertonian and Durkheimian anomie theory, along with other arguments from contemporary criminological theory.

## SOCIAL ORGANIZATION AND CRIME

### Synopsis of IAT

We introduced the core arguments of institutional anomie theory during the early 1990s, when violent crime rates in the United States, already high by comparative standards, were rising. Institutional anomie theory was intended to explain the sharply higher rates of serious crime observed in the United States than in other developed societies and, as noted above, to do so with reference to basic cultural orientations associated with the American Dream. Following Merton, a key component of our thesis is that crime results from the intersection of particular cultural and structural features of society. Cultural values that define success or social standing largely in economic terms and extol the virtues of economic success for all members of society are likely to be “anomic” to the extent that corresponding cultural emphasis is not placed on the normative status of the means for attaining success, and legitimate means are distributed unequally across the social structure.

These arguments faithfully follow Merton’s classical variant of the anomie perspective in criminology. However, we extend Merton by calling attention to features of the social structure beyond the stratification system that are conducive to high levels of serious crime. Crime results when the social controls and social supports of the major social institutions of a society – family, education, political system, religion – are weak or when they operate in such a way as to directly promote crime. This is where the “institutional” component of the theory comes in. The theory’s

emphasis on the crime-facilitating properties of the full range of social institutions is an important element that distinguishes it from Merton's stratification-centered anomie theory.

Culture and social structure intersect within the major social institutions of a society. The overriding function of all social institutions regardless of their manifest content is to orient the behavior of social actors to the society's dominant values, goals, beliefs, and norms (Parsons, 1934/1990).<sup>6</sup> That is, all social institutions have both socialization and social control functions. Institutions also provide members of society with multiple types of social support (Cullen & Wright, 1997). Socialization, social control, and social support are realized through the interrelated statuses and roles that constitute the structural component of social institutions.

Institutions do not and cannot exist in isolation from one another; they are strategically interdependent in the sense that the proper functioning of any one institution depends on inputs from all of the others. For example, the performance of the economy is dependent on the quality of the "human capital" cultivated in the schools. The capacity of the schools to develop human capital is circumscribed by the individual backgrounds that students bring with them from their families. The effective functioning of all three of these institutions – the economy, the education, and the family – presupposes an environment with at least a modicum of social order, for which the polity has formal responsibility. Finally, the effectiveness of the polity in promoting the collective good depends on the nature and quality of economic resources and human capabilities supplied by the other institutions.

The interdependence of major social institutions implies that, for the society to "work" at all, some coordination must exist among institutions. The requirements for the effective functioning of any given institution, however, may conflict with the requirements of another. One source of conflict involves competing demands associated with role performance. Given the fact that time is a finite resource, performing a given institutional role (e.g., working overtime on the job) may preclude performing another role (e.g., taking one's daughter to soccer practice). In addition, the kinds of orientations toward action that are appropriate differ in certain important respects depending on the institutional domain.

An especially stark contrast can be seen between the orientations for interactions embodied in the institutions of a market economy and the family. Economic transactions are governed by the norms of *universalism* and *affective neutrality*. The identities of the participants are not salient in the transaction; functionally equivalent actors are interchangeable (e.g., sales clerks at a store). Moreover, the transaction typically has little emotional content. Interactions in the family, in contrast, are highly particularistic. Family members relate to one another as *particular* individuals on the basis of their statuses, such as parent, sibling, and spouse. In addition, the interactions within the family are characteristically laden with affective content. People are thus required to shift their basic orientations toward interactions as they negotiate the different institutional demands that they face.

Any given society will, therefore, be characterized by an arrangement of social institutions that reflects a balancing of the sometimes competing claims and requisites of the different institutions, yielding a distinctive "institutional balance of power." A core claim of IAT is that the type of institutional configuration that is conducive to high levels of crime is one in which the claims of

<sup>6</sup> For a formal treatment of the conceptualization of institutions that informs IAT, see Messner, Thome, and Rosenfeld (2008).

the economy are awarded highest priority in the system of institutions. In such a society, the economy tends to *dominate* the institutional balance of power. This kind of institutional arrangement resembles the “self-regulating market” as described in Polanyi’s writings. Under such conditions, economic activity is “disembedded” from other institutions, and these non-economic institutions become subservient to the market.

We propose that economic dominance is manifested in three principal ways. One is *devaluation*. Non-economic institutional roles tend to be devalued relative to economic roles. A second manifestation of economic dominance is *accommodation*. Individuals feel pressures to sacrifice other roles to economic roles when conflicts emerge. The third manifestation of economic dominance is *penetration*. The logic of the marketplace intrudes into other realms of social life.

When the free-market economy dominates other institutions, these non-economic institutions lose their fervor and force, and they are unable to perform their distinctive functions effectively, including the exercise of social control. Diminished social controls provide fertile soil for the cultivation of criminal propensities, for reasons well established in the longstanding “control” traditions in criminology (Hirschi, 1969; Kornhauser, 1978). Similarly, reduced social support stimulates criminal tendencies directly by weakening stakes in conformity and indirectly by decreasing the effectiveness of existing social controls (Cullen, 1994). Criminality is also stimulated by a strong cultural emphasis on the goal of economic success and a weaker emphasis on the legitimacy of the means for attaining success, as recognized by Merton. In short, anomic cultural tendencies are both realized and reinforced when the free-market economy dominates the institutional structure of a society. The result is a weakening of both external controls and internalized moral prohibitions against criminal behavior, leading in turn to high rates of crime.

### Empirical Applications

A limited but accumulating body of empirical research has evaluated some of the core claims of IAT (Messner & Rosenfeld, 2006; Rosenfeld, 2006). The research literature is generally supportive of the theory but also directs attention to areas needing refinement and further development. The most common empirical applications of the theory have involved efforts to assess the impact of indicators of institutional dynamics on crime at the macro level. In accordance with Polanyi’s thesis of the “double movement” in the development of capitalist societies, several studies have operationalized “economic dominance” with indicators of social welfare policies and considered how these indicators act in concert with measures of the vitality of non-economic institutions such as the family and education to affect levels of crime. The general conclusion from these studies is that the expansiveness and generosity of the welfare state are associated with reduced levels of crime, especially lethal criminal violence, either directly or by mitigating the effects of other criminogenic conditions, such as economic inequality or economic insecurity (Messner & Rosenfeld, 2006; Pratt & Cullen, 2005).

The macro-level research has directed less attention to the cultural dynamics than to the institutional dynamics implied by IAT. This is not entirely surprising given that cultural phenomena tend not to be recorded and published in standard administrative data sources. Efforts to circumvent these data limitations by using the World Values Survey (WVS) to assess claims in IAT have yielded mixed support for the theory. Jensen (2002) has addressed the claim that the United States exhibits a distinctive complex of cultural values, presumably as a result of

economic dominance in the institutional structure. He compares the United States with other nations on items from the WVS that might be viewed as indicators of the importance awarded to economic roles relative to other roles, the prominence of economic success goals, and the adoption of self-interested and utilitarian standards concerning law breaking. The results of his analyses indicate that the survey respondents in the United States are not distinctive in displaying particularly self-interested, utilitarian, or materialistic orientations.

Cao (2004) also uses items from the WVS to make cross-national comparisons of cultural orientations, focusing specifically on the concept of "anomie." Cao creates an anomie index by combining responses to six statements that entail justifications of the following types of criminal or deviant behaviors: fraudulently claiming government benefits, avoiding a fare on public transport, cheating on taxes, buying stolen property, accepting a bribe, and failing to report damage in a vehicle accident. Cao reports that the average level of anomie so measured in the United States is not high in comparison with other nations, challenging the notion that anomie is especially prevalent in the United States.

In contrast with these studies, we have identified evidence that is consistent with claims of IAT in further analyses of the WVS (Messner & Rosenfeld, 2006). The survey asks respondents whether they feel that competition is good rather than harmful, whether they favor owner management of business and industry, and whether they would prefer greater private ownership of business and industry. For these items, there is support for the notion of "American exceptionalism" in cultural attitudes that reflect the dominance of the market capitalistic economy in the institutional structure. The United States ranks at the top or tied for the top with respect to those rating competition favorably and those preferring private ownership and control of business enterprises.

Additional supportive evidence pertaining to the impact of cultural factors has been reported by Baumer and Gustafson (2007). In a highly innovative analysis, these authors assess key propositions from both IAT and Merton's (1938) classic anomie theory using data on individual value commitments taken from the General Social Survey aggregated to US counties and county clusters. By aggregating individual survey responses to the area level, they are able to characterize populations according to theoretically strategic cultural constructs such as the strength of commitment to monetary success goals and the degree of respect for the legitimate means of attaining monetary success. They also include several measures of non-economic institutional strength (e.g., time spent with family, marriage rates, attitudes toward divorce, school expenditures, voter participation, welfare assistance). Their unique data set permits the analysis of "main effects" of cultural and institutional measures, as well as "interaction effects." IAT implies that crime rates will be positively related to the strength of commitment to monetary success and negatively related to the degree of respect for the legitimate means for attaining success. These are hypothesized main effects of cultural orientations. The overarching hypothesis pertaining to the main effects of institutional structure is that crime rates will vary inversely with the strength of non-economic institutions. IAT further implies that the any criminogenic effects of cultural orientations on crime rates will be enhanced under conditions of weak non-economic institutions – the hypothesized interaction effects.

Their analyses yield a complex picture, with some hypotheses receiving support (e.g., a criminogenic effect of a strong commitment to monetary success and a weak commitment to the legitimate means for pursuing success) and others not receiving support (e.g., higher level statistical interactions between cultural orientations and indicators of the vitality of non-economic institutions). Nevertheless, Baumer and Gustafson's research illustrates the potential for combining

survey-based data with records from administrative sources to assess propositions about both cultural and institutional dynamics derived from IAT.

Efforts to apply IAT at the individual level are quite rare. A notable exception is a study of a minor form of deviance – student cheating – by Muftic (2006). Muftic explicitly sets out to assess the “robustness” of IAT by creating scales to measure cultural values associated with the American Dream such as individualism, universalism, achievement orientation, and “monetary fetishism.” She also constructs indicators of commitment to the family, the educational system, the economy, and the polity. Using data for a sample of foreign-born and native-born undergraduates, Muftic finds that students who adhere to the values of universalism and the fetishism of money were more likely than others to cheat. In addition, the indicators of commitment to the family and the polity were negatively associated with the probability of cheating, as expected. Hypotheses about interactions between cultural and institutional variables, however, were not supported. The most powerful predictor of self-reported cheating by far was location of birth. The US students were much more likely to report cheating than were the foreign-born students.

The most ambitious and sophisticated attempt to apply insights derived from IAT at the individual level is the research by Karstedt and Farrell (2006). They focus on relatively common, “morally dubious” acts, which they characterize as the “crimes of everyday life” (p. 1011). These include behaviors such as avoiding taxes, not paying fees, and claiming benefits, subsidies, and refunds one is not entitled to. They theorize that a key determinant of the level of involvement in the crimes of everyday life is the “syndrome of market anomie” which involves a lack of trust of others in the marketplace, fear of becoming a victim of the disreputable practices of others, and legal cynicism. They estimate structural equation models to assess the impact of the syndrome of anomie, treated as a multidimensional latent construct, on measures of intentions to engage in the crimes of everyday life. Applying their models to survey data collected in England and Wales and the former Eastern and Western Germany they find that the syndrome of anomie is positively associated with intentions to offend and mediates the effects of other relevant predictors of offending.

The Muftic (2006) and Karstedt and Farrell (2006) papers illustrate the explanatory potential of IAT when applied to individual rule breaking. But they also raise the issue of how a theory originally formulated at the macro level of analysis should be elaborated conceptually so that it “makes sense” of individual behavior in ways that are compatible with its macro-level focus. That is one of several “problematics” in IAT that need attention as it undergoes continued empirical and theoretical assessment, as discussed below.

## CONTEMPORARY PROBLEMATICS

The continued vitality and usefulness of IAT as an explanation of crime will depend on the success of efforts to reappraise and where necessary refine and elaborate its core propositions in light of empirical research findings and challenges from alternative explanations. One such challenge from individual-level criminological perspectives, already mentioned, involves the theory’s implications for individual behavior. Other problematics meriting attention include evaluating the theory’s capacity to explain changes in crime over time as well as across macro-social units and expanding IAT’s scope conditions to encompass the problem of punishment. We discuss each

of these problematics with an eye to stimulating an agenda for future research and theoretical assessment.<sup>7</sup>

### **The Implications of IAT for Individual Behavior**

In early statements we emphasized that IAT is intended to explain differences across social systems in levels and types of crime or across groups (e.g., race, gender) within a single system (Messner & Rosenfeld, 1996). But IAT also has implications for the explanation of individual variation in criminality that are elaborated in recent publications (Messner et al., 2008) as well as current empirical research (Karstedt & Farrell, 2006; Muftic, 2006). Crime rates ultimately are the product of individual acts of criminal behavior. Social institutions and dominant cultural orientations not only shape individual choices but are reconstituted and strengthened by the accumulated acts of individuals. If they were not they would soon lose their capacity to channel social action and would be stripped of their “institutional” significance.

Social institutions have both an “objective” and “subjective” dimension (Parsons, 1934/1990, p. 319). The objective dimension is emphasized by the sociological observer and is particularly relevant to macro-level accounts of the structure and functioning of institutions. The subjective dimension involves the coordinated behaviors of individual actors who choose particular means to attain institutionally defined ends or goals. IAT posits that, when and where monetary success is an overriding cultural goal and the economy dominates other social institutions, individuals will tend to choose methods for achieving their personal goals on the basis of purely technical considerations. Means will be chosen, in other words, according to their efficiency and effectiveness without regard to their normative status. When individuals adopt means according to how well they “work” rather than whether they are right or wrong – the essence of anomie – we should expect high levels of criminal behavior to result.

Emile Durkheim’s distinction between moral and egoistic individualism is also relevant to the explanation of individual action in IAT (Messner et al., 2008; Thome, 2007). Durkheim argued that the centuries’ long decline in homicide in Europe is connected to the rise of “moral individualism” accompanying the development of highly differentiated, industrial societies. Moral individualism emphasizes the sanctity of the individual person and bestows on the individual rights and responsibilities for the care and protection of others. Moral individualism, however, has something of an evil twin in “egoistic” individualism, which portrays the individual as a hedonistic pleasure seeker interested only in satisfying his or her personal desires. Durkheim believed that egoistic individualism was a “pathological” cultural aberration that accompanied the rapid transition of traditional to industrial society and would die out over time. We are less certain and suggest that egoistic individualism is highly compatible with an enduring institutional order dominated by a free market economy and with the anomic selection of means based on their

<sup>7</sup> Although not discussed here, we also note that key problematics for the further development of IAT include systematically incorporating the institution of religion into the theoretical framework and attending to the gendered nature of social institutions. For suggestive findings relevant to the extension of IAT to the institution of religion, see Antonaccio and Tittle (2007). For discussions of the centrality of gender to criminological phenomena, see Miller and Mullins (2006) and Hagan, Simpson, and Gillis (1987).



technical effectiveness in achieving goals. Accordingly, the long-term trend toward decreasing homicide might level off and even turn around as egoistic individualism gains ascendancy over moral individualism.<sup>8</sup> Durkheim's distinction between the two types of individualism, and his portrayal of egoistic individualism in particular, thus direct attention to a potent source of cultural stimulation of individual action likely to produce high levels of criminal behavior.

In summary, although individual behavior cannot be understood apart from the cultural and social context in which it occurs, the cultural and institutional structures of a society are continuously replenished and enlivened by individual decisions and actions. IAT predicts that individuals who value the goal of economic success, select means for attaining success solely in terms of their technical effectiveness, and exhibit the pleasure-seeking and self-serving qualities of egoistic individualism will be more likely, than others, to engage in criminal behavior. Larger proportions of such persons, according to the theory, are likely to be found in social systems in which anomie is widespread and the economy dominates the institutional order. Although we have noted that some research offers support for these claims, more extensive research is necessary to confirm these implications of IAT for individual behavior.

### Applying IAT to Temporal Change in Crime Rates

Nearly all of the macro-level research on IAT has been cross-sectional in nature. Typically, one society or community is compared in snap-shot form with others at a single point in time. But, of course, crime rates vary over time within social units and not merely across different social units. For example, as mentioned above homicide rates fell sharply in European nations from the Middle Ages through the 19th and 20th centuries (Eisner, 2003). On occasion crime rates also exhibit abrupt turning points and rise or decline rapidly over very short time intervals. Crime rates in the United States, for example, increased dramatically in the mid-1960s and fell just as dramatically during the 1990s (Blumstein & Wallman, 2005). Because cultural values and social institutions tend to change slowly over time, in principle IAT can explain related long-term changes in crime. We have discussed Durkheim's explanation for the long-term decline in European homicide rates and suggested that the persistence of "egoistic individualism" in some capitalist societies may account for their elevated rates of crime. But the same logic seems to imply that a theory such as IAT is *incapable* of explaining short-run changes in crime. How can a theory that directs attention to enduring features of a social system explain abrupt reversals or year-to-year fluctuations in its crime rates?

There are, of course, historical exceptions to the rule of long-term stability in social systems. Social institutions may undergo rapid change during or following warfare. The largely peaceful collapse of the Soviet system resulted in fundamental changes to economic and political institutions in very short order, and those changes have been linked to skyrocketing levels of violent crime in Russia (Pridemore, 2005). Researchers have invoked IAT to explain the rapid crime increase in post-Soviet Russia (Kim & Pridemore, 2005). But IAT is also useful to explain short-

<sup>8</sup> See Eisner (2008) for evidence on increasing homicide rates during the latter decades of the 20th century in European nations, following a long-term decline.

run variations in crime rates that do not result from wholesale institutional change. Consider the relationship between crime trends and unemployment rates in the advanced capitalist societies.

A long tradition of research on the connection between crime and unemployment has produced mixed results, with some studies showing a positive relationship between crime and the unemployment rate, some showing a negative relationship, and others showing no relationship. We have proposed that the disparate findings of this research result in part from the failure to consider how the welfare state conditions the effect of the economy on changes over time in crime rates (Rosenfeld & Messner, 2007). Broad and generous social welfare provisions cushion individuals and families against the periodic economic downturns that are characteristic of capitalist economies and drive up crime rates. It follows that the effect of economic cycles on crime should be weaker in nations with ample unemployment, health, family, and pension provisions than in nations lacking such protections from market forces. We tested this hypothesis by examining the effect of unemployment rates on the homicide rates of 13 advanced capitalist nations over a 30-year period. As expected, the magnitude of the effect of unemployment on homicide differs according to the scope and generosity of the nations' social welfare provisions. The results reveal no significant unemployment effect on homicide in nations with extensive social welfare provisions and significant, positive effects in those with more limited welfare protections from market forces.

The modern welfare state arose, in Polanyi's (1944/1957) terms, as a counterweight to the "self-regulating market." From the perspective of IAT, by imposing limits on the institutional dominance of the market economy and encouraging an ethic of collective responsibility for individual well-being, the welfare state serves to temper the social and cultural forces responsible for high levels of crime. In our view IAT offers distinctive and useful insights regarding short-run changes in crime, even when the basic features of social systems remain unchanged.

### **The Problem of Punishment**

A final issue that should be addressed by any criminological theory with claims to comprehensiveness is the problem of punishment. Recent scholarship on imprisonment and the "mass incarceration" program in the United States directs attention to the institutional underpinnings of the punishment process in the advanced societies, but does not integrate theories of punishment with theories of crime (Garland, 1990, 2001; Simon, 2007). The heavy reliance on formal social control, and specifically imprisonment, as a response to crime is explicable from the perspective of IAT. The same social and cultural conditions that account for high levels of crime in developed industrial societies can also explain mass incarceration.

Societies in which "soft" behavioral controls have been vitiated by the institutional dominance of the economy can be expected to rely on imprisonment as a means of final resort to control high levels of violent crime. Social welfare provisions and imprisonment have been viewed as alternative forms of social control in advanced capitalist societies (Piven & Cloward, 1971; Spitzer, 1975). Nations with highly developed welfare states tend to have lower levels of incarceration than nations in which social welfare provisions are more limited (Sutton, 2004). We can also expect societies dominated by the economy to exhibit an anomic insensitivity to the means by which the collective goal of crime control is attained and, therefore, to pursue punishment policies such as mass incarceration without scrupulous attention to the economic, social, and moral costs of escalating rates of imprisonment. At the same time, crime control through mass

incarceration is incompatible with a strong cultural emphasis on collective responsibility for individual welfare and the moral worth of the individual (Messner et al., 2008). That is another important reason why nations with highly developed welfare states tend to have low rates of incarceration.

In short, we propose that the resort to formal social control generally and the adoption of a policy of mass incarceration in particular are consistent with some of the core claims of IAT. One of the most promising aspects of the theory is the possibility of integrating explanations of crime and punishment within a single conceptual framework. Such an integrated theoretical framework has the potential to generate novel predictions that can inform future empirical research.

## SUMMARY AND CONCLUSIONS

As we have explained in this essay, IAT represents an effort to draw upon core insights from the disciplines of sociology, political economy, and criminology to formulate an explanation of crime that directs attention to the fundamental features of social organization. It is predicated on the premise that although acts of crimes are ultimately committed by individuals who possess a wide ranging set of motives, a full understanding of these acts requires that they be situated within the larger cultural and institutional context of a society. With respect to specific substantive claims, IAT postulates that the kind of society that is likely to exhibit high levels of crime is one in which the institutional structure is characterized by the dominance of the economy relative to non-economic institutions, the central values of the culture emphasize an egoistic form of individualism, and the social norms fail to exert much restraining power on the selection of the means of action. The theory also implies that the particular individuals in such societies who are likely to be prone to criminal behavior are those who assign priority to the goal of economic success in comparison with other goals, who select means for attaining success solely in terms of their technical effectiveness without concern for their moral status, and who display the pleasure-seeking and self-serving qualities of egoistic individualism. Research has yielded suggestive evidence consistent with some of the core claims of IAT, but much more empirical testing is needed to firmly establish the utility of the perspective.

We close with a final comment on theoretical integration. Over the years, criminologists have been engaged in vigorous, even contentious, debates about the value of integrating different theoretical perspectives versus developing theories that have a truly distinctive character. One influential position in this debate has been articulated forcefully by Travis Hirschi (1979, 1989). Hirschi argues that efforts to integrate theories typically end up producing unsatisfying hybrids that are marred by internally inconsistent assumptions and contradictory premises. He calls for theory competition rather than integration or amalgamation. According to this position, theorists should embrace wholeheartedly and defend tenaciously their distinctive arguments. Then, presumably through a process analogous to natural selection, the fittest theories will survive over time and emerge to dominate the field.

The knowledgeable reader will realize that this has not been our approach to theorizing. To the contrary, in formulating IAT we have drawn liberally on diverse literatures, including some of the classics in social thought and multiple variants of mainstream criminological theorizing, and have tried to fit together various pieces from this literature to craft a plausible explanation of the macro-sociological dynamics underlying crime. The end product of such a process will inevitably

be a rather “untidy” amalgamation of arguments. Nevertheless, we suspect that theories of this type will be required to make sense out of the complex social reality of crime.

We agree with Hirschi and other critics of theoretical integration (e.g., Kornhauser, 1978) that combining truly incompatible elements from differing theories produces confusion and misguides empirical inquiry. But the lesson in our view is to carefully evaluate the underlying assumptions about human nature and social order of the candidates for integration, rather than avoid theoretical integration at all costs. Theoretical insights are often highly adaptable to varying contexts. When it comes to theory development, “separate and unequal,” in Hirschi’s (1979) terms, is not always better. Knowledge is sometimes better served and innovative discoveries are made when congruent insights from differing perspectives are combined in new ways. Sometimes, integration is better.

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## CHAPTER 12

# Social Disorganization Theory: Then, Now, and in the Future

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### INTRODUCTION

One of the most recognized facts about crime is that it is not randomly distributed across neighborhoods within a city. That is, crime does not occur equally in all areas; rather, it tends to cluster in certain locales but not others. It is for this reason that residents can often identify where the “good” and “bad” areas of a city are. Social disorganization theory takes this fact—the non-random distribution of crime—as a point of departure for explaining crime. It is one of only a handful of social structural theories of crime and the only one to consider why rates of crime vary across areas such as neighborhoods. Two key questions of interest for social disorganization theorists are as follows: (1) Why is crime higher in some neighborhoods than others? (2) Is there something about the characteristics of these neighborhoods themselves (above and beyond the people who live there) that fosters crime? Social disorganization theory has long occupied an important place in criminological thought and continues to do so well into the twenty-first century. Despite its popularity and utility for understanding crime, nagging issues, both substantive and methodological, remain. Before I discuss these issues, I briefly describe the history of social disorganization theory and its main arguments below.

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## HISTORY OF SOCIAL DISORGANIZATION THEORY

Social disorganization theory, like many other theories reviewed in this book, is a product of its time. During the 1920s and 1930s, researchers at the University of Chicago became increasingly concerned about what they were witnessing in terms of the effects of growing urbanization, industrialization, and immigration on patterns of social organization in Chicago neighborhoods. Two researchers in particular, Park and Burgess (1925), studied how these drastic changes of the time were affecting the city. With backgrounds in human ecology, they likened the growth of the city to ecological competition, concluding just as there is a natural ecology where animals and plants compete for space and existence, so there is a social ecology where humans compete for scarce and desirable space. Their observations led to the Concentric Zone Theory, which emphasized a process of invasion, dominance, and succession to understand city life. First, they noted the expansion of the central business district (CBD), the downtown area of the city. As Chicago continued to grow in population, so did the CBD expand outward in successive stages. With the expansion of the CBD came the deterioration of residential properties in the area, since most residents moved farther away to escape the hustle and bustle of the area and left residences there uninhabited and uncared for. This deterioration and change ultimately caused “social disorganization.” In their zone theory, Park and Burgess (1925) explained that cities can be divided into sections that correspond to areas of social (dis)organization.

At this stage, crime was not part of the equation. Crime did not become the focus of study until researchers Shaw and McKay (1942) entered the scene. Their orientation was a direct extension of the ecological perspective on community processes that had been developing at the University of Chicago under the guidance of Park and Burgess. They applied the zone theory to the study of delinquency. Their primary interest was in determining the extent to which differences in economic and social characteristics of local areas paralleled variations in rates of delinquency. Some questions they sought to examine included the following: To what extent do variations in rates of delinquency correspond to demonstrable differences in economic, social, and cultural characteristics of local communities in different types of cities? How are rates of delinquency in particular areas affected over a period by successive changes in the nativity and nationality composition of the population? Under what economic and social conditions does crime develop as a social tradition and become embodied in a system of criminal values? What are the implications, for treatment and prevention, of wide variations in rates of delinquency in different types of communities? (Shaw & McKay, 1942).

To begin to address these questions, they examined the distribution of delinquency based on juvenile court cases and commitments presented for periods roughly centered around 1900, 1920, and 1930. Shaw and McKay (1942) also collected extensive fieldwork data in Chicago neighborhoods over this time period. The results of their analysis, published in *Juvenile Delinquency in Urban Areas*, showed a certain concentration of delinquency—its distribution was closely related to the location of industrial and commercial areas and to the composition of the population (e.g., rates of poverty, residential mobility, and racial heterogeneity). Collectively, the findings from Chicago school studies formed the basis of social disorganization theory. These studies shaped the development and direction of the theory for years to come.

Two key findings from the Chicago school stand out in importance. First, researchers concluded that there is a co-occurrence of crime and social ills such as low socioeconomic status (represented as the percentage of families on relief, home ownership levels, median rentals, and occupation) across neighborhoods in Chicago. Stated alternatively, delinquency, crime, and

deviance in general go hand in hand with other social problems such as poverty, unemployment, and residential turnover. This finding offset biological determinism and rational choice explanations for criminality, which had long dominated thinking about crime. Second, Chicago researchers documented the persistence of high-crime areas, noting they remained high-crime areas despite which racial/ethnic group inhabited the area. In other words, some neighborhoods in the city appear to be high-crime or deviance areas, regardless of the characteristics or nationality of the people living within them. The fact that high rates of crime and deviance can persist in certain neighborhoods despite repeated complete turnovers in the composition of their populations suggested to many, even decades later, that “kinds of places” explanations are needed along with “kinds of people” explanations (Stark, 1987).

### BASIC TENANTS OF SOCIAL DISORGANIZATION THEORY

A central element of the theory is that communities can be characterized along a dimension of organization; at one end are socially organized communities and at the other are socially disorganized communities. This is fundamental to the theory because social organization is key to combating crime. Socially organized communities have solidarity (internal consensus on important norms and values such as a crime-free community), cohesion (strong bonds among neighbors), and integration (social interaction among residents), which collectively help to lower crime rates. Socially disorganized communities, however, lack these characteristics and thus have higher crime rates. The connection between social organization and crime has to do with informal social control, or the community’s ability to regulate itself. In organized communities, there is evidence of (1) informal surveillance, or the casual but active observation of neighborhood streets that is engaged in by individuals during daily activities, (2) movement-governing rules, or the avoidance of areas in or near neighborhoods viewed as unsafe, and (3) direct intervention, or the questioning of strangers and residents of the neighborhood about suspicious activities, chastening adults and admonishing children for behavior that is defined as unacceptable (Greenberg, Rohe, & Williams, 1982). In short, socially organized communities, marked by these characteristics, have high levels of informal social control and lower rates of crime.

Social disorganization can thus be defined as the inability of local communities to realize the common values of their residents or solve commonly experienced problems (Bursik, 1988; Kornhauser, 1978, p. 63). Along these lines, we do not need communities so much to satisfy our private needs, which are best met elsewhere, but to express and realize *common* values and standards (such as a crime-free community). What social disorganization theory has to offer then is a specification of the effects of neighborhood characteristics on the capacity and ability of community residents to implement and maintain public norms (Sampson, 1987).

So which neighborhood characteristics promote social organization and which are likely to create disorganized neighborhoods? Theorists have typically focused on the effects of poverty, residential mobility, and racial/ethnic heterogeneity. Studies find that these ecological characteristics can and do influence the degree of social (dis)organization, with implications for crime and delinquency. For example, consider residential mobility, or the frequency with which people move in and out of a neighborhood. Some communities are stable with people living in the same homes for decades while others are unstable and experience significant turnover. It is not difficult to understand how residential mobility can disrupt a community’s network of social relations. If people continually move in and out, it becomes harder for residents to know, trust,



and interact with one another, which reduces informal social control needed to prevent crime. According to the theory, communities marked by high rates of residential turnover should experience high crime rates, precisely because these communities suffer from weak social ties and little informal control. In fact, disorganization studies find just this (Bellair, 2000; Chamlin, 1989; Kubrin, 2000; Sampson & Groves, 1989; Warner & Rountree, 1997). Similar results have been reported with respect to the effects of poverty, racial/ethnic heterogeneity, and other ecological factors (e.g., divorce rates, unemployment) thought to affect social ties and informal control within communities.

Given the above discussion, the basic social disorganization causal model can be expressed as follows: exogenous neighborhood characteristics → social ties → informal social control → crime. In line with this causal model, Sampson (1987) describes the nature of the relationships among these factors:

Neighborhood characteristics such as family disorganization, residential mobility, and structural density weaken informal social control networks; informal social controls are impeded by weak local social bonds, lowered community attachment, anonymity, and reduced capacity for surveillance and guardianship; other factors such as poverty and racial composition also probably affect informal control, although their influence is in all likelihood indirect; residents in areas characterized by family disorganization, mobility, and building density are less able to perform guardianship activities, less likely to report general deviance to authorities, to intervene in public disturbances, and to assume responsibility for supervision of youth activities; the result is that deviance is tolerated and public norms of social control are not effective (p. 109).

Stark (1987) provides another example relating the various factors to one another when he identifies aspects of urban neighborhoods that characterize high deviance areas of cities (e.g., density, poverty, transience), responses to these aspects (e.g., moral cynicism among residents, diminished social control), and how these responses can amplify the volume of deviance in these areas (e.g., by driving out the least deviant, by further reducing social control). His essay offers an integrated set of 30 propositions as an approximation of a theory of deviance places.

There are two important points to consider with respect to this theory. First, social disorganization is a property of neighborhoods, not individuals. It is incorrect to say that residents are disorganized. Instead, one must refer to neighborhoods as disorganized. And second, community characteristics are only indirectly related to crime. Poverty, mobility, heterogeneity, and other ecological characteristics only cause crime indirectly by increasing levels of social disorganization and reducing informal social control. In short, community characteristics and crime are not directly related.

## ONGOING CHALLENGES FACING SOCIAL DISORGANIZATION THEORY

Like any other theory presented in this book, there are ongoing challenges facing social disorganization theory, some of which have been resolved more fully than others. These challenges have been discussed at length in two important assessments of the theory at two points in time: Bursik (1988) and Kubrin and Weitzer (2003a). Below I present some of the key points from these works.

Early on there were conceptualization and operationalization problems inherent in social disorganization theory. A key problem was with the measurement of social disorganization itself (Bursik, 1988, p. 526). Shaw and McKay (1942) at times did not clearly differentiate the presumed outcome of social disorganization (i.e., increased rates of crime and delinquency) from

disorganization itself. The delinquency rate of an area was both an example of disorganization and something caused by disorganization. This problem was resolved when theorists attempted to clarify the unique conceptual status of social disorganization by defining it in terms of the capacity of a neighborhood to regulate itself through formal and informal processes of social control, as noted earlier.

More recently, measurement issues have surfaced with respect to social disorganization's mediating concepts. Recall it is the mediating concepts of social ties and informal social control that account for the relationship between ecological characteristics of communities (e.g., poverty) and crime. In the last few years, researchers also have considered the mediating effects of related concepts such as collective efficacy and social capital. Collective efficacy builds on the concept of social ties arguing that ties may be necessary but not sufficient for social control and that a key factor of purposive action (i.e., how ties are activated and resources mobilized to enhance social control) depends on conditions of mutual trust and solidarity among neighbors (Sampson, Raudenbush, & Earls, 1997). With the concept of social capital, or those intangible resources produced "in relations among persons that facilitate action" for mutual benefit (e.g., combating crime) (Coleman, 1988, p. S100), researchers argue that it is the resources transmitted through social ties, not the ties per se, that are key to facilitating social control (Kubrin & Weitzer, 2003a, p. 377).

As you may have noticed, there is some conceptual fuzziness regarding the mediating concepts of social disorganization. Based on their definitions, it is not always clear how social ties differ from informal control or how collective efficacy and social capital are distinctive from, and truly represent an improvement over, ties and control (Kubrin, Stucky, & Krohn, 2008, p. 99; see also Kubrin & Weitzer, 2003a). Conceptual fuzziness has meant that some studies use survey questions that may reflect any or all of the concepts, depending on how one looks at things. What are needed are precise definitions, clearer distinctions, and better operationalization of concepts in studies. As Kubrin and Weitzer (2003a) argue,

Methodologically, researchers should pay particular attention to developing indicators of concepts that are clearly distinguishable from each other, and should incorporate all measures into their research designs. In this way, the effects of social ties, capital, and efficacy can be directly compared (p. 378).

A second ongoing challenge facing disorganization researchers has to do with the question, what is a neighborhood? Both in terms of conceptualization and operationalization, social disorganization theory has struggled with the notion of "neighborhood." Conceptually, there is wide variation across individuals in what constitutes a neighborhood, including their own. Even when asked about their own neighborhood, there is wide variation across individual responses about the conceptual definition of a neighborhood. If we were to ask five residents living in the same apartment building to define their neighborhood, I am sure we would get five different answers. In terms of operationalization, neighborhoods are often measured as the block, block group, census tract, or even police precinct in which one resides. Apart from uncertainty as to whether these accurately constitute one's neighborhood in any true sense, officially designated units such as these are meaningless to most residents. How can many of us identify the census tract number where we live, let alone the boundaries of the tract indicating where one ends and another begins? Perhaps more importantly, as Bursik (1988) notes,

It is fairly easy to derive measures of the ecological dynamics pertinent to the social disorganization model (e.g., socioeconomic composition, population turnover, and population heterogeneity) from published census materials. This is not the case for the concept of social disorganization itself, however. . . (p. 530).

In short, the issue of what constitutes a neighborhood and how neighborhoods should be measured in studies has not been fully resolved.

A third ongoing issue relates to the theory's reliance on official data. All but a handful of studies use official data to document crime patterns across neighborhoods when testing social disorganization theory. Even Shaw and McKay (1942) relied on official court records to determine the distribution of juvenile court cases and commitments. Yet few scholars have considered the extent to which neighborhoods themselves are a consideration in police and court decisions and there is a significant degree of community-specific bias that may exist within police departments (Bursik, 1988). In other words, some neighborhoods are more likely to be "over-policed" than others are. Thus, the assumption that policing practices do not vary across neighborhoods is unfounded. The question remains: Given variation, how might policing practices influence official data collection? Whatever the answer, it is clear that official rates represent a mixture of differentials in neighborhood behavior patterns, neighborhood propensities to report behavior, and neighborhood-specific police orientations. Thus, an ideal situation involves collecting alternative indicators of neighborhood crime and delinquency based on self-report or victimization data to be used in conjunction with official records. Luckily, such data collection efforts are occurring more and more through the use of large-scale surveys in cities throughout the United States (e.g., The Project on Human Development in Chicago Neighborhoods, The Seattle Neighborhood and Crime Project, and The Neighborhood Project in Denver, Chicago, and Philadelphia).

A reliance on official data has also led to researchers' inability to empirically test the mediating factors linking neighborhood characteristics such as poverty to crime rates in disorganization studies. Thus, a final ongoing challenge has to do with researchers' ability to empirically test the mediating factors of social ties, social control, collective efficacy, and social capital. Byrne and Sampson (1986) noted that a major conceptual limitation of ecological research is the decided lack of attention paid to the processes that mediate the effect of community characteristics. Twenty years later, things have not changed much. Only a handful of studies (e.g., Elliott et al., 1996; Sampson & Groves, 1989; Warner & Rountree, 1997) successfully document the theoretical processes laid out by social disorganization theory—namely that exogenous characteristics of neighborhoods lead to crime and delinquency precisely because they affect social ties and informal social control. In fact, the findings from this small but critical literature suggest that this process may not be so straightforward. A finding emerging from the literature with increasing frequency is that social ties may not play the expected role (see Kubrin & Weitzer, 2003a, pp. 375–379).

## NEW CHALLENGES AND FUTURE DIRECTIONS

The challenges described above are not new to social disorganization theory. Researchers have worked hard and continue to work hard to resolve many of these issues. As the theory develops and progresses and as our society evolves over time, new challenges and issues emerge alongside the older ones. Although there are many new challenges now confronting the theory that deserve discussion, I will present two of the most critical. The resolution of these issues will greatly affect the direction social disorganization theory will take in the upcoming decades.

The first pressing issue facing researchers is related to the role of neighborhood subcultures in social disorganization theory. Note that neighborhood subculture was a key interest for Shaw and McKay (1942) and other early theorists. As indicated earlier, a key question for these

researchers had to do with how neighborhood subcultures became entrenched and further affected rates of delinquency. They questioned, Under what economic and social conditions does crime develop as a social tradition and become embodied in a system of criminal values?

In their study, Shaw and McKay (1942) found evidence regarding neighborhood subculture—they noted key differences in social values across communities—as well as documented how this variation was linked to variation in rates of crime and delinquency across communities. First, in areas of high economic status, they found a similarity in values, especially those related to the welfare of children. There was pressure exerted on children in these communities to keep them engaged in conventional activities. Second, in middle- and high-class areas, they found similar values with respect to social controls, expressed in institutions and voluntary associations designed to perpetuate and protect those values. And third, by contrast, they found that areas of low economic status were characterized by diversity in norms and standards of behavior, rather than uniformity. Children were exposed to a wide variety of contradictory (and sometimes unlawful) standards rather than to a relatively consistent and conventional pattern. Specifically, it was determined that in low-socioeconomic-status communities, children were exposed to adult criminals, from whom they could learn (illegal) behavior.

Following Shaw and McKay (1942), other researchers took interest in directly documenting aspects of “lower class culture,” wanting to determine how it related to delinquency within poor communities. Miller (1958) presented six focal concerns of lower class culture including trouble, toughness, smartness, excitement, fate, and autonomy. His thesis was that a dominant component of the motivation underlying delinquent behavior engaged in by members of the lower class involves the positive effort to achieve status, conditions, or qualities associated within the actor’s most significant cultural milieu.

Although the role of neighborhood culture was evident in the explanations of early disorganization researchers, over time, this component of the theory became less and less important. In fact, later work downplayed cultural influences, and researchers focused almost exclusively on structural factors and their relationship to neighborhood crime rates. Perhaps the most ardent voice against incorporating culture came from Kornhauser (1978), who wrote, “So abused have been the concepts of culture and subculture in the explanation of delinquency that if these terms were struck from the lexicon of criminologists, the study of delinquency would benefit from their absence” (p. 253). Sampson and Bean (2006) further characterize Kornhauser’s position:

In a blistering critique, Kornhauser argued that so-called deviant cultures are entirely epiphenomenal. No one truly values crime, chaos, and misery. The cultural particularities of criminals are pseudocultures, the stories people tell to account for their disgrace after the fact. The real causes of petty crime, violence, and unemployment operate in the structural realm of networks, labor markets, and human capital. When hardened criminals glorify their choices and disavow the straight life, their words are only sour grapes. Obviously, the causal power of culture in this view is weak to nonexistent (p. 22).

Most recently, however, cultural explanations have been resurrected in studies of social disorganization, which, along with others, I argue is a positive development. Cultural explanations are increasingly being incorporated into standard disorganization models to predict and understand neighborhood crime rates. Research in this area is new, so there is much to be worked out with respect to the precise role that subculture occupies in the theory. Yet researchers are beginning to sort out these issues. Kubrin and Weitzer (2003a, p. 379–381) discuss, at length, the varying ways in which culture may be (re)incorporated into explanations by considering alternative cultural explanations. They first describe the oppositional subculture model, where it is argued that lower class communities generate distinctive values and beliefs that endorse

aggressive behavior and law violation (p. 379). These values and beliefs (1) are in direct opposition to conventional, middle-class values which typically support conformity to legal norms, (2) are passed down from generation to generation, and, perhaps most importantly, (3) are relatively independent of structural factors (i.e., they are not seen as stemming from structural conditions such as poverty). Wolfgang and Ferracuti's (1967) subculture of violence thesis is most representative of this argument but other examples exist (e.g., Cohen, 1955; Miller, 1958).

A second perspective on the role of culture discussed by Kubrin and Weitzer (2003a) takes a different approach than the first, by arguing that, in fact, residents in high-crime areas do not develop oppositional subcultures but instead share conventional values, including the desire for a crime-free community (p. 379). That is, there is general consensus in community beliefs, norms, and values, including those concerning crime. It is argued that rather than condoning crime, members of disadvantaged communities have a degree of fatalism or moral cynicism about crime, viewing it as inevitable in their communities. As a result, crime in these communities is less vigorously condemned by residents. Stated alternatively, in neighborhoods where conventional values are attenuated, "High crime rates exist. . .not because oppositional values are anchored in the community but because limited opportunities make it difficult for residents to pursue conventional goals and because they lack the willingness or capacity to prevent deviance" (Kubrin & Weitzer, 2003a, p. 379). In short, in this explanation for the role of culture, it is assumed "residents have weaker cultural support for exerting social control over others" (p. 379).

A final perspective suggests a model of the cultural order in disadvantaged neighborhoods as both diverse and structurally conditioned. Concerning diversity, this model refutes the notion of a singular neighborhood subculture. Instead, there is diversity and conflict with respect to community values, beliefs, and ideas—even concerning crime. Stated another way,

...disadvantage not only deprives neighborhoods of resources that may be mobilized to control crime, but also increases social isolation among residents, which impedes communication and interferes with their capacity to pursue common values. . . . At the same time, some residents, who lack conventional opportunities for economic advancement and status attainment, embrace unconventional values and pursue alternative routes to gaining status and prestige, which may include criminal acts (Kubrin & Weitzer 2003a, p. 380).

This diversity has been documented in several studies of high-crime communities where researchers find evidence of cynicism regarding legal norms (Sampson & Bartusch, 1998) and the emergence of a "street code" that legitimizes crime and violence in certain situations (Anderson, 1999; Fagan & Wilkinson, 1998; Horowitz, 1983; Kubrin & Weitzer, 2003b; Stewart & Simons, 2006). It is important to note these studies depict violent neighborhoods as culturally heterogeneous, "with residents who gravitate mainly towards the mainstream but switch between competing sets of cultural values depending on the situation" (Sampson & Bean, 2006, p. 22). Beyond diversity in values and beliefs, this perspective also maintains that violent cultural reactions and the street code occur in direct response to disadvantaged structural conditions within those communities. That is, culture is viewed as an adaptation to structural circumstances.

Whatever role subculture is to occupy in social disorganization theory, it is becoming abundantly clear that "cultural factors deserve greater attention" (Kubrin & Weitzer, 2003a, p. 380) and should not be ignored. Like Shaw and McKay (1942) and other early theorists believed, we cannot understand variations in crime rates across communities without also understanding the role that neighborhood subcultures occupy in the calculus. Future work must continue to specify subculture's important role.

The second pressing issue facing social disorganization researchers today has to do with immigration patterns in the United States. Many scholars in the new millennium believe that “the latest wave of immigration is likely to have a more significant impact on society than any other social issue” (Martinez & Lee, 2000, p. 487). According to social disorganization theory, increased immigration to American cities should result in higher crime rates in those neighborhoods where immigrants are most likely to settle. Why is this? In the theory’s original formulation, immigration was considered a disorganizing force that contributed to community crime rates. It is argued that immigration increases residential instability and racial and ethnic heterogeneity, both of which weaken informal social control, thereby increasing crime (Lee & Martinez, 2002, p. 366).

Concerning instability, theorists maintain that social change of any kind, including change resulting from an influx of immigrants into a community, can lead to the breakdown of community social institutions, which are needed to prevent crime (Lee, Martinez, & Rosenfeld, 2001, p. 562; see also Mears, 2002, p. 284; Reid, Weiss, Adelman, & Jaret, 2005, p. 760). Along these lines, Bankston (1998) notes that heightened population turnover as a result of immigration to an area can destabilize local institutions and reduce informal social control. Recall the earlier discussion on the reasons why residential instability and crime are related according to disorganization theorists.

Concerning racial and ethnic heterogeneity, the argument is quite similar. Racial and ethnic heterogeneity are theorized to affect the strength and salience of informal social control within communities (Taylor & Covington, 1993; Warner & Rountree, 1997). Theorists posit that in communities with diverse racial groups living in close proximity, interaction between members will be low, or at least lower than in racially homogenous neighborhoods (Gans, 1968). Heterogeneity can also undermine ties between neighbors, limiting their ability to agree on a common set of values or to solve commonly experienced problems (Bursik, 1988; Kornhauser, 1978), including those related to crime. Reasons point to cultural differences between racial groups, language incompatibility, and the fact that individuals prefer members of their own race to members of different races (Blau & Schwartz, 1984, p. 14; Gans, 1968). As a result, according to the theory, in heterogeneous neighborhoods, individuals are less likely to look out for one another and will not (to the same extent as in racially homogenous neighborhoods) take an interest in their neighbors’ activities. Informal social control will be limited and crime rates should be higher. As Kornhauser (1978) notes, “Heterogeneity impedes communication and thus obstructs the quest to solve common problems and reach common goals” (p. 78). Indeed, studies have found that racial heterogeneity contributes to higher community crime rates (Chamlin, 1989; Kubrin, 2000; Smith & Jarjoura, 1988; Warner & Pierce, 1993; Warner & Rountree, 1997). In essence, social disorganization’s traditional approach to immigration and resulting residential instability and racial and ethnic heterogeneity is that immigration serves as a disorganizing force that can lead to heightened crime rates in communities.

Despite these claims, over the years there has been empirical evidence that finds that, in fact, immigration and crime do *not* go hand in hand. More recently, studies of neighborhood crime rates find the exact opposite of that predicted by social disorganization theory—that immigration into an area is unrelated and in some cases negatively related to crime rates, controlling for a host of other factors. For example, in their study of Miami, El Paso, and San Diego neighborhoods, Lee et al. (2001) discover that, controlling for other factors, immigration generally does not increase homicide levels among Latinos and African-Americans. In a related study of black homicide in the northern section of Miami (an area that has received numerous recent arrivals

from Haiti and contains an established African-American community), Lee and Martinez (2002, p. 372) likewise find the presence of immigrants does not appear to have the disorganizing effect predicted by social disorganization theory. And in a third study comparing and contrasting Asian homicide in the three largest Asian communities in San Diego, Lee and Martinez (2006, p. 109) yet again conclude that recent immigration does not have the deleterious consequences expected by disorganization and related theories. The implication from all of these studies is that community social control may actually be strengthened by immigration rather than compromised.

How are we to understand the current research findings on immigration in the context of social disorganization theory? Did social disorganization theory get it wrong? Or is the theory simply “out of date” with what is happening today in terms of immigration patterns, neighborhood change, and crime? Whatever the answer, the findings from this small but significant literature have led many to reconsider the role of immigration and its effects on community crime rates beyond the traditional disorganization argument. Martinez (2006) claims,

Contemporary scholars are now more open to the possibility that an influx of immigrants into disadvantaged and high-crime communities may encourage new forms of social organization and adaptive social structures. Such adaptations may mediate the negative effects of economic deprivation and various forms of demographic heterogeneity (ethnic, cultural, social) on formal and informal social control, thereby decreasing crime (p. 10).

One new approach making this claim is the immigration revitalization thesis, which argues that immigration revitalizes poor areas and strengthens social control due to strong familial and neighborhood institutions and enhanced job opportunities associated with enclave economies—the result being less crime (Lee & Martinez, 2002). Lee et al. (2001) explain, “Far from being a disorganizing and possibly criminogenic force, this view posits immigration as an essential ingredient to the continued viability of urban areas that had experienced population decline and community decay in previous decades” (p. 564). Lee and Martinez (2002) further note,

Contemporary immigration may encourage new forms of social organization that mediate potentially crime-producing effects of the deleterious social and economic conditions found in urban neighborhoods. These new forms of social organization may include ethnically situated informal mechanisms of social control and enclave economies that provide stable jobs to co-ethnics (p. 376).

The mechanisms linking immigration to lower crime rates in communities have yet to be fully determined but the empirical literature documenting this connection is unambiguous. A challenge for future social disorganization theorists, then, is to rework the theory to more accurately reflect how immigration patterns and the presence of immigrants within communities are associated with neighborhood crime rates.

## CONCLUSION

Social disorganization theory is a staple of criminological thought and extremely important because of its contribution to understanding the distribution of crime across geographic areas, notably communities. It was created during a time when researchers wanted to understand how large-scale changes within the city of Chicago corresponded to changes in crime rates, particularly in certain areas of Chicago. Its relevance to cities and neighborhoods today is no less apparent. As cities and neighborhoods continue to grow, shift, and evolve over time, so too will social disorganization theory develop and evolve to more accurately reflect the processes at work.

Social disorganization researchers must always keep their pulse on “the growth of the city,” as early Chicago School researchers Park and Burgess (1925) successfully did.

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## **PART III**

# **CRIMINAL JUSTICE-RELATED ISSUES**

**GINA PENLY HALL**

Even though academics often separate the subject of criminal justice from that of criminology, their interconnectedness allows the application of theory to policy and practice so as to realize the influence of each in the real world. Each of the chapters that follow demonstrates this interconnectedness and could have been placed in one or more sections within in this handbook. Nonetheless, given the importance of these topics to the criminal justice system, they deserve the emphasis they are given in this section.

The idea that punishment, whether threatened or actually imposed, discourages crime is explicated in deterrence theory. This theoretical viewpoint assumes that criminals are rational actors who calculate the gains and losses to be incurred from the commission of a crime prior to deciding whether or not to go forth with the act. The effectiveness of general deterrence is often questioned, yet it is clear that one needs to look beyond the basic question of how much punishment is necessary to reduce crime. Greg Pogarsky's chapter does just that. He explains that there are multiple factors that influence whether or not deterrent strategies work and succinctly provides empirical research to support both sides of the debate. His discussion covers individual-level influences, like criminal propensity, to contextual and temporal factors, such as the level of disorganization of a place and whether or not the calculated decisions occur well before the crime or if they are only made contemporaneously. This chapter offers an insightful discussion of deterrence that will enlighten both new and veteran scholars.

Similar to deterrence theory, a basic tenet supporting situational crime prevention is that criminals are rational, calculating actors. It sees crime as a product of this rationality, as well as opportunities and situations that stimulate or provoke criminal acts. Opportunities are everywhere. They are, in fact, part of our everyday routine activities. They are a poorly lit parking

lot, a hedge that covers a window, or traffic patterns that leave streets unguarded. As such, situational crime prevention is enacted through public and private organizations and agencies as a way to reduce opportunities and alter situations that incite criminal behavior. In the second chapter of this section, Ronald Clarke, one of the first to advocate rational choice theory and apply its principles to situational crime prevention, discusses the theoretical foundation for, and issues surrounding the practice of, this innovative approach to preventing crime. This excellent synopsis provides material important for both understanding and implementing the practice of situational crime prevention.

Individual inclinations to commit crime, and in turn crime levels, are not always reduced by the threat of sanctions and the alteration of situational factors. Sometimes as offenders age, they seem to just “go legit.” Desistance from crime, however, is not that simple. Lila Kazemian and Shadd Maruna describe the difficulties that exist in just trying to define the cessation of crime by an individual. They argue that desistance and age are indirectly related, as age represents many factors that serve as mechanisms in the process of desistance. They go on to illustrate how social factors, such as marriage and employment, and internal factors, such as a cognitive transformation and identity transformation, encourage the cessation of crime by an individual. This overview of why people sometimes seem to age out of crime is an excellent primer for those first reading about desistance, as well as those looking to gain a more sophisticated understanding of this topic.

Capital punishment is one of the most hotly debated topics related to the criminal justice system. James Acker illustrates this debate in his chapter, which begins with a history of the death penalty from its crude beginning to its nullification and subsequent reinstatement. He goes on to discuss the primary justifications for the use of the death penalty, which include general deterrence, incapacitation, and the victims’ need for retribution. He argues that empirical evidence does not support these justifications and often times they create ambiguity about the legality and rationalization for capital punishment. Evidence regarding the discriminatory and arbitrary nature of the capital punishment process as well as wrongful convictions, less-than-objective juries, and poor defense counsel provide additional skepticism about the lawfulness and effectiveness of this process. Given that capital punishment is also a moral issue, it is unlikely that the debate will ever end. However, this and other research presented by Acker may contribute to the cessation of the debate as it stands within the criminal justice system.

The issue of discrimination is not limited to capital punishment cases; it is evident throughout the entire criminal justice system. In this methodologically sophisticated chapter, Pauline Brennan provides an array of statistics indicating the overrepresentation of minorities, especially blacks, and males in the criminal justice system. She provides an overview of how stereotyping (the primary theoretical explanation for this disparity) influences judicial behavior during the sentencing process. This theoretical viewpoint argues that minorities are seen as more dangerous, more culpable, and more likely to recidivate. It also contends that women are seen as less dangerous, less responsible, and more likely to be rehabilitated than men. When race/ethnicity and sex are examined separately, this stereotyping leads to disparate sentences in favor of whites and females. Brennan argues for an interactive model and compares various methods of examining the joint effects of race/ethnicity and sex. She reviews the conflicting findings and concludes that more research is necessary to determine the context by which discrimination operates in the sentencing process. Researchers interested in race/ethnicity and sex within any topic area will gain perspective from this chapter that is necessary to conduct a more thorough investigation.

The final chapter in this section provides a clear illustration of the importance of, and difficulty in, translating research into practice. A renowned researcher in this area, David Duffee compares and contrasts two primary methods of incorporating knowledge gained from empirical research about treatment into actual treatment practice. Providing examples gained from first-hand experience, he describes each strategy, the advantages and disadvantages of each, and suggests the need to integrate the two in order to achieve the most gains. His experience is clear as he describes the process and the difficulties involved in implementing strategies informed by research. Along with the other five chapters in this section, this piece exemplifies the interconnected nature of criminology and criminal justice. Despite the many challenges that arise, the importance of applying theory to practice remains strong. It is our hope that each of these chapters stimulates all readers, novices and veterans alike, to consider the gains to be made as this link grows stronger and to consider following this course in their own work.

## CHAPTER 13

# Deterrence and Decision Making: Research Questions and Theoretical Refinements

GREG POGARSKY

Deterrence is a process in which threatened or actual sanctions discourage criminal acts. There are not only official sanctions, such as incarceration or probation, but also non-legal punishments. For example, people refrain from offending to avoid stigma or disapproval from others. Deterrence requires that behavior is purposive; it assumes potential criminal actors weigh the incentives and disincentives to offend. The likelihood that an individual will commit a given crime is negatively related to his or her perceptions of the certainty, severity, and celerity of punishment for that crime. The formation of these threat perceptions is central to deterrence and, more generally, to society's capacity for deterrence-oriented crime control.

Although there is a considerable deterrence literature, criminology lacks consensus on the empirical status of deterrence. This is despite a steady influx of methodologically sophisticated evidence for deterrent effects mostly from economics (but not exclusively, see Matsueda, Kreager, & Huizinga, 2006). Such research innovatively studies a variant of the same overarching question—How much does punishment deter crime?

Yet reconciling mixed findings and extending theory depend as much on the questions researchers pose as on the methods for answering them. The general deterrence question above is useful but it can obscure key details about crime decisions. Among the details criminologists have begun to elaborate are the moderating role of criminal propensity, alternative sanctioning contexts, and the formation of sanction risk perceptions. This chapter discusses these and also

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suggests others. The others include the social and temporal dimensions of crime decisions and the application of judgment and decision-making research in criminology. The chapter suggests that “deterrence research” should focus less on punishment per se and more generally on the process of crime decision making.

### **MORE LAW ENFORCEMENT, LESS CRIME?**

The most general overarching deterrence question is whether more punishment (e.g., more police or stricter laws) reduces crime. Findings on this question have been carefully reviewed (e.g., see Bushway & Reuter, 2008; Nagin, 1978, 1998; Paternoster, 1987; Pratt & Cullen, 2005). Particularly noteworthy have been attempts to address the challenge of endogeneity or reciprocal causation. Law enforcement efforts may affect crime but, as Bushway and Reuter (2008) explained, more crime is likely to prompt more crime prevention efforts. This induces a positive correlation between the two that can bias deterrence estimates.

Randomized experiments, then, are particularly effective for testing the causal effect of punishment on crime. Crime outcomes cannot possibly influence the random assignment to an experimental condition. Several laboratory experiments have found that punishment threats reduce transgression. For example, Nagin and Pogarsky (2003) found that for students completing a pencil and paper task on which cheating could earn them extra money, cheating was less frequent among those aware that the detection probability was higher and/or that the penalty for cheating was greater (see also, Pogarsky, 2004). However, this approach cannot ethically examine actual criminal behavior and tends to rely on college student samples. Yet, consider the recent experiment reported by Weisburd, Einat, and Kowalski (2008). The authors found that probationers in New Jersey who were randomly selected to experience an increased risk of violation to prison for nonpayment of fines (and informed of this) were substantially more likely than the remaining probationers to pay their fines.

There have also been causal estimates of deterrent effects using secondary data. Levitt (1997) is well known for applying instrumental variable techniques to this issue. One study estimated the causal effect of police on crime across 59 US cities from 1970 to 1992. The simultaneity problem was that while the number of police might affect crime rates, logically, crime rates may affect police staffing. The solution was an “instrumental variable” for the key explanatory variable. Levitt observed that cities tended to enlarge their police forces in election years. But since elections have fixed cycles, unlike police hiring, crime rates cannot impact election cycles. Thus, the only relationship between the instrumental variable and the outcome is through the former’s impact on the explanatory variable of interest. This breaks the cycle of reciprocal causation and is intended to estimate more accurately the causal effect of police on crime. Levitt (1997) reported that while in the un-instrumented models, more police was associated with more violent and property crime, the instrumented models provided modest evidence (negative associations between police and crime) for deterrent effects.<sup>1</sup> Other recent applications of this approach yield similar conclusions (e.g., Evans & Owens, 2007; Levitt, 1996; McCrary, 2007).

Another approach to causal deterrence estimates relies on favorable ecological circumstances. Abrams (2007) examined variation in whether and when states adopted “add-on” gun

<sup>1</sup> See McCrary’s (2002) discovery of errors in Levitt’s analysis, and Levitt’s (2002) demonstration that the errors did not affect the conclusions in the 1997 paper.

laws, which enhance penalties for felonies committed with a gun. Abrams reasoned that since convicted felons would have been incarcerated absent the add-on laws, the association between add-on laws and crime reflects the deterrent effect of longer sentences (see also Loeffler, 2006). Abrams (2007) found that on average such gun laws led to an approximate 5% decrease in gun robberies within 3 years after the gun law was passed. Marvell and Moody (1994) found evidence for deterrence after addressing the simultaneity issue using Granger causality techniques. This is not to say there is unanimous agreement on the existence of deterrent effects (e.g., Paternoster, 1987; Pratt & Cullen, 2005) or that the assumptions underlying these innovative estimation techniques are unassailable. Yet the most thoughtful, recent empirical approaches to the broadly framed deterrence question report evidence for deterrence (e.g., Matsueda, Kreager, & Huizinga, 2006; Weisburd et al., 2008), thus reinforcing Nagin's (1998) observation that "the evidence for a substantial deterrent (effect) is much firmer than it was fifteen years ago. I now concur with Cook's more emphatic conclusion that the collective actions of the criminal justice exert a substantial deterrent effect" (p. 3).

This said, crime theory and policy require more. Detail is necessary on, not just whether deterrence may occur, but when it may not, and in either case, how and why. Such details produce more refined and descriptively accurate criminological theories. They also help to assess whether successful (or failed) deterrence initiatives at one time and/or place should succeed (or fail) in others. The next section highlights some key details of crime decisions.

## A MORE DETAILED LOOK

### Criminal Propensity

Criminologists have advocated more research on moderators and contingencies governing deterrence (Pratt, Cullen, Blevins, Daigle, & Madensen, 2006; Tittle & Paternoster, 2000). One potential moderator is criminal propensity, which is typically operationalized by self-control or a related construct. Crime scholarship suggests that people differ in their susceptibility to and deterrability by sanction threats (see Andeneaes, 1974 and Zimring & Hawkins, 1968, and more recently, Nagin & Paternoster, 1994 and Pogarsky, 2002). In particular, criminally prone individuals "have a concrete here and now orientation" and tend not to defer gratification (see Gottfredson & Hirschi, 1990, p. 89). Individuals may be present-oriented because they highly "discount" future events and consequences; in the parlance of Gottfredson and Hirschi (1990), they may have low self-control. Or, they may not consider future consequences much at all (Nagin & Pogarsky, 2004). In any case, the benefits from crime are typically immediate, while at least some of the costs tend to be delayed. Future-oriented individuals should be more "detrable" by these delayed costs from crime than their present-oriented counterparts. There is some tentative empirical support for this position (Nagin & Paternoster, 1994; Nagin & Pogarsky, 2001; Piquero & Tibbetts, 1996).

This said, Wright, Moffit, Caspi, and Paternoster (2004, p. 183) convincingly proposed the opposite—that criminal propensity *enhances* the responsiveness to sanction threats:

The calculation of crime may vary by one's morality. Because unsocialized and amoral individuals are more willing to commit crime, the calculation of its costs and benefits have greater salience, whereas among those for whom "a rule is accepted as moral obligation, the attitude of calculation is lacking."

As Etzioni (1988) explains, criminally prone individuals are in the market for criminal activity whereas non-criminally prone individuals are not. Thus, the former should be more attuned to instrumental concerns such as perceived punishments and, hence, more deterrable. Several recent sets of empirical findings are consistent with this suggestion (Pogarsky, 2007; Tittle & Botchkovar, 2005; Wright et al., 2004).

One possibility for reconciling the two sets of findings is that the latter are based on seemingly more criminally prone samples (offenders, a birth cohort, and a community) than the former (college students). This suggests the relationship between propensity and deterrence may ultimately depend on the position along the population-wide continuum of criminal propensity that is examined. It also suggests the relationship between propensity and deterrence may be non-monotonic—that is, neither strictly increasing nor strictly decreasing across all possible levels of criminal propensity. The fullest possible investigation of this question requires a research sample with meaningful representation across the entire range of criminal propensities.

### Contexts and Sanctioning Mechanisms

Geerken and Gove (1975) usefully characterized deterrence as information transmission to promote conformity. Threatened or actual sanctions are intended to communicate that crime is risky and costly. Geerken and Gove further suggested that prospects for deterrence should be enhanced in simple, closed social systems that afford authorities greater control over message communication. On this point, Apel, Pogarsky, and Bates (2009) recently found evidence for deterrence mechanisms in schools (see also Gottfredson, 2001). And, these deterrent effects were most evident in the smallest and/or least disorganized schools. Size and disorder can impede deterrence in several ways. First, larger groups are likely to have more rules and norms and a more heterogeneous population to communicate them to. Second, disorganization can interfere with and/or distort the flow of information from authorities to individuals and between individuals. Finally, size and disorder increase the possibilities for conflicting, and hence, diluted deterrence messages.<sup>2</sup>

Deterrent effects may also depend on the mechanism for threatening sanctions. Deterrence has only infrequently been studied for intermediate and supervisory sanctions, such as probation and intensive supervision (ISP). For such sanctions, participants who comply with various conditions (e.g., regularly meeting with a probation officer and remaining substance and crime free) for a specified period are discharged from supervision; individuals who violate one or more conditions of supervision risk resuming a suspended period of incarceration. One objective of ISP and probation is to deter crime (Morris & Tonry, 1990; Petersilia, 2002).

Several recent studies have found strong deterrent effects for supervisory sanctions. Weisburd et al. (2008) found that among probationers randomly assigned to experience increased risk of incarceration for nonpayment of fines (and informed of this), 37% paid their entire fines and 58% paid half their fines, compared to only 13 and 35% of control respondents, respectively. Similarly, Pogarsky (2007) found that both the perceived certainty of being revoked from ISP

<sup>2</sup> One person might be punished for a first offense while others can offend continuously without detection by authorities. The possibilities for incongruous information about sanction risks are enhanced in larger and less organized social systems.



for using drugs and the length of the suspended prison term (the severity of punishment) were strongly and positively related to the likelihood that the offender would successfully complete ISP.<sup>3</sup>

For several reasons, the supervisory setting appears to enhance prospects for deterrence. First, sanction information is particularly salient to the offender. Consider the more generic deterrence setting in which laws and policies are intended to deter the public from crime. Here the extent of message communication is unclear. Questions persist about public awareness of statutory criminal penalties and law enforcement initiatives (e.g., Williams, Gibbs, & Erickson, 1980). Yet on supervision, defendants are explicitly and continuously informed of their incarceration exposure. The defense attorney is ethically bound to do this. And, offenders meet regularly with a probation or parole officer, among other things, to reinforce the offender's criminal liability for violating one or more conditions of supervision. For ISP, participants serve a small portion of their state prison term, and thus actually experience prison life, before entering the program.

Second, the supervisory setting permits far higher attainable levels of perceived sanction risk than in the more generic deterrence context. Typical crime clearance rates tend to be quite low (e.g., Kleck, Sever, Li, & Gertz, 2005; Lochner, 2007).<sup>4</sup> Even granted that individuals tend to overestimate the certainty of punishment for crime (naïve offenders particularly), perceived sanction probabilities are typically below 0.5 (see, e.g., Kleck et al., 2005). It stands to reason that estimates of the certainty of punishment for violating conditions of probation or ISP should be higher than in the generic deterrence context. Supervised offenders are typically subject to random drug or alcohol testing. And, probation officers are well positioned to determine whether an offender has violated other conditions of probation, such as missing supervision appointments, failing to remain employed, or failing to make restitution to victims. In one of the few studies to measure perceived sanction certainty among supervised offenders, Pogarsky (2007) reported that among 434 offenders sentenced to ISP in New Jersey from 1989 to 1990, the mean and median probabilities that a street-smart person would be revoked back to state prison if they used drugs in ISP were 0.69 and 0.75, respectively. In sum, then, both the context in which deterrence occurs and the mechanism for threatening sanctions influence prospects for deterrence.

### Perceptions of Sanction Threats

As should be evident, deterrence requires that threatened or actual sanctions influence perceptions of sanction threats. The net impact of sanctioning on the three deterrence perceptions should make an actor less crime prone. Logically then, a sanction must elevate *at least one* of the perceived certainty, severity, and celerity of punishment. There is scant evidence on how sanctioning affects the latter two. Research has, however, tested how sanctioning affects the perceived certainty of punishment.

One approach to this question has been to relate an individual's perception of the certainty of punishment to any consequences that the individual has experienced from past offending. As Stafford and Warr (1993) explained, being punished for a crime should increase an individual's

<sup>3</sup> These deterrent effects are particularly noteworthy given that the samples are of previously convicted offenders.

<sup>4</sup> And if anything, calculated clearance rates overestimate the true clearance rate since the denominator is the crimes known to the police and the police cannot possibly know of all crimes.

estimate of the certainty of punishment for that crime, whereas avoiding punishment for a crime should reduce the perceived certainty of punishment. Some evidence supports these expectations (Horney & Marshall, 1992; Matsueda et al., 2006; but see Bridges & Stone, 1986 and Piliavin, Thornton, Gartner, & Matsueda, 1986). As well, offending experience (which by holding punishment constant in the same model reflects the avoidance of punishment) is strongly and negatively related to perceptions of sanction certainty (see Lochner, 2007; Piliavin et al., 1986; Piquero & Paternoster, 1998; Piquero & Pogarsky, 2002).

Another approach to studying deterrence perceptions has been to test the relationship between indicators of sanctioning in a place (typically a county) and residents' perceptions of sanctioning in that place. Kleck et al. (2005) tested this expectation with a phone survey of residents in 300 large, urban counties. They found that individuals' estimates of total arrests per 100 offenses known to the police for homicide, robbery, aggravated assault, and burglary for 1988–1998 in their county of residence were uncorrelated with the actual clearance rate for their counties.<sup>5</sup>

Yet, the broader implications of these null findings are unclear. Further attention is warranted to the appropriate geographic entity (i.e., state, county, city, neighborhood, or other) for calculating *objective* sanction risk. Among other things, this analytical strategy addresses whether “policy” affects perceptions. This implies that county crime data reflect “county policy.” However, police services are most often organized at the municipal rather than county level (National Research Council, 2004). Thus, to the extent law enforcement policy is decentralized to smaller units within counties, county data could reflect an amalgam of distinct policies, rather than a single coherent one. Smaller units of aggregation are also supported by the rationale that individuals may be most influenced by information about their most proximate surroundings. Militating against too small a geographic unit of aggregation, however, is the possibility that offenders avoid committing crimes too close to their homes and may, therefore, also attend to information extending beyond their most proximate surroundings. Future research should explore multiple possible aggregation levels to ensure that deterrence relationships are not obscured.

Future research should also reexamine linking objective sanction risk solely to an individual's *residence*. Doing so neglects findings on spatial crime patterns that offenders commit crimes not just where they live but where they go (Brantingham & Brantingham, 1984; Rossmo, 2000). These places constitute an “awareness space” consisting of nodes for frequented destinations and interconnections between them. An individual's residence is only one of several primary nodes; others are work, school, and recreation. Individuals are likely to obtain information about sanction risks at these other nodes and while traveling between them. Ignoring these other potential sources of information about sanction risks leaves an incomplete understanding of the linkage between objective and perceived sanction risks.

Consideration is also recommended to whether the “objective” certainty level for a given individual is, in fact, the clearance rate for *all* persons in that individual's county of residence

<sup>5</sup> The authors also reported similar null findings for the severity and celerity of punishment. Using a similar approach with data from the National Longitudinal Survey of Youth 1997 (NLSY97), Lochner (2007) found that without all available controls, the county-level arrest clearance rate for auto theft was strongly and positively correlated with county residents' perceptions of the certainty of punishment, operationalized as the estimated percent chance of arrest for stealing a car. With additional control variables, the association remained positive but was no longer statistically significant at conventional confidence levels. Auto theft was the only crime for which the NLSY97 elicited estimates of the perceived certainty of punishment.

or, more narrowly, persons who share one or more characteristics with the focal individual. The detection probability is likely to differ across key personal characteristics, such as gender, ethnicity, age, and attributes such as self-control or intelligence. Individuals are aware of their offending patterns and personal traits and may account for these in estimating sanction risk. Averaging across these potential attributes neglects the possibility that each actor's private information permits a more sensible estimate of his or her sanction risk than that reflected in overall clearance rate. A minority resident might consider his or her detection rate above average because law enforcement tends to focus on "high crime neighborhoods," which tend to be economically disadvantaged and disproportionately consist of minorities. In this and other cases, the overall arrest clearance rate is not the best estimate of "objective" sanction certainty. Future research on sanction risk perceptions should address these possibilities.

## OTHER DOMAINS

### Social Components of Crime Decisions

Crime has various social components. Consider Warr's (2002) observation:

Criminal conduct is predominantly social behavior. Most offenders are imbedded in a network of friends who also break the law, and the single strongest predictor of criminal behavior known to criminologists is the number of delinquent friends an individual has. Furthermore, most delinquent conduct occurs in groups; the group nature of delinquency is one of its most consistently documented features (p. 3).

The deterrence perspective addresses the influence of others in several ways. For example, an actor's perceptions of the certainty of punishment for crime tend to increase when they learn that another individual has been punished, and decrease when they learn that another individual has avoided punishment for offending (e.g., Matsueda et al., 2006). Other individuals can also influence an actor's crime decisions through the informal deterrence mechanisms of shame and stigma. The deterrent capacity of *extra legal* sanctioning is often equal to or greater than that of formal criminal justice sanctions (Grasmick & Bursik, 1990; Makkai & Braithwaite, 1994).

This said, the social elements of crime decisions merit further study. There are at least two social dimensions to crime. One involves co-offending or criminal behavior with one or more accomplices, the modal number of offenders per crime (McGloin, Sullivan, Piquero, & Bacon, 2008; Sarnecki, 2001). Individuals, particularly adolescents and young adults, can behave differently in the presence of others than they would alone. Criminological research has identified a number of attitudes, perceptions, and overall mindsets that influence crime decisions. Some of these are risk perception, self-control, attitudes toward the future, impulsivity, planful competence, psychosocial maturity, and others. Applications of these constructs often (impliedly at least) treat the criminal actor as a solitary decision maker when more often than not, this is not true. The presence of others at a potential criminal event can trigger various social processes such as status considerations, peer pressure, and emotions. Research that investigates how group social psychological dynamics affect the relationship between core crime decision-making constructs and criminal behavior is essential.

A distinct, though not necessarily mutually exclusive, social dimension of crime arises simply from interpersonal interaction. People, particularly youths, influence one another in a variety of ways, among them through shared beliefs, behavioral modeling, peer pressure, and

others (Haynie, 2001; Matsueda & Anderson, 1998). Research is also needed into how the core decision-making constructs above develop and change. The concept of attitude transference provides a useful framework for investigating these issues further.

Warr and Stafford (1991) originally framed the following research question—Is delinquency a consequence of what peers think or what they do? The major theoretical perspectives on peer influences yield different answers to this question. The authors began their analysis by identifying four theoretical constructs: respondent attitudes, respondent beliefs, friends' attitudes, and friends' beliefs. Differential association theory proposes that individuals are more apt to offend when they acquire "definitions favorable to law violation" from peers (Sutherland, 1947). Thus, the concordance in delinquent behavior between an individual and his or her peers is indirect and mediated primarily by the actor's beliefs. In short, friends' attitudes and beliefs lead to respondent attitudes which ultimately affect respondent behaviors. In contrast, because social learning theory emphasizes imitation and behavioral modeling, any concordance between an individual's delinquency and that of his or her friends does not require attitude transference. Social learning theory implies simply that friends' behaviors affect respondent behaviors.

Using data from the National Youth Survey, Warr and Stafford (1991) found some support for each perspective. The researchers examined three antisocial behaviors, stealing, smoking marijuana, and cheating in school, and one attitude, moral beliefs.<sup>6</sup> The effects of friends' attitudes and behaviors on respondents' delinquency were not entirely direct. Instead, there were substantial relationships between friends' attitudes and behaviors and respondents' attitudes; in turn, respondents' attitudes affected their criminal behaviors. This suggests that friends influence one another's behaviors through attitude transference, consistent with differential association theory. On the other hand, there remained a strong, direct relationship between the behavior of friends and respondents net of the mediating role of respondent attitudes. Moreover, when respondents' delinquency was regressed against both respondents' attitudes and friends' behaviors, the latter had greater predictive capacity. These findings support the social learning perspective.

Several open questions remain, however. First, the National Youth Survey data used by Warr and Stafford (1991) did not directly measure the attitudes and behaviors of each respondent's friends. Instead, each respondent provided measures of all four essential constructs; he or she indicated *both* their own attitudes and behaviors *and* the attitudes and behaviors of their friends. But concerns about projection bias arise when individuals estimate the behaviors and attitudes of others. Such estimates may be colored by what the respondent himself or herself does (Jussim & Osgood, 1989). Attitude transference should be investigated with data in which respondents identify their friends, and then each friend indicates to the researchers his or her own behaviors and attitudes.

This research should also be extended to attitudes and mindsets beyond morality. Examples of these were identified above (i.e., constructs such as risk perception, attitudes toward the future, and self-control). It stands to reason that these other crime decision-making constructs may be part of the "attitudes" transferred among associated individuals. Determining the full extent of attitude transference can help arbitrate between the differential association and learning perspectives. It can also help shape policy efforts to counteract the acquisition of criminogenic mindsets among youths.

<sup>6</sup> Respondents indicated how wrong it is for someone their age to commit each of the three antisocial acts (smoking marijuana, stealing, and cheating in school). They also indicated their friends' level of approval or disapproval were the respondent to commit each of the three antisocial acts.

### Non-contemporaneous Aspects of Crime Decisions

Deterrence discourse is often confined to decision making that occurs contemporaneously with a given criminal act. For example, Grasmick and Bursik (1990) argued that a “rational decision making model assumes that deterrent effects, if they exist, are instantaneous rather than lagged: Actors’ present perceptions of ‘costs’ affect the present expected utility of crime. . .” (p. 844). In this view, momentary perceptions affect momentary behavior, then later perceptions affect later behavior, and so on. But as Emirbayer and Mische (1998) argued, decision making with respect to social action can only be fully understood “if it is analytically situated within the flow of time” (p. 963).

Paternoster (1989) presented one of few non-contemporaneous conceptualizations of crime decisions. He identified constituent decisions relating to a given crime. First, there is the decision even whether to participate in a given criminal activity. This is consistent with Etzioni’s (1988) suggestion that certain individuals are “in the market” for criminal activity, while others would not consider it. Among potential offenders, there are momentary decisions about particular offenses. A “burglar” may forego a given home invasion if, for example, the target is too well-guarded or the occupants are not sufficiently wealthy. But in general, offenders decide whether to continue being an offender. And by implication, they decide whether to desist from crime (see Laub & Sampson, 2003). Paternoster’s (1989) approach recognizes the compound nature of crime decisions and that momentary decisions affect later criminal involvement.

On this point, consider the instrumentalities or preconditions for crime. For example, beyond whether to operate a vehicle, individuals make driving arrangements (i.e., driving oneself versus public transportation or a designated driver) before an evening of socializing begins. Decisions preceding an imminent physical confrontation can affect its likelihood, such as whether to seek out an antagonist or carry a weapon.

Criminological perspectives that impute some consideration of consequences to would-be offenders have been critiqued because offenders are often intoxicated, angry, or otherwise viscerally aroused when they commit crimes. These states of mind undercut and even supplant ordinary deliberative processes (Exum, 2002; Loewenstein, Nagin, & Paternoster, 1997). However, constituent decisions affecting the probability of crime (such as arranging for a designated driver early in an evening) are less apt to occur in the heat of the moment or when an individual is intoxicated. This constitutes an additional avenue for dispassionate thought processes to affect the probability of crime.

The compound nature of crime decisions is relevant for the distinction often drawn between instrumental (e.g., property) and expressive (e.g., violent) crime. Instrumental crime is generally dispassionate, whereas expressive crime is more emotional, impulsive, and less reasoned. Confining attention to the moment of a potential criminal act, instrumental crime should be more “deterable” than expressive crime (see e.g., Chambliss, 1967; Zimring & Hawkins, 1973). Yet this distinction is neither universally acknowledged (e.g., Gottfredson & Hirschi, 1990; McCarthy, 2002) nor fully empirically supported (e.g., Matsueda et al., 2006). The overstatement of this distinction may result partly from neglecting the constituent decisions that can lead to expressive crimes. Such decisions are temporally removed from the criminal event and less apt to be made in the “heat of the moment” or under intense social pressure.

Another non-contemporaneous aspect of crime decisions involves the acquisition and maintenance of personal and social capital (e.g., Coleman, 1988; Hirschi, 1969). Personal capital

involves, for example, education and job training, whereas social capital refers to “social networks and the norms of reciprocity and trustworthiness that arise from them” (Putnam, 2000, p. 19). Both affect the likelihood of criminal behavior. Personal capital positions an individual to commit to conventional and prosocial pursuits. Social capital reinforces these commitments and, in addition, provides a source of informal social control or extralegal deterrence from crime (Williams & Hawkins, 1986). Nagin and Paternoster (1994) characterized the development of personal and social capital in terms of investment decisions. They argued that both require temperance and foresight. For example, pursuing education or job training means foregoing momentary enjoyment in favor of long-term prospects. Attachments to significant others also require perseverance and effort. Decisions relating to the preconditions for a particular crime affect the likelihood of that crime. Decisions relating to personal and social capital investments are even more consequential—they can affect the likelihood of criminal involvement over the life course.

### **Judgment and Decision Making (JDM) and Psychological Refinements**

The deterrence and rational choice perspectives on crime are also limited by their assumptions about human “rationality.” There has been little impetus to refine criminological theory based on advancements in human decision making traceable to Simon’s (1955) original observation that human rationality is bounded. Two manifestations of bounded rationality are particularly relevant to crime decision making. First, human actors have bounded cognitive and computational abilities and, therefore, often use decision shortcuts or rules of thumb (see Kahneman, 2003; Tversky & Kahneman, 1974). Second, humans have bounded willpower and, thus, often behave contrary to their long-term self-interests (Jolls, Sunstein, & Thaler, 1998; Mischel, Shoda, & Rodriguez, 1989).

Research on judgment and decision making (JDM) has long investigated these and other deviations from “rationality.”<sup>7</sup> Beginning with seminal counterdemonstrations to rational choice theory by Allais (1953), Ellsberg (1961), Simon (1979), and Kahneman and Tversky (1979), research has shown that individuals often deviate from strictly rational norms *in predictable ways*. Thaler (1996) has described JDM research as “economics with a higher  $R^2$ ” (p. 12). For his pioneering efforts in refining rational choice principles, Daniel Kahneman, a psychologist, received the 2002 Nobel Prize in economic science. Several bodies of JDM findings are particularly relevant for criminology.

**FRAMING EFFECTS.** Criminal offenders risk some probability of detection and consequences; with the remaining probability, the crime will go undetected. Thus, individuals who are more comfortable with risk (i.e., “risk-seeking”) should be more likely to offend. Criminological discourse has long recognized that attitudes toward risk influence criminal behavior (e.g.,

<sup>7</sup> The phrase “JDM research” will be used to encompass psychology and behavioral economics research on predictable deviation from the rational norms of economic theory.

Gottfredson & Hirschi, 1990). Moreover, emphasis is increasing on potential situational determinants of crime (Horney, 2006). JDM research has shown that risk preference can be situation dependent.

Consider the “lives saved–lives lost problem” of Tversky and Kahneman (1981, p. 453):

Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows:

- If Program A is adopted, 200 people will be saved.
- If Program B is adopted, there is a 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.

On average, each program is expected to save the same number of people:  $1/3 \times 600 + 2/3 \times 0 = 200$ . But option B is considerably riskier, since 1/3 of the time, no one will be saved. In fact 72% of individuals tend to choose option A, the less risky option that will save 200 people for sure. Next consider these reworded options:

- If Program C is adopted, 400 people will die.
- If Program D is adopted, there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.

Notice that options C and D are functionally identical to options A and B. However, C and D are reframed in terms of how many will die (a loss) rather than how many will live (a gain). The second set of options produces a “preference reversal.” That is, 78% tend to prefer option D, the riskier option, over option C.

Relatedly, Thaler (1980) identified a phenomenon known as the “endowment effect.” This concept is illustrated in an experiment by Kahneman, Knetsch, and Thaler (1990). Half of a group of students were randomly given a coffee mug from the school bookstore. Individuals with a mug were asked to report their minimum selling price, whereas the remaining participants (who could see and touch the mugs) were asked to report their maximum buying price. The mean buying price was \$2.25, while the mean selling price was \$4.75. In economic terms, the researchers elicited functionally equivalent information from both groups: the dollar value of a mug. Yet those who received a mug only moments earlier valued it twice as much as those who did not.

Both sets of findings illustrate the JDM principle that losses loom larger than gains. In the case of the endowment effect, a premium is required (the difference between buying and selling prices) as compensation for the loss. In the lives–saved lives–lost scenario, the prospect of *any* loss adds urgency to the decision. In general, individuals are more comfortable taking risks if the potential consequences involve a perceived loss. This principle is potentially relevant to criminal behavior. Consider the case of tax compliance. Withholding the anticipated tax liability during the year before taxes are due may reduce the likelihood of underpayment by “reframing” the tax reporting decision at year’s end. Faced with the prospect of simply receiving less of a refund (a foregone gain), *ceteris paribus*, a taxpayer may be less apt to accept the risks of underreporting than in the case where an individual has not sufficiently withheld and must pay the IRS at year’s end (a loss). This principle of asymmetric risk preference also merits attention for other types of crimes. One of the foremost crime safety tips is to resist an attempted abduction immediately. The longer a criminal confrontation continues, the more an offender might feel sufficiently entitled

to any psychic or tangible gains from the crime. This can make the offender view any disruption of the encounter as a loss and prompt him or her to take greater risks (including violence) to prolong it.

**AMBIGUITY.** There is potentially considerable ambiguity in the information available to would-be offenders about the risks of criminal activity. To illustrate, imagine that individuals A and B estimate that the probability of punishment ( $p$ ) for a given crime is 0.10. Neither A nor B can be sure of this, however; instead, each summarizes some subjective probability distribution with a point estimate. Therefore,  $E_A[p] = E_B[p] = 0.10$ . If, for example, B is surer of his or her estimate than A is,  $\text{Var}_B[p] < \text{Var}_A[p]$ . In JDM terms, B's estimate is less *ambiguous*; although they have identical point estimates, B has a smaller range within which he or she believes the true probability lies.

Ellsberg's (1961) "two color" problem explored ambiguity and choice. Respondents select one of two urns from which they will draw one ball. If the ball is red, they win a cash prize. Urn 1 contains 50 red balls and 50 black balls. Urn 2 also contains 100 red or black balls, but in unknown proportions. Although the probability of selecting a red ball and winning is identical across urns,<sup>8</sup> individuals routinely prefer Urn 1. This finding has been termed "ambiguity aversion."

Discourse on crime decision making has focused mainly on the point estimation of risk, but has not often considered variability in the assuredness of risk estimates. Some exceptions are Nagin (1998) and Sherman (1990). For example, Sherman (1990) attributed deterrence decay, the diminution of deterrent effects over time, to ambiguity aversion. He reasoned that the perceived risk of detection in light of a new crime control initiative is least certain (and hence, ambiguous) at the outset when information about and experience with the policy is least. This heightens ambiguity aversion and enhances deterrence. As familiarity with the initiative grows, ambiguity aversion subsides, and so too does the initiative's deterrent capacity. Thus, Sherman (1990) recommended continuously modifying law enforcement interventions to minimize their predictability and exploit ambiguity aversion.

Sherman's (1990) thoughtful analysis, however, is limited if "aversion" incompletely describes the role of ambiguity in crime decisions. Research by Casey and Scholz (1991a, 1991b) suggests it might. The authors conducted several vignette studies of tax compliance in which the outcome was the respondent's self-reported likelihood of taking a questionable tax deduction. Respondents were randomly assigned different punishment certainty levels through variation in the proportion of tax returns they were to imagine would be "spot-checked." Respondents were also randomly assigned to different severity levels through variation in the potential monetary penalty if caught. Finally, the ambiguity of both threat perceptions was manipulated by varying whether the relevant information was communicated *vaguely* or *assuredly*. The authors reported evidence for their "boundary hypothesis." In this view, ambiguously held perceptions near a boundary—0 or 1, in the case of a certainty estimate—are revised toward the middle, whereas ambiguity near the middle is inconsequential. In the experiments, tax noncompliance was less attractive for vague than for clear certainty information when the probability of apprehension

<sup>8</sup> In Urn 2, the number of red balls is uniformly distributed from 0 to 100. Hence,  $E[x]=50$ .



was low. Presumably, the vague, low certainty level was revised upward, increasing its deterrent potential. In contrast, noncompliance was more attractive for vague than for clear certainty information when the probability of detection was high. This suggests vague, high certainty estimates were revised downward. The authors reported analogous findings for sanction severity.<sup>9, 10</sup>

Returning to Sherman's recommendations, for low probabilities, the boundary and aversion views provide identical predictions. In either case, ambiguity causes low certainty perceptions to be treated as if they were higher, thus enhancing their deterrent potential. The lower end of the probability continuum is probably more relevant for many crime decisions, in which actual detection probabilities are relatively low (certainly well below 0.5). But for high detection probabilities, the impact of ambiguity is unclear. Aside from the most serious (but exceedingly rare) felonies such as bank robbery and homicide, the high end of the probability continuum is implicated for deterrence in the context of supervisory sanctions. This is a widespread context for deterrence and, as observed earlier, perceived detection probabilities can be far higher than in the more generic deterrence context. For high detection probabilities, then, questions remain about how, if at all, ambiguity in risk perception independently influences behavior and, thus, prospects for deterrence.

**FUNCTIONAL FORM OF THE CERTAINTY EFFECT.** Beyond directional predictions, such as when sanction certainty increases crime decreases, to fully inform policy deterrence scholarship should address *how much* a given policy change should affect crime (Nagin, 1998). This requires knowledge about the functional form of any certainty effect.

Consider the cost–benefit calculus of deterrence theory. An individual is expected to offend if  $U(\text{benefits}) - p \cdot U(\text{costs}) > 0$ ; where  $U(*)$  is a utility function that compares the costs and benefits in like units, and  $p$  is the perceived risk of being sanctioned. The model reflects the fundamental notion that an individual is expected to commit a crime if the benefits from offending outweigh the potential costs of detection. The model also depicts a certainty effect; as  $p$  increases, the net benefits from offending decrease, as does the likelihood of offending. This representation of the rational choice and deterrence perspectives, however, does not reflect the potential importance of the prevailing detection probability before change occurs. For example, past deterrence studies have reported a “tipping effect”—that is, a threshold detection probability, around .30, below which no certainty effect exists, but above which it does (Chamlin, 1991; Tittle & Rowe, 1974).

<sup>9</sup> However, while certainty judgments are naturally bounded, celerity and severity judgments are not. Therefore, Casey and Scholz (1991a, 1991b) artificially bounded severity judgments by instructing subjects: “Your total payment (penalty) could be anywhere from \$1,000 to a maximum of \$3,000.” Although the authors found evidence for boundary effects with ambiguous severity judgments, the theory does not address naturally unbounded judgments.

<sup>10</sup> As further indication that aversion may only partially explain how ambiguity affects crime decisions, Ellsberg (1961) conducted a variant of the two-color experiment in which subjects could again draw one ball from one of two urns. If they draw number 687, they win. Urn 1 contains 1,000 balls, each numbered 1 to 1,000. Urn 2 also contains 1,000 balls, each with a number from 1 to 1,000. However in Urn 2, numbers can appear more than once. As in the two-color problem, Urn 2 offers a more ambiguous, but identical, probability of winning. Here subjects preferred Urn 2. In this case, subjects were both “ambiguity seeking” and inclined to revise a low, ambiguous probability upward, away from a boundary.

JDM research on nonlinear probability weighting also indicates the potential importance of where in the probability continuum change occurs. Kahneman and Tversky (1979) illustrated the concept with the following thought experiment:

Suppose you are compelled to play Russian roulette (with a six-shooter), but are given the opportunity to purchase the removal of one bullet from the loaded gun. Would you pay as much to reduce the number of bullets from four to three as you would to reduce the number of bullets from one to zero (or from six to five)? (p. 283).

On one level, the questions are conceptually equivalent—each seeks the value of a 1/6 improvement in the chance of avoiding serious or fatal injury. If probability increments are equally influential throughout the continuum, the value of removing one bullet should be invariant to how many remain. However, this expectation is not intuitively appealing. Instead, individuals place greater value on avoiding *certain* injury, as in the reduction from six to five bullets, or purchasing *certain* survival, as in the reduction from one to zero bullets. The 1/6 increment in the middle of the continuum, from four to three, simply does not seem as valuable.<sup>11</sup>

JDM research has produced ample empirical support for *nonlinear probability weighting*, under which a probability increment at either end of the range is more influential than a nominally equivalent increment in the middle. Virtually all such confirmatory work, however, has involved non-criminal decisions (except see Lattimore, Baker, & Witte, 1992).

This principle deserves attention in crime scholarship. That is, certainty effects may be more likely for very low or very high prevailing detection probabilities than they are nearer to the middle of the continuum. This expectation does conflict with that suggested by a tipping effect. Nonlinear probability weighting predicts a strong certainty effect for low prevailing detection probabilities, whereas a tipping effect predicts no certainty effect for low certainty levels. However, the implications of nonlinear weighting comport with findings of strong deterrent effects in the supervisory setting in which the prevailing sanction certainty level is likely to be quite high. Issues pertaining to the functional form of any certainty effects are also critical for forecasting the potential impacts of deterrence-based crime control.

## CONCLUSION

Not only are there mixed and sometimes conflicting findings across deterrence studies but also opposing characterizations of what deterrence research generally shows (e.g., contrast Nagin, 1998 with Pratt & Cullen, 2006). Basing a criminological perspective on a policy question—How much does punishment reduce crime?—limits the attainable insights on crime decisions. This chapter has suggested reorienting deterrence research more toward crime decision making and has identified several avenues to pursue. There are certain to be others.

<sup>11</sup> Consider a further example, adapted from Gonzalez and Wu (1999). Suppose a researcher must decide whether to improve a manuscript submission with additional analyses that will take 1 week to complete. The contemplated analyses are expected to improve the chances of publication by 10% points. Would the researcher be any more willing to do the additional work if they believed the probability of success without the extra analyses was 0.90 than if they believed that probability was 0.40? Or, what about 0 vs. 0.40? The reasoning from the Russian Roulette example suggests the additional work should be more likely for the increment at the ends of the continuum than in the middle. In the former instance, the result is a certain publication, or improving from no chance to at least some nonzero probability of success.

One potential objection to this involves “Occam’s razor” or the principle of parsimony. That is, “if there are alternative explanations for a phenomenon, then, *all other things being equal*, we should select the simplest one (emphasis supplied)” (Hernandez-Orallo & Garcia-Varea, 2000, p. 186). Thus, simpler models without unnecessary constructs or parameters are preferred. Yet the qualification, “other things being equal,” implies a trade-off between simplicity and the explained variance in an outcome. The deterrence and rational choice perspectives are fairly parsimonious. But questions persist about how much variation in criminal behavior they truly explain and their consequent utility for theory and policy. It is an empirical matter how much additional explained variance is attainable from an expanded conception of deterrence and crime decision making. Such research is necessary for criminological models of choice to strike an appropriate balance between parsimony and explained variance.

The choice perspective also has political undercurrents. The premise of crime as voluntary choice has been associated with punitive and “offender-focused” crime control policies (Petersilia, 2003; Travis, 2005). In this view, if criminal behavior is driven by incentives then society should use its punishment power to make crime as costly as possible for offenders and thereby deter it. But the policy implications of the choice perspective are ultimately unclear. This is evident from discourse about typological theories in life course criminology. Sampson and Laub (2005) question whether individuals are actually separable into distinct groups based on trajectories of offending over the life course (e.g., Moffitt, 1993). Moreover, they worry that such thinking implies that offenders follow predetermined developmental and behavioral trajectories and can lead to unduly punitive crime control policies, such as selective incapacitation (Sampson & Laub, 2003, 2005). This critique implies that typological perspectives *do not sufficiently recognize* human will and agency as determinants of continuity and change in antisocial behavior over the life course. In this case, then, the *failure* to afford sufficient causal import to “the purposeful execution of choice and will” (Matza, 1964) can lead to unduly punitive crime control policies. Thus, the premise of crime as voluntary choice is not unambiguously aligned with a specific paradigm on crime control theory or policy.

The objective of this chapter has been to help reorient deterrence research to better advance theory. New data collection strategies will be essential to do this. Fresh perspectives are necessary for further progress on choice, reconciling empirical findings on deterrence, and better situating “choice” within the theoretical landscape of criminology.

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## CHAPTER 14

# Situational Crime Prevention: Theoretical Background and Current Practice

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Situational crime prevention is quite different from most other criminological approaches to crime control. Proceeding from an analysis of the settings giving rise to specific kinds of crime or disorder, it seeks to introduce discrete managerial and environmental changes that will reduce the opportunities or incentives for crime. Thus, it is focused on the settings in which crimes occur, rather than on those committing criminal acts. It does not try to eliminate criminal tendencies by arresting and sanctioning offenders or by improving society or its institutions. Rather, it seeks to make crime less attractive and it operates, not through the criminal justice system, but through a host of public and private organizations and agencies – schools, hospitals, transit systems, shops and malls, manufacturing businesses and phone companies, local parks and entertainment facilities, pubs and parking lots – whose products, services, and operations spawn opportunities and incentives for a vast range of different crimes. Felson (2002) describes the main sources of these opportunities and incentives, some of which are summarized in Table 14.1 under the five categories of criminogenic products, poor management, poorly designed buildings and places, “leaky systems,” and criminogenic laws.

Researchers in the Home Office Research Unit, the British government’s criminological research department, formulated situational prevention nearly 30 years ago (Clarke, 1980). It was originally thought to be applicable only to “opportunistic” property offenses, such as car theft vandalism and burglary. Quite soon, however, it was applied successfully to assaults, robberies,

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TABLE 14.1. Society's Inadvertent Creation of Opportunities for Crime

Category	Examples
<i>Criminogenic products</i> (Clarke, 1999; Ekblom & Tilley, 2000)	<p><i>Tools for crime:</i> Handguns, cordless drills, pay-as-you-go mobile phones</p> <p><i>Targets of crime:</i> Cars with weak door and ignition locks Credit cards with poor security Easily forged passports Easily cloned mobile phones Unprotected software High-value, easily stolen goods ("hot products") Safes without time locks</p>
<i>Poor management</i> (Eck et al., 2007)	<p>Lack of staff on trains and buses Unsupervised football crowds Disorderly, overcrowded pubs and clubs Motels without proper check-in procedures Uncontrolled entry to public buildings Not checking criminal records of employees in sensitive positions Failing to discipline staff for sexual harassment Failure to discipline school bullies</p>
<i>Badly designed buildings and places</i> (Poyner & Webb, 1991)	<p>Housing estates lacking defensible space Hidden alleyways behind houses Parking lots without surveillance Shop displays facilitating theft Badly lit streets Walls and fences that invite graffiti Isolated public restrooms</p>
<i>"Leaky" systems</i> (Tilley, 2005)	<p>Lax gun controls Poorly regulated public drinking Inadequate checking of insurance claims Loosely worded income tax forms Banking systems that facilitate money laundering Inadequate controls on import and export</p>
<i>Criminogenic laws that provide opportunities or incentives for crime</i> (Morgan & Clarke, 2006)	<p>Prohibitions on alcohol, drugs, and prostitution Costly recycling regulations Discretionary government grants, subsidies, or compensation New taxes on legal goods Strengthening of regulatory power of officials Expansion of grounds for political asylum Gun buyback programs</p>

drug dealing, and prostitution and, more recently, to a much wider variety of crime including fraud and identity theft (e.g., Blais & Bacher, 2007; McNally & Newman, 2008; Newman & Clarke, 2003), child sexual abuse (Wortley & Smallbone, 2006), crime and misbehavior in prisons (Wortley, 2002), organized crime (van de Bunt & van der Schoot, 2003), and terrorism (Clarke & Newman, 2006). It has accumulated a considerable record of success, with many



dozens of evaluated case studies,<sup>1</sup> and it is now clear that it can be used to reduce every form of crime. This account of situational prevention begins with its theoretical background.

## THEORETICAL BACKGROUND

When it was originally proposed, situational prevention was criticized as a superficial response to crime without a theoretical base. In fact, it was informed by social learning theory (Bandura, 1976; Mischel, 1968) and had grown out of an extensive Home Office research program conducted in the 1960s and early 1970s on the effectiveness of residential treatments for delinquency (Sinclair & Clarke, 1982). Initially, this program sought to identify the characteristics of delinquents who were likely to be reconvicted after treatment and paid limited attention to the treatment process itself. Later, the program sought to relate particular aspects of treatment both to the chances of reconviction and to institutional misbehavior. The main findings of the research can be summarized as follows:

1. The best (but nonetheless weak) predictors of reconviction were pretreatment delinquency, current family environment and, to a lesser extent, delinquency during treatment.
2. The various forms of treatment differed little in their long-term effectiveness in preventing reconviction.
3. There were large differences in misbehavior during treatment (as measured by offending or absconding) that were related to differences in institutional regimes and environments.

The first two findings contributed to the “nothing works” (Martinson, 1974) doctrine of the era, but the three findings together were interpreted by the Home Office team to argue that delinquency is mainly a response to a current living situation (for example, the family or an institution), which provides the stimuli and opportunities for offending as well as the reinforcements. Insofar as the situation remains unchanged, delinquency itself is likely to persist. Some transfer of learning is possible from one environment to another, but the general unpredictability of delinquency is a function of changing environmental pressures which make a delinquent response more or less likely. The influence of the environment also helps to account for the ineffectiveness of treatment: though willing conformity or compliance may be found among those under treatment, the contemporary environment reasserts its power on release.

This formulation of the determinants of delinquency influenced the direction of a subsequent program of Home Office research, begun in the mid-1970s, to find a more effective means of reducing delinquency (Clarke & Cornish, 1982). Instead of seeking to alter delinquent “dispositions,” this new program of research explored the potential for altering situations to reduce the opportunities for delinquency and crime. Additional support for the program aims was provided by recently published studies in the United States on “crime prevention through environmental design” by Jeffery (1971) and on “defensible space” design by Oscar Newman (1972), both of which were premised on opportunity reduction. The results of the research were pulled together in a Home Office Research Unit publication, “Crime as Opportunity” (Mayhew, Clarke, Sturman, & Hough, 1976), which, as the title suggests, argued that opportunity has a powerful role in crime. By the time the policy implications of these results had been translated into the con-

<sup>1</sup> Listed on [www.popcenter.org](http://www.popcenter.org)

cept of situational prevention (Clarke, 1980), the social learning theory underlying the research had been abandoned, partly influenced by deviance theory, in favor of a simple “choice” model of crime. The model required information about

(i) the offender’s motives; (ii) his mood; (iii) his moral judgments regarding the act in question and the “techniques of neutralization” open to him (cf. Sykes & Matza, 1957, his capacity to “neutralize” guilt); (iv) the extent of his crime knowledge and perception of criminal opportunities; (v) his assessment of the risks of being caught as well as the likely consequences; and finally, as well as of a different order; (vi) whether he has been drinking (Clarke, 1980, p. 138).

This model was later developed into the rational choice perspective (Clarke & Cornish, 1985; Cornish & Clarke, 1986), which, together with routine activity theory (Cohen & Felson, 1979) and crime pattern theory (Brantingham & Brantingham, 1993), comprise the three main theories of environmental criminology. The theories are complementary, not competitive, because they operate at different levels of explanation and deal with different questions, at least as far as the role of opportunity in crime is concerned. Thus, routine activity theory is a “macro” theory which deals with broad societal changes that lead to the increase or decrease of specific kinds of crime opportunities; crime pattern theory is a “meso” theory, operating at a city or neighborhood level, that deals with the ways offenders discover crime opportunities in the course of their daily lives; and the rational choice perspective is a “micro” theory that deals with the decisions that offenders must make in committing crimes (Felson & Clarke, 1998). Until quite recently, these three theories provided the theoretical underpinnings for situational prevention, but Wortley (2001) has used social psychological concepts to expand its rationale.

Rather than provide a detailed description of the theories supporting situational prevention, the remainder of this section identifies some of their common assumptions that have greatest relevance for situational prevention. These are as follows:

1. **Crime is the result of an interaction between disposition and situation.** Most traditional criminological theories try only to explain why some people become delinquent or criminal. Whether biological, psychological, or sociological in approach, these theories are “dispositional” because they are seeking to explain a general disposition or propensity to commit crime. But crime is an act, not merely a propensity, and it can only be explained in terms of the interaction between the disposition (sometimes also called “criminal motivation”) and the situation that provides the opportunity and sometimes the stimulus for crime to occur.
2. **Offenders choose to commit crime.** As Taylor, Walton, and Young (1973) pointed out many years ago, offenders are not compelled by background to commit crime. Thus, discrimination and disadvantage do not propel robbers through the doors of the bank; rather, robbers *choose* to rob banks because they want money. People choose to commit crimes because they believe this will bring them some benefit, which is not always financial. It can be excitement, status, acceptance by peers, sexual domination, respect, love or, in fact, anything that people might want. Whether they choose to commit crime depends on a rough calculation of the chances of obtaining the reward and the risks of failure – arrest, punishment, humiliation, etc. Their choices may be made under emotional pressure or when intoxicated. They might also be split second, foolhardy, ill-informed, or ill-advised – but they are choices nonetheless. This is what is meant by “limited” or “bounded” rationality (Simon, 1978), which is the mechanism through which the interaction is mediated between disposition and situation. If people choose to commit crime,

it follows that even those who are more disposed to crime will choose to avoid it when the circumstances are unfavourable. Creating unfavourable circumstances is the objective of situational crime prevention.

3. **Opportunity is an important cause of crime.** Even when dispositional theorists have recognized that opportunity plays a part in crime, they have assumed that opportunity is subsidiary to motivation. In their view, motivation is the first and most important thing to explain. Environmental criminology, on the other hand, gives as much importance to opportunity as to motivation in crime causation. In fact, opportunity is an important cause of every form of crime, even a crime as important as homicide that is usually thought to be driven by strong motivation. Opportunity explains why the risk of being murdered in the United States is 6–8 times greater than in the United Kingdom and most other European countries. This is the result of the widespread availability of guns in the United States, particularly handguns – a situational variable – not because the United States is a more criminal country (Farrington, Langan, & Tonry, 2004). Clarke (2008) ascribes a more important role to opportunity by claiming that,
  - a. Criminally disposed individuals will commit a greater numbers of crimes if they encounter more criminal opportunities.
  - b. Regularly encountering such opportunities could lead these individuals to seek even more opportunities.
  - c. Individuals without pre-existing dispositions can be drawn into criminal behavior by a proliferation of criminal opportunities.
  - d. Generally law-abiding individuals can be drawn into committing specific forms of crime if they regularly encounter easy opportunities for these crimes.
  - e. The more opportunities for crime that exist, the more crime there will be.
4. **Situational factors can stimulate crime.** The social science background to the development of situational prevention includes famous studies showing that crime and aggression can be induced or provoked in certain situations. For example, Zimbardo (1973) showed that a damaged, abandoned vehicle attracted further vandalism and Milgram (1974) showed that subjects in an experiment could be induced to commit apparently cruel acts. However, it is only recently that these insights have been directly incorporated into the repertoire of situational prevention techniques. On the basis of his studies of the “closed” environments of pubs and in prisons, Wortley (2001) persuasively argued that situational prevention has focused too much attention on reducing situational opportunities and had neglected situational stimulants to crime. In the latest formulation of the techniques of situational prevention (see below), this omission has been remedied by the inclusion of five techniques to reduce provocations and temptations to crime.

## THE METHODOLOGY OF SITUATIONAL PREVENTION

These assumptions about the situational determinants of crime have helped to shape situational prevention’s methodology which, like the underlying theory, is under constant refinement. Currently, the following five principles of intervention are emphasized (Clarke, 2008):

1. Focus on very specific categories of crime or disorder
2. Focus on crime concentrations

3. Understand how the crime is committed
4. Use an action–research model
5. Consider a variety of solutions

### **Focus on Very Specific Categories of Crime**

Situational prevention shows greatest success when focused on highly specific forms of crime, such as juvenile joyriding, rather than on broader categories of crime such as “car thefts.” This is because the situational determinants of any specific category of crime are quite different from those of another one, even one that seems similar. It may also be committed for different motives, by different offenders with quite different resources and skills.

The need for specificity can be illustrated by research on residential burglary undertaken by Poyner and Webb (1991) in one British city. They found that residential burglaries committed in the suburbs were quite different from those committed in the city center and that these two kinds of burglaries required different solutions. Thus, city center burglaries were committed by offenders on foot looking for cash and jewelry. Because most of the housing was built in terraces they could only get in through the front door or a front window. To prevent these burglaries, Poyner and Webb (1991) suggested improving security and surveillance at the front of the house.

Suburban burglars, on the other hand, used cars and were looking for electronic goods such as videocassette players and TVs. They were more likely to break in at the back of the house than the front. They needed cars to get to the suburbs and to transport the stolen goods. The cars had to be parked near to the house, but not so close as to attract attention. Poyner and Webb’s preventive suggestions included better surveillance of parking places and improved security at the back of houses. They also suggested that the police should crack down on fencing of stolen goods, particularly electronic items – a tactic that would have little effect on the inner city burglars who were primarily targeting cash and jewelry.

### **Focus on Crime Concentrations**

It is sometimes argued that situational prevention could never be an effective means of reducing crime because opportunities for crime are infinite and everywhere and it would never be possible to reduce enough of them to make an impact on crime. At first sight this seems true, but, in fact, opportunities for crime are already severely restricted by formal and informal security. Every day, we all do such things as lock our doors, secure our valuables, counsel our children, and guard our purses and wallets to reduce the risk of crime. To this end, we also buy houses in safe neighborhoods, invest in burglar alarms, and avoid dangerous places and people. Similarly, schools, factories, offices, shops, and many other organizations and agencies routinely take a host of precautions to safeguard themselves, their employees, and their clients from crime. This does not mean that situational prevention has only a very limited role. Quite the contrary – there are still many situations in which opportunities for crime are too easy and tempting. In fact, the most tempting opportunities are highly concentrated at particular places (“hot spots”; Sherman, Gartin, & Buerger, 1989), on particular people (“repeat victims”; Farrell & Pease, 1993), on particular products (“hot products”; Clarke, 1999), and at particular establishments, premises, and

facilities (“risky facilities”; Eck, Clarke, & Guerette, 2007). Focusing on these crime concentrations enables those designing situational interventions to obtain the largest preventive benefits from their actions.

### Understand How the Crime is Committed

Despite its many successes, it is often claimed that situational prevention cannot work because it does not attempt to understand or change motivation. In fact, a deep understanding of motivation is rarely needed to design effective situational measures. For example, speeding in a residential street can be substantially reduced by installing speed bumps without ever understanding all the reasons why people speed there. A second example concerns an outbreak of random murders in the 1980s resulting from the deliberate contamination of painkillers with cyanide. The perpetrators were not caught and their motivation was never revealed, but the murders were brought to an end, with no documented recurrence, by the introduction of tamper-proof packaging for all medicines and foods – a straightforward opportunity-blocking measure (Clarke & Newman, 2005).

More important for situational prevention than understanding *why* offenses are committed is to understand *how* they are committed. Poyner and Webb (1991) could make useful preventive suggestions (see above) once they understood *how* the burglaries were committed and what goods were being sought. They did not spend time researching *why* the burglars wanted to steal goods. It was enough to know that there were some individuals out there with the motivation to steal things from other people’s homes.

In trying to understand how a specific form of crime is done, it is important to adopt the offender’s perspective – to see the task from the offender’s point of view. Sometimes interviewing offenders about their methods can be helpful (Decker, 2005), but when this cannot be done, an alternative is to “think thief” (Ekblom, 1995). This means putting oneself in the shoes of offenders and trying to think through in detail the decisions they must make to complete the crime.

This process reveals another important fact for prevention – committing a crime is not simply of matter of snatching a bag or pocketing goods in a store. Instead, it consists of a linked series of steps, each of which involves decisions by the offender (Cornish, 1994). For example a shoplifter has to decide which store to hit, which goods to steal, how to take them without being seen, how to conceal them, how to escape from the store without being caught, how to sell them, to whom to sell them, what price to ask, and how to make sure that the goods will not be traced back to him. For some crimes, of course – for example, theft of cars for export – the process is much longer and more complicated. The important point is that understanding how a crime is committed helps in finding points of intervention to make the crime more difficult, risky, or less rewarding. And the more detailed the understanding of the process, the richer and more diverse will be the possibilities for intervention.

### Use an Action–Research Model

Unlike crime prevention through environmental design (CPTED), which tries to eliminate *anticipated* problems in new designs on the basis of past experience with similar designs, situational prevention seeks to eliminate *existing* problems. The problem-solving methodology of situational prevention is a form of “action research,” which consists of a series of steps.

The specific crime problem is analyzed:

1. Hypotheses about the main determinants are developed.
2. A range of solutions are identified and assessed.
3. The chosen measures are put into place.
4. The results are then evaluated.

This problem-solving methodology is very similar to the SARA model – scanning, analysis, response, and assessment – that guides problem-oriented policing, though it has probably been followed less faithfully in practice. On the other hand, most situational prevention projects have been more rigorously evaluated than problem-oriented policing ones, partly because situational prevention was developed by government researchers who were constantly challenged to demonstrate its effectiveness. Despite this, the quality should be improved of the evaluative designs used, most of which have been quasi-experimental, using before-and-after comparisons or simple time series, with or without controls. True experiments in the form of randomized controlled trials have very rarely been used in situational projects because of the practical difficulties of allocating interventions randomly to places. However, this has been done routinely in other fields (Boruch et al., 2004) and could be done more often in situational prevention. Wider use should also be made of designs which permit diffusion of benefits (Bowers & Johnson, 2003) and anticipatory benefits (see below) to be examined. It is also important to undertake longer follow-ups so as to learn more about possible attrition of benefits as a result of implementation “fatigue” or criminal “adaptation” (see below). Lastly, situational prevention often lends itself more easily than other interventions to cost–benefit studies, but again, there have been too few of these in the past.

### **Consider a Variety of Solutions**

Many different solutions can be found for any specific problem of crime and disorder if it is analyzed in enough detail. To assist the process of identifying possible solutions, situational prevention researchers have classified the many different ways that exist to reduce crime opportunities. These classifications have been progressively expanded in response to developments in theory, in preventive technology, and in the practice of situational prevention. The latest classification in Table 14.2 has 25 opportunity-reducing techniques grouped under five main headings: (a) increase the effort, (b) increase the risks, (c) reduce the rewards, (d) remove excuses, and (e) reduce provocations (Cornish & Clarke, 2003).

The potential solutions identified in any project need to be carefully assessed for their cost and benefits. In all cases, the assessment must go beyond financial considerations and must include a variety of social and ethical costs, such as intrusiveness, unfairness, inconvenience, and discrimination. Situational prevention is frequently criticized on ethical grounds (see von Hirsch, Garland, & Wakefield, 2000, for an extended discussion), and even though these criticisms can be answered in general terms (see Table 14.3), they must be addressed whenever they arise in the specific context of a particular project. Because there are always many different ways to reduce opportunities, there is no necessity to adopt a particular solution if it is found unacceptable in particular respects.

TABLE 14.2. Twenty-Five Techniques of Situational Prevention

Increase the effort	Increase the risks	Reduce the rewards	Reduce provocations	Remove excuses
1. <i>Target harden</i> <ul style="list-style-type: none"><li>■ Steering column locks</li><li>■ and ignition immobilizers</li><li>■ Anti-robbery screens</li><li>■ Tamper-proof packaging</li></ul>	6. <i>Extend guardianship</i> <ul style="list-style-type: none"><li>■ Go out in group at night</li><li>■ Leave signs of occupancy</li><li>■ Carry cell phone</li></ul>	11. <i>Conceal targets</i> <ul style="list-style-type: none"><li>■ Off-street parking</li><li>■ Gender-neutral phone directories</li><li>■ Unmarked armored trucks</li></ul>	16. <i>Reduce frustrations and stress</i> <ul style="list-style-type: none"><li>■ Efficient lines</li><li>■ Polite service</li><li>■ Expanded seating</li><li>■ Soothing music/muted lights</li></ul>	21. <i>Set rules</i> <ul style="list-style-type: none"><li>■ Rental agreements</li><li>■ Harassment codes</li><li>■ Hotel registration</li></ul>
2. <i>Control access to facilities</i> <ul style="list-style-type: none"><li>■ Entry phones</li><li>■ Electronic card access</li><li>■ Baggage screening</li></ul>	7. <i>Assist natural surveillance</i> <ul style="list-style-type: none"><li>■ Improved street lighting</li><li>■ Defensible space design</li><li>■ Support whistleblowers</li></ul>	12. <i>Remove targets</i> <ul style="list-style-type: none"><li>■ Removable car radio</li><li>■ Women's shelters</li><li>■ Pre-paid cards for pay phones</li></ul>	17. <i>Avoid disputes</i> <ul style="list-style-type: none"><li>■ Separate seating for rival soccer fans</li><li>■ Reduce crowding in bars</li><li>■ Fixed cab fares</li></ul>	22. <i>Post instructions</i> <ul style="list-style-type: none"><li>■ "No parking"</li><li>■ "Private property"</li><li>■ "Extinguish camp fires"</li></ul>
3. <i>Screen exits</i> <ul style="list-style-type: none"><li>■ Ticket needed for exit</li><li>■ Export documents</li><li>■ Electronic merchandise tags</li></ul>	8. <i>Reduce anonymity</i> <ul style="list-style-type: none"><li>■ Taxi driver IDs</li><li>■ "How's my driving?" decals</li><li>■ School uniforms</li></ul>	13. <i>Identify property</i> <ul style="list-style-type: none"><li>■ Property marking</li><li>■ Vehicle licensing and parts marking</li><li>■ Cattle branding</li></ul>	18. <i>Reduce temptation and arousal</i> <ul style="list-style-type: none"><li>■ Controls on violent pornography</li><li>■ Enforce good behavior on soccer field</li><li>■ Prohibit racial slurs</li></ul>	23. <i>Alert conscience</i> <ul style="list-style-type: none"><li>■ Roadside speed display boards</li><li>■ Signatures for customs declarations</li><li>■ "Shoplifting is stealing"</li></ul>
4. <i>Deflect offenders</i> <ul style="list-style-type: none"><li>■ Street closures</li><li>■ Separate bathrooms for women</li><li>■ Disperse pubs</li></ul>	9. <i>Use place managers</i> <ul style="list-style-type: none"><li>■ CCTV for double-deck buses</li><li>■ Two clerks for convenience stores</li><li>■ Reward vigilance</li></ul>	14. <i>Disrupt markets</i> <ul style="list-style-type: none"><li>■ Monitor pawn shops</li><li>■ Controls on classified ads</li><li>■ License street vendors</li></ul>	19. <i>Neutralize peer pressure</i> <ul style="list-style-type: none"><li>■ "Idiots drink and drive"</li><li>■ "It's OK to say No"</li><li>■ Disperse troublemakers at school</li></ul>	24. <i>Assist compliance</i> <ul style="list-style-type: none"><li>■ Easy library checkout</li><li>■ Public lavatories</li><li>■ Litter receptacles</li></ul>
5. <i>Control tools/weapons</i> <ul style="list-style-type: none"><li>■ "Smart" guns</li><li>■ Restrict spray paint sales to juveniles</li><li>■ Toughened beer glasses</li></ul>	10. <i>Strengthen formal surveillance</i> <ul style="list-style-type: none"><li>■ Red light cameras</li><li>■ Burglar alarms</li><li>■ Security guards</li></ul>	15. <i>Deny benefits</i> <ul style="list-style-type: none"><li>■ Ink merchandise tags</li><li>■ Graffiti cleaning</li><li>■ Disabling stolen cell phones</li></ul>	20. <i>Discourage imitation</i> <ul style="list-style-type: none"><li>■ Rapid repair of vandalism</li><li>■ V-chips in TVs</li><li>■ Censor details of modus operandi</li></ul>	25. <i>Control drugs and alcohol</i> <ul style="list-style-type: none"><li>■ Breathalyzers in bars</li><li>■ Server intervention programs</li><li>■ Alcohol-free events</li></ul>

NOTE. From Cornish and Clarke (2003). Copyright 2003 by Criminal Justice Press (accessible at [www.popcenter.org](http://www.popcenter.org)). Reprinted with permission by the author.

TABLE 14.3. Common Ethical Criticisms of Situational Prevention

Criticism	Reply
1. It diverts attention from the root causes of crime	It benefits society by achieving immediate reductions in crime. In any case, it is not known how to prevent crime by addressing root causes
2. It is a conservative, managerial approach to crime	It promises no more than it can deliver. It requires that solutions be economic and socially acceptable
3. It ignores the need to punish offenders	Increasing the severity of punishment does not prevent crime and it results in severe social costs
4. It punishes the law abiding, not offenders by restrictions on freedom	Some freedoms should be restricted – speeding, driving and drinking, etc
5. It serves the interests of the rich and neglects the poor	It provides as much protection to the poor as to the rich, for example, through defensible space planning for public housing, securing public transport, and addressing street crime
6. It focuses too much on crime in the streets and ignores crime in the suites	Originally true – in response to public fears – but no longer the case
7. It promotes social exclusion	Some private policing might have this result, but all situational prevention requires social costs – including social exclusion – to be assessed
8. It displaces crime from rich to poor	Even in those few cases when situational measures can only be afforded by the wealthy (e.g., vehicle tracking devices), they can result in diffusion of benefits to the less wealthy
9. It leads offenders to escalate, to commit worse crimes	This ignores the moral calculus engaged in by all offenders
10. It encourages Big Brother surveillance and infringes the privacy of citizens	The democratic process protects society from these dangers and CCTV, in particular, has been widely accepted by citizens
11. It makes life restrictive and inconvenient	People are willing to endure inconvenience and small infringements of liberty when these protect them from crime and terrorism
12. It degrades the environment through ugly target hardening	Some of the most effective target hardening, such as the steering column lock, is “invisible.” Good design can usually achieve the same target hardening benefits as ugly design
13. It blames the victim	It empowers victims by providing them with information about crime risks and how to avoid them
14. It promotes a “fortress society” in which fearful citizens barricade themselves at home and work to avoid crime victimization	Media reporting of crime, not situational prevention, is the main cause of increased fear. Situational prevention helps remove the cause of these fears; and some situational measures such as improved lighting, defensible space design, and neighbourhood watch promote social intercourse

## DISPLACEMENT AND OTHER OFFENDER REACTIONS

Many dozens of successful situational prevention studies have been reported since the concept was first described more than 25 years ago. In some cases, the reductions in crime achieved have been dramatic. To take two examples, a plague of robberies of bus drivers in New York and



18 other US cities in the late 1960s/early 1970s was largely eliminated by two measures: the introduction of exact fares and the installation of bus safes into which the money was dropped (Chaiken, Lawless, & Stevenson, 1974; Stanford Research Institute, 1970). This meant that there was no longer any point in attempting to rob the driver. More recently, US cell phone companies largely wiped out cloning by the introduction of five new anti-cloning technologies; at its height, this problem had been costing the companies about \$800 million per year in fraudulent phone calls (Figure 14.1).

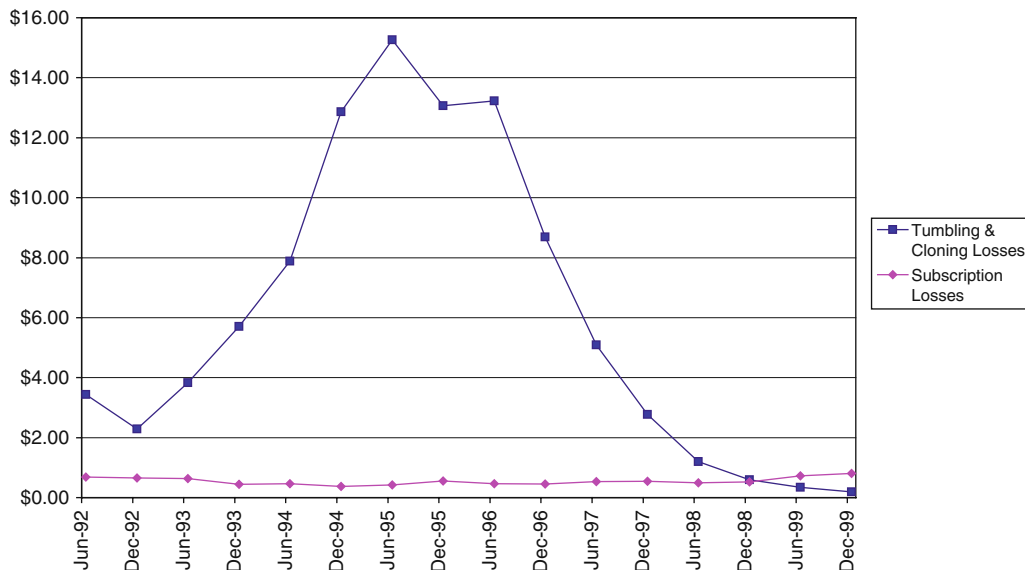


FIGURE 14.1. Semi-annual fraud losses, dollars per subscriber, United States, June 1992–December 1999.

NOTE. From Clarke et al. (2001). Copyright 2001 by Palgrave Macmillan. Reprinted with permission of the author.

Probably no other form of crime control can claim an equal record of evaluated successes, but the evidence is still disputed on grounds that the reductions are negated by displacement (i.e., the offenders shift their attention to other places, times and targets, use different methods, or commit different crimes); that situational prevention results in escalation (i.e., offenders resort to more harmful methods to gain their ends); and that even if displacement does not occur immediately, the criminal population adapts in the long run to reduced opportunities by discovering new ways to commit crime.

These criticisms are addressed below under four headings: (1) displacement, (2) diffusion of benefits, (3) anticipatory benefits, and (4) adaptation.

## Displacement

“Dispositional” critics of situational prevention often seem to assume that criminal motivation has the properties of a “drive” that must be expressed in criminal behavior (cf. Clarke, 1980). This idea might be credible for some very rare crimes – some forms of arson, for example – but

it is certainly not true for the great majority of crimes. For most crimes, rational choice theory offers the more realistic perspective that offenders will try to find some way of continuing to offend when they encounter blocked opportunities, but they will always evaluate the alternatives in terms of costs and benefits. For example, rational choice theory suggests that if shoppers were prevented from stealing at their local supermarket by new security measures, it is highly unlikely that they would begin to shop at some more distant store where they could continue to shoplift. Even less likely is that they would turn to mugging senior citizens because shoplifting is easier to rationalize and much less risky than mugging. In fact, almost by definition, any instance of escalation is more costly for offenders. Some of them may be prepared to make more difficult rationalizations or run additional risks, but the empirical research suggests that they will be a minority (cf. Ekblom, 1988).

In fact, reviews of the evidence on displacement have found that it can occur, but it is not inevitable. In the most recent review, Hesselning (1994) found no evidence of displacement in 22 of the 55 studies he examined; in the remaining 33 studies, he found some evidence of displacement, but in no case was there as much crime displaced as prevented. Much the same would probably be found if his review were repeated today, when many more studies of displacement have been reported. For example, little displacement seems to have occurred to “subscriber” fraud, the second largest category of cell phone fraud, when cloning was largely eliminated in the United States (see the lower line in Figure 14.1). This is because they are, in fact, very different forms of crime. Subscriber fraud involves the use of a false name and address to obtain cell phone service. These crimes would be difficult to reproduce on a wide scale and would, therefore, not be attractive to organized groups. Cloned phones, on the other hand, were “mass produced” by offenders who had learned how to acquire hundreds of legitimate phone numbers and program them into stolen phones.

### **Diffusion of Benefits**

An unexpected finding of the work on displacement was that situational prevention can result in a “diffusion of benefits.” This term refers to the reductions in crime that can sometimes occur beyond the immediate focus of the situational measures introduced (Clarke & Weisburd, 1994). This greatly enhances the practical appeal of situational prevention, especially as the phenomenon is quite general as shown by the following examples:

1. When “red light cameras” were installed at some traffic lights in a large Scottish city, not only did fewer people “run the lights” at these locations, but also at other traffic lights nearby (Scottish Central Research Unit, 1995).
2. When a New Jersey discount electronic retailer introduced a regime of daily counting of valuable merchandise in the warehouse, employee thefts of these items plummeted – but thefts also plummeted of items not repeatedly counted (Masuda, 1992).
3. Newly installed CCTV cameras at the University of Surrey in England reduced car theft in the three parking lots that were given surveillance – but car theft declined by an equal amount in a fourth car park not covered by the cameras (Poyner, 1991).
4. As expected, electronic tagging of books in a University of Wisconsin library resulted in reduced book thefts. However, thefts also declined of video cassettes and other materials that had not been tagged (Scherdin, 1986).

5. Added security for repeatedly burgled houses in a public housing estate in England reduced burglaries for the whole of the estate, not just for the houses given additional protection (Pease, 1991).
6. When street lighting was improved in a large housing estate in England, crime declined in both that estate and a nearby one where the lights were not changed (Painter & Farrington, 1997).
7. The introduction of vehicle tracking systems in six large American cities led to city-wide reductions in car theft, not just for car owners who purchased the devices (Ayres & Levitt, 1998).
8. Widespread ownership of burglar alarms in an affluent community near Philadelphia appears to have reduced burglary rates for the community at large (Hakim, Gaffney, Rengert, & Shachmurove, 1995).

The explanation for these results seem to be that potential offenders often know that new prevention measures have been introduced, but they may be unsure of their precise scope. They may believe the measures are more widespread than they really are and that the *effort* needed to commit crime, or the *risks* incurred, has been increased for a wider range of places, times or targets than, in fact, is the case.

### Anticipatory Benefits

Just as offenders often overestimate the reach of situational prevention, they often believe that prevention measures have been brought into force *before* they actually have been. Crime, therefore, drops before any measures have been introduced. This is what is meant by the “anticipatory benefits” of prevention. A recent review found evidence of anticipatory benefits in perhaps as many as 40% of situational prevention projects (Smith, Clarke, & Pease, 2002). Apart from using publicity, little is known about how to deliberately enhance these benefits, but they certainly provide “added value” to situational prevention.

### Adaptation

The concept of criminal “adaptation” further complicates evaluation of situational prevention. It refers to the process through which offender *populations* discover new crime vulnerabilities after preventive measures have been in place for a while (Ekblom, 1997). It is a longer term process than displacement, which refers to the ways in which *individual* offenders seek to circumvent measures put in place to stop them.

A clear example of adaptation relates to baggage and passenger screening measures introduced in the early 1970s to curb hijackings of airliners between the United States and Cuba. These measures, together with an agreement between the countries to treat hijackers as criminals, quickly eliminated the hijackings (Clarke & Newman, 2006; Wilkinson, 1986). Other countries soon adopted the screening measures and hijackings outside the Americas also declined. (Note that Table 14.4 shows actual numbers of hijackings, not rates, and during this period there was a huge increase in the number of airliners and flights.) There was no real evidence of any displacement, in particular, there was no increase in sabotage bombings of airlines.

TABLE 14.4. Airliner Hijackings and Sabotage Bombings, 1961–2003

Period	Number of years	Mean hijackings per year		Mean sabotage bombings per year
		United States	Foreign	Worldwide
1961–1967	7	1.6	3.0	1.0
1968	1	20.0	15.0	1.0
1969–1970	2	30.5	58.0	4.5
1971–1972	2	27.0	33.0	4.5
1973–1985	13	9.4	22.7	2.2
1986–1989	4	2.8	9.0	2.0
1990–2000	11	0.3	18.5	0.3
2001–2003	3	1.3	5.7	0.0

NOTE. From Clarke and Newman (2006). Reprinted with permission of the author.

However, the screening measures introduced in the 1970s were premised on the assumption that hijackers were not intent on suicide and, in any case, the authorities became less vigilant over time. This allowed the 9/11 hijackers to find loopholes in the security and seize the airliners. Their attack is a clear example of adaptation to preventive measures. It is not displacement because the 9/11 hijackers were completely different from the offenders (those operating in the 1970s between the United States and Cuba) who made the original introduction of the screening measures necessary.

The lack of long-term evaluation makes it difficult to know how often adaptation occurs. Apart from the hijacking example above, perhaps the best documented example of adaptation is the progressive evolution described by Levi (2008) in methods of credit card fraud in response to a series of preventive measures taken by UK credit card companies in the past two decades. On the other hand, there are some documented examples of situational measures having long-term benefits. For example, Webb (1994) has shown that steering column locks helped to reduce car theft over a 40-year period in Germany and over a 30-year period in the United Kingdom and the United States where these locks were introduced later. Further, Armitage and Smithson (2007) have shown that the burglary and fear reduction benefits of “alley-gating” (installing locked gates to close off alleys behind houses) in Liverpool were sustained for a further 4 years beyond the initial 1-year follow-up (Bowers, Johnson, & Hirschfield, 2004).

## CONCLUSIONS

When first formulated, situational prevention attracted little interest from criminologists. This was partly because it diverged from the dispositional assumptions of the discipline and partly because of knee-jerk suspicion evoked by its origins in “administrative criminology.” It has taken many years of sustained research effort for situational prevention to achieve the measure of acceptance that it now has. Developments in the underlying theory have removed any basis for criticizing it as a simplistic approach to crime control; its accumulating record of success has demonstrated that it can achieve very significant reductions in crime, which are not undermined by displacement; its application to a progressively broader range of crimes has shown that is not

limited to dealing only with opportunistic property crimes; and growing experience of its use has shown that many of the ethical criticisms made of it are exaggerated or one-sided. In fact, situational prevention might have fewer ethical problems than some forms of developmental crime prevention and certainly fewer than those of formal criminal justice interventions.

None of these means that situational prevention will be adopted wholesale by criminologists. There is too much investment in dispositional theory and too much hope still invested in finding ways to modify criminal motivation. Moreover, situational prevention does not sit well with criminological ideology. Thus, it does not promote the social reformist agendas of many criminologists and it offends many of their attitudes, such as distaste for business, distrust of corporate power, and sympathy for the criminal underdog. Lastly, situational prevention threatens to turn criminology from an academic discipline into a technical discourse more in tune with the police and the security industry.

In the long run, however, criminologists will have to adapt to some wider changes, independent of situational prevention, but which are congruent with its general approach. The first of these changes is that improved data collection and processing will greatly improve the ability of criminologists to undertake crime specific studies and studies of situational determinants of crime. These developments include more sophisticated crime mapping and geographic information systems, better capture of crime data through improved police recording practices and the increasing use of crime surveys, and more available time budget data and other indices of citizens' social and economic activities. Second, the development of proactive models of policing (e.g., "broken windows" policing, COMPSTAT, problem-oriented policing, and intelligence-led policing) has required police to recruit crime analysts who can support these approaches. The criminological theories and methods that have most relevance for crime analysis are the same as those used in situational prevention. Third, advances in electronic technology, which in the form of the breathalyzer, speed cameras, and video cameras have already extended the reach of situational prevention and law enforcement, will likely continue to deliver new forms of prevention. Fourth, and perhaps most importantly, crime is rapidly changing. Thus, Tilley, Robinson, and Burrows (2007) have noted that the share of all recorded crime accounted for by burglaries and car thefts declined from about 50% in the mid-1990s to just below 30% in 2005. At the same time as "street crimes" like burglaries and car thefts are falling, globalization and the Internet have opened up new worlds of opportunity for electronic and transnational crimes, which are being widely exploited by organized criminals and terrorists. Rational choice and routine activity theory often provide better explanations of these crimes, and help to suggest more effective means of intervention than traditional, dispositional criminology.

If experience is any guide, situational prevention will need to be modified and extended to take account of these developments. Some already existing gaps in our knowledge about situational prevention have been noted above, the most important of which concern aspects of its effectiveness. While there is no doubt that it can be highly effective in a wide variety of specific circumstances, much less is known about the longevity and the cost-effectiveness of its interventions. More tantalizing, little is known about the overall effect of reducing opportunities for crime through the combined application of situational prevention and tightened security. If there is any validity to some recent speculation about the role of opportunity in crime (see above), it might be expected that removing some of the easiest and most tempting opportunities for crime would result in a multiplicative effect on the total volume of traditional offenses, as fewer individuals might embark upon "a life of crime." During the past 20 years, a vast amount has been done to improve security through widespread use of burglar alarms, security guards, CCTV surveillance,

anti-fraud systems for credit card, EAS and barcodes for merchandise in shops, electronic immobilizers for cars, better lighting, and improved building design. Indeed, the security industry has consistently been cited as one of the fastest growing sectors of the economy and situational prevention has sometimes been described as the fastest growing form of crime prevention. However, criminologists have rarely mentioned this vast range of activity as a possible cause of the widespread declines of crime in most industrialized nations, even though many of the common explanations for the crime drop in America (greater use of imprisonment, the waning of the crack epidemic, demographic change, improved policing, etc., Blumstein & Wallman, 2000) do not hold for these other nations. This neglect has been noted by others (Farrell, Tilley, Tseloni, & Mailley, in press) and, if this stimulates the needed research, it might turn out that the value of reducing opportunities for crime could no longer be discounted by criminologists.

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## CHAPTER 15

# Desistance from Crime

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One of the key findings in longitudinal studies of criminal behavior is that antisocial behavior is fairly stable across the life course (Gottfredson & Hirschi, 1990; Huesmann, Eron, Lefkowitz, & Walder, 1984; Le Blanc & Fréchette, 1989). According to Loeber (1982), “Children who initially display high rates of antisocial behaviour are more likely to persist in this behaviour than children who initially show lower rates of antisocial behaviour” (p. 1433). However, it has also been argued that although most adult offenders were at one time juvenile delinquents, most juvenile delinquents do not grow up to be adult offenders (Gove, 1985; Robins, 1978; Sampson & Laub, 1993). Although this sounds paradoxical, the issue is a matter of perspective. Long and Vaillant (1984) write, “The transmission of disorganization and alienation that seems inevitable when a disadvantaged cohort is studied retrospectively appears to be the exception rather than the norm in a prospective study that locates the successes as well as the failures” (p. 344). In other words, although studies have shown that the causes of long-term involvement in offending can be traced back to early ages (Farrington & Hawkins, 1991; Gottfredson & Hirschi, 1990; Huesmann et al., 1984; Le Blanc & Fréchette, 1989; Loeber & Le Blanc, 1990; Nagin & Farrington, 1992; Sampson & Laub, 1993; Wilson & Herrnstein, 1985), it has also been suggested that adult life events can potentially influence these developmental pathways (Farrington & West, 1995; Laub & Sampson, 2003; Sampson & Laub, 1993).

For most individuals, participation in “street crimes” like burglary, robbery, and drug sales (the types of offenses that are of particular concern to criminologists) generally begins in the early teenage years, peaks rapidly in late adolescence or young adulthood, and dissipates before the person reaches 30 years of age (Farrington, 1986). Official conviction statistics are not easy to interpret and might be skewed by a number of factors. For instance, older offenders may be

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better at avoiding apprehension than young people or may be more likely to die or spend long periods in incarceration. However, longitudinal cohort studies such as the Cambridge Study in Delinquent Development (CSDD, see e.g., Farrington, 1992) seem to confirm that the primary reason that relatively few street crimes are committed by older individuals is that young people “grow out” of these behaviors. Farrington found that for the CSDD sample, self-reported criminal behavior peaks at around age 17 or 18 and decreases sharply as youths progress through their twenties.

In common parlance, individuals may refer to this as “going straight” or “going legit.” Criminologists refer to this process as “desistance from crime,” and it has become a core concept in the study of crime and deviance (see Laub & Sampson, 2001). In fact, the general relationship between age and crime has been found so consistently in the empirical literature that some observers have concluded that desistance from crime is a “natural” process akin to puberty (Goring, 1919). For instance, in their classic work in life-course criminology, Sheldon and Eleanor Glueck (1937) argue that “Father Time” has an “inevitable effect upon biologic and psychologic processes” (p. 15) and that “Aging is the only factor which emerges as significant in the reformatory process” (p. 105). More recently, contemporary researchers have explicitly sought to resurrect the idea that desistance is due primarily to the “inexorable aging of the organism” (Gottfredson & Hirschi, 1990). Gottfredson and Hirschi suggest, “Crime declines with age. Spontaneous desistance is just that, change in behavior that cannot be explained and change that occurs regardless of what else happens” (p. 136; see also Wilson & Herrnstein, 1985, p. 145). This argument, however, rests upon the highly controversial claim that the age–crime curve is universal and invariant across time, place, and offense type – an argument that has not stood up well to empirical scrutiny (see e.g., Greenberg, 1994; Steffensmeier, Allan, Harer, & Streifel, 1989). It also presupposes limited variation in the timing and pattern of desistance among offending populations, which has also been contradicted in recent research (see Bushway, Piquero, Broidy, Cauffman, & Mazerolle, 2001).

In short, although aging certainly plays some role in the process of desistance, contemporary researchers suggest that maturational reform explanations fail to “unpack” the “meaning” of age (Sampson & Laub, 1992). Age indexes a range of different variables, including biological changes, social transitions, and life experiences. For age to be a meaningful explanation of social behavior, according to this argument, one must ask which features indexed by age “constitute the mediating mechanisms” at work in this process (Rutter, 1996, p. 608).

The objective of this chapter is to offer an overview of these mechanisms that are often thought to be involved in the process of desistance from crime and to highlight some of the unresolved issues in this area. Although desistance has become among the most popular topics in criminology in recent years, it has been suggested that our understanding of the factors underlying the process remains limited (Bushway, Thornberry, & Krohn, 2003; Farrall & Bowling, 1999; Farrington, 2003; Laub & Sampson, 2001; Le Blanc & Loeber, 1998; Piquero, Farrington, & Blumstein, 2003; Uggen & Piliavin, 1998). This might be especially true in terms of the role of criminal justice interventions in promoting the process. Recently, a National Research Council (2007, p. 72) report argued that “With some exceptions, the characteristics of interventions, including parole supervision itself, that are effective in increasing parolees’ desistance from crime are unknown.” As such, despite the considerable progress in recent decades, much work remains to be done. The first section of this chapter aims to discuss issues relating to the definition of the concept of desistance. This is followed by a review of the major social factors (e.g., marriage, employment) and internal factors (e.g., changes in identity, cognition) associated

with desistance. We conclude with a brief discussion of some of the policy implications of the emerging research on desistance.

## WHAT IS DESISTANCE?

In their extensive review of the desistance literature, Laub and Sampson (2001) argue that few studies have offered an operational definition of desistance and that there is currently no consensus in the literature on this issue (see also Maruna, 2001; Piquero et al., 2003). Most, but not all,<sup>1</sup> define desistance as the absence of criminal behavior, as in the “cease and desist” order: one first terminates offending, then desists or abstains from further offending. The question becomes, however, how many months or years of non-offending are required to make up desistance (Bushway et al., 2001; Laub & Sampson, 2001, 2003; Maruna, 2001; Piquero et al., 2003)? Farrington (1986) argues that “even a five-year or ten-year crime-free period is no guarantee that offending has terminated” (p. 201). Most researchers who use terms like “desistance,” “cessation,” or “termination” seem to imply that this is a permanent change. Yet, such permanence can only be determined retrospectively, presumably after the ex-offender is deceased (Blumstein, Cohen, & Hsieh, 1982; Elliott, Huizinga, & Menard, 1989; Farrington & Wikström, 1994). Otherwise, patterns of intermittency, which are common in offending career trajectories (see Piquero, 2004), may be misinterpreted as “desistance.”

Because limiting one’s research to deceased desisters from crime is highly impractical from a research standpoint, academic researchers have crafted a number of different operational definitions for what they label “desistance.” Several of these definitions involve some uncertainty as to whether this state of desistance is temporary or permanent. In this research, “desistance” is more likely to refer to a state of “temporary non-offending” than a permanent change from one state to another (Bushway et al., 2001). Yet, because these conceptual and operational definitions of desistance vary across existing studies, “it is difficult to draw empirical generalizations from the growing literature on desistance from crime” (Uggen & Massoglia, 2003, pp. 316–317). The disparity in definitions inevitably raises the question as to whether it would be useful to reach a consensus on how to define the concept of desistance, in order to reach some degree of generalizability regarding its predictors.

Additionally, numerous researchers have acknowledged the relevance of understanding desistance as a *process* rather than an event that occurs abruptly (Bottoms, Shapland, Costello, Holmes, & Muir, 2004; Bushway et al., 2001, 2003; Fagan, 1989; Greenberg, 1975; Haggard, Gumpert, & Grann, 2001; Laub, Nagin, & Sampson, 1998; Laub & Sampson, 2001; Le Blanc, 1993; Loeber & Le Blanc, 1990; Maruna, 2001; Shover, 1983). Most studies on desistance have adopted a dichotomous measure of desistance (static) rather than a process view of the phenomenon (dynamic). Individuals are either classified as “desisting” or “persisting” in an “either/or” fashion. As a result, these studies do not account for *changes* in rates of offending or for the progression toward desistance. Since complete desistance is difficult to observe reliably (outside of historical studies of the dead), research might be better directed on the progress

<sup>1</sup> Some argue that the term desistance should also be used to describe declines in the frequency or severity of criminal activity (Laub & Sampson, 2001; Le Blanc & Loeber, 1998).

made by individuals across various stages leading to complete cessation (see Bushway et al., 2001 for a similar discussion).

These conceptual controversies and methodological impediments to the study of desistance should be born in mind when reviewing the following section on the social and psychological factors thought to be associated with desistance in the theoretical and empirical literature.

## EXPLANATIONS OF DESISTANCE

This section aims to provide a brief overview of the main correlates and predictors of desistance identified in the literature, including life events, internal changes, and interactions between the two. The purpose is not to offer a comprehensive review of extant research on desistance (for this, consult Farrall & Calverley, 2006; Laub & Sampson, 2001) but rather to provide a brief summary of some of the key findings from influential studies in desistance research.

### Social Factors Involved in Desistance

“Good” things sometimes happen to “bad” actors, and when they do desistance has a chance (Laub et al., 1998, p. 237).

Despite Gottfredson and Hirschi's (1990) claim that associations between life events and desistance from crime are spurious, a large body of research on desistance has drawn attention to the importance of social bonds in the process of desistance. Sampson and Laub (1993) argue that these bonds provide individuals with a stake in conformity and a reason to avoid criminality. Conversely, the theory predicts that individuals who have weak social bonds are most likely to remain involved in criminal and delinquent behavior because they have the least to lose from social sanctions and ostracism.

According to these theories, desistance from crime is said to be gradual, resulting from an accumulation of social bonds and changing social associations (see Horney, Osgood, & Marshall, 1995). Irwin (1970) identifies three key dimensions in the explanation of desistance from crime: a good job, a good relationship, and an involvement in prosocial hobbies and interests. Giordano, Cernkovich, and Rudolph (2002) refer to this as a “respectability package,” arguing that marriage and job stability exert a more substantial impact on desistance if they occur jointly. In this respect, turning points (marriage, employment, etc.) are not independent from one another.

Using a retrospective survey with 600 serious offenders, Horney et al. (1995) explore the association between crime and local life circumstances, which they defined as “. . . conditions in an individual's life that can fluctuate relatively frequently” (p. 658). The authors hypothesize that factors contributing to short-term variations in criminal behavior were similar to those explaining long-term variations (i.e. strength of bonds to conventional social institutions). Horney et al. (1995) find that individuals were “. . . more likely to commit crimes when using illegal drugs and conversely were less likely to commit crimes when living with a wife” (p. 669; see also Farrington & West, 1995; Laub & Sampson, 2003; Rand, 1987; Sampson & Laub, 1993). According to Horney et al. (1995), time invested in conventional social institutions is time away

from sources of temptations (bars, deviant peers, etc.). In short, local life circumstances exert a significant impact on offending, and these effects were more prominent among average and high-rate offenders. Horney et al. (1995) do, however, admit that these social processes may not have been randomly distributed in their study and that "...local life circumstances can change criminal careers by modifying the likelihood of offending *at particular times*" (p. 670; emphasis in original). Since their analyses are limited to a short period of the life course, it is difficult to assess whether these changes were temporary and sporadic, or whether they reflected stable changes in life-course trajectories.

Sampson and Laub's (1993; see also Sampson & Laub, 1997) age-graded theory of informal social control emphasizes the idea that "... the important institutions of both formal and informal social control vary across the life span" (p. 17). Farrington and Hawkins (1991) found similar conclusions and argued that the predictors of desistance may change across the life course. Sampson and Laub's (1993) argument relies on the premise that changes in social bonds across the life course can explain offending behavior, even when accounting for different degrees of self-control. In childhood and adolescence, delinquency is explained by the strength of bonds (or lack thereof) to family and school. In adulthood, variations in offending behavior are explained by job stability and marital attachment, which are said to promote the desistance process. How individuals adapt to life-course transitions and turning points may mold the decision to engage in criminal (or noncriminal) behavior. Thus, life events can either be positive or negative, depending on the "quality, strength, and interdependence of social ties" (Sampson & Laub, 1993, p. 21). In this respect, adult crime would largely result from weak bonds to social institutions, and desistance from crime would entail some "social investment" in conventional institutions (Coleman, 1988).

**MARRIAGE AND DESISTANCE.** Analyzing data from the Cambridge Study in Delinquent Development, Farrington and West (1995) find that "...individuals who had married and never separated were the least antisocial at age 32 while those who had married and separated and were now living alone were the most antisocial" (p. 265). The authors also find that while conviction rates were similar for married and unmarried men before marriage, the married men had substantially lower conviction rates after marriage. However, the authors further argue that "It is not clear from these results how far marriage and separation may be causes, consequences, or symptoms" (p. 265). At age 32, marriage does not have an effect on offending, but *staying married* did. As such, marriage alone is not sufficient enough in deterring crime, and that the effect of marriage may be dependent on "...the reasons for getting married (e.g., pregnancy), on the happiness of the marriage, and on the extent to which the wife is conventional and prosocial" (Farrington & West, 1995, p. 278), and they conclude that "Marriage may have a cumulative rather than a sharply-delimited effect" (p. 278).

In agreement with Farrington and West's results, research by Laub et al. (1998) suggests that high-rate offenders display weaker marital bonds than other offenders. They argue that the timing and quality of marriage is critical (see also Rutter, 1996), with stable marriages having an increased preventive effect. Moreover, they argue that the inhibitive effect of marriage on crime is gradual rather than abrupt. Laub and Sampson (2003) define the effect of marriage on crime as an "investment process": the more individuals invest in social bonds (e.g., marriage), the less

likely they are to engage in criminal activities because they have more to lose. Laub and Sampson (2003, p. 33) reject the idea that the effect of marriage on crime is merely a result of self-selection and demonstrate that marital effects on desistance remain strong despite selection effects.

Laub and Sampson (2003) theorize that much of the impact of marriage involves shifts in routine activities. Marriage leads to reduced deviant peer associations, new friends, and extended family, as well as overall changes in routine activities. Spouses also constitute an extra source of social control and an effective means of monitoring routine activities, as do residential changes and parenthood. Finally, Laub and Sampson argue that "...marriage can change one's sense of self" (p. 43).

Other research suggests that although marriage exerts a significant impact on some forms of antisocial behavior (namely drug and alcohol use), it does not influence criminal behavior (see Knight, Osborn, & West, 1977). For instance, Kruttschnitt, Uggen, and Shelton (2000) investigate the predictors of desistance among a sample of sex offenders placed on probation in Minnesota in 1992. The authors find that "... job stability significantly reduces the probability of reoffending among convicted sex offenders, although marital status exerts virtually no effect" (p. 80, see also Giordano et al., 2002). Kruttschnitt and colleagues conclude that this lack of association between marriage and reoffending may be a result of the fact that the research team did not have measures of the quality of the marital relationship. In other words, marriage may support efforts to desist, but this association is contingent upon the quality of relationship with the spouse.

**EMPLOYMENT AND DESISTANCE.** The general consensus in the literature is that job stability promotes desistance from crime (see Giordano et al., 2002; see Rhodes, 1989). Using data from the National Supported Work Demonstration Project (NSWDP), Uggen (2000) explores the role of employment on recidivism. This NSWDP recruited participants from underprivileged neighborhoods and randomly assigned them to control and experimental groups. School dropouts and individuals with criminal records and histories of drug use were specifically targeted. Individuals in the treatment group were given minimum-wage employment opportunities. The results suggest that "Offenders who are provided even marginal employment opportunities are less likely to reoffend than those not provided such opportunities" (Uggen, 2000, p. 542). Nonetheless, the jobs program had a far more substantial impact on older individuals (over 26 years of age) than for young adults.

The life narratives explored in Laub and Sampson's (2003) study suggest that

...stable work may not trigger a change in an antisocial trajectory in the way that marriage or serving in the military does, even though employment may play an important role in sustaining the process of desistance (p. 129).

In their explanation of the impact of employment on desistance, Laub and Sampson (2003) again emphasize the important role of routine activities. The authors argue that the processes underlying the relationship between work and desistance are similar to those underlying the relationship between marriage and desistance. Stable jobs reduce offending through four main processes: a reciprocal exchange of social capital between employer and employee; reduced criminal opportunities; direct informal social control; and the development of a "... sense of identity and meaning to one's life" (Laub & Sampson, 2003, p. 47).

Importantly, the impact of employment as a turning point appears to also be interdependent upon other social transitions. Sampson and Laub's (1993) results reveal interaction effects between various social institutions and desistance from crime. For example, they find that the impact of job stability on desistance is not as significant among married men.

**PEER ASSOCIATIONS AND DESISTANCE.** Whereas Sampson and Laub's (1993) perspective is more consistent with Hirschi's (1969) control theory, other desistance theories involve a social learning or differential association position (see for example, Warr, 1998). Such theories suggest that the effect of marriage on crime is mediated by peer associations (see Akers, 1990). This perspective attributes desistance to associations with conventional peers, increased noncriminal routine activities, and reduced exposure to definitions favorable to crime.

Using a sample from the National Youth Survey (NYS), Warr (1993) found that changes in offending behavior with age were related to changes in peer associations. He concludes that when controlling for peer associations "... the association between age and crime is substantially weakened and, for some offenses, disappears entirely" (p. 35). In a later study, Warr (1998) found that married people tend to spend less time with their friends than unmarried people, and that the former group tends to have fewer delinquent friends than the latter group. According to this argument, the effect of marriage on desistance is mediated by peer influences and more particularly by the reduced involvement with delinquent friends and less exposure to criminal opportunities.

Wright and Cullen (2004) replicate Warr's (1998) study using data from the National Youth Survey (NYS) but focus on employment rather than marriage. They found that employment increased the interactions with prosocial co-workers, which "...restructure friendship networks by diminishing contact with delinquent peers" (2004, p. 185). Work is said to promote desistance not through the development of increased social capital, then, but rather through differential associations with prosocial co-workers. In other words, relationships with prosocial co-workers minimize interactions with delinquent peers and promote desistance from crime. Wright and Cullen (2004) do not dismiss Sampson and Laub's (1993) position nor do they deny the important role of adult employment in the process of desistance from crime, but suggest that "the workplace is a social domain in which learning can take place" (p. 185). Like Sampson and Laub, they also found that adult employment reduces misbehavior. However, Wright and Cullen (2004, p. 200) argue that the effects of unemployment on desistance were not dependent on the quality of the job (as argued by Sampson and Laub) but rather on the "*quality of peer associations* that occur within the context of work."

Wilson and Herrnstein (1985) put forth a similar idea regarding the role of school in the development of criminal behavior and maintain that "... school may contribute to criminality because of the peer groups that form there" (p. 285). In agreement with these results, Cromwell, Olson, and Wester Avary (1991) find that for some offenders, "... desistance was a gradual process that appeared to be associated with the disintegration of the adolescent peer group, and with employment and the ability to earn money legitimately" (p. 83; see also Warr, 1998). Similarly, in his explanation of desistance from family violence offenses, Fagan (1989) underlines the importance of replacing old social networks with new prosocial networks that will disapprove of the violent behavior and promote prosocial behavior. Unlike families of origins, friendship

networks involve a level of free choice (Robins, 1966); therefore, it is likely that these associations will be correlated with offending both as a cause and an effect of engagement in criminal activities. Future research needs to tease out these different relationships to determine the temporal sequence between changes in peer associations and in offending.

### Internal Factors Involved in Desistance

Although I believe people make the biggest difference, they can do little more than help you find the desire to change; they can help you see reasons for changing. However, the real battle still rests within the self, and the really hard work must be carried on alone (Thornton, 1988, p. 28).

Human lives are not lived in a social vacuum. We are all products of our time, our socialization experiences and our environment. As such, it is not surprising that desistance from crime would be associated with some of the social and situational changes reviewed in the previous section. At the same time, desistance also appears to be related to internal changes. The desisting ex-offender often makes the claim that “I am not the same person that I was when I committed those crimes,” and of course all of us are aware of undergoing internal changes over time in our own lives. Interestingly, the study of the subjective changes involved in the process of desistance from crime are often addressed in ethnographic studies and qualitative analyses of crime, but are frequently overlooked in quantitative research. Maruna (2001) argues that “Subjective aspects of human life (emotions, thoughts, motivations, and goals) have largely been neglected in the study of crime, because the data are presumed to be either unscientific or too unwieldy for empirical analysis” (p. 8).

Nonetheless, a coherent body of research is starting to emerge on the possible subjective or internal factors associated with desistance. In one of the first theories in this regard, Gove (1985) argued that desistance from crime is a result of five key internal changes: shifting from self-centeredness to consideration for others, developing prosocial values and behavior, increasing ease in social interactions, greater consideration for other members of the community, and a growing concern for the “meaning of life.” More recently, Giordano and colleagues (2002) developed a theory of cognitive transformation, involving four *cognitive shifts* that promote the process of desistance. First, the individual must be open to change. Second, through a process of self-selection, the individual exposes himself/herself to prosocial experiences that will further promote desistance (e.g., employment). Third, the individual adheres to a new prosocial and noncriminal identity. Finally, there is a shift in the perception of the criminal lifestyle, i.e., the negative consequences of offending become obvious. In this theory, developed on the basis of a substantial research study, desistance is perceived to be a gradual process.

Similar themes are apparent in other qualitative studies of desistance and cognition. Haggard et al. (2001) argue that an individual’s decision to change his/her life is the first step to showing progress toward desistance and demonstrating actual changes in behavior. Shover and Thompson (1992) find that the relationship between age and desistance was mediated by *optimism for achieving success via legitimate pursuits* and *expectations of criminal success*. In this respect, the individual’s optimism and desire to adopt a prosocial lifestyle may play an important role in the desistance process. In a longitudinal qualitative study of ex-prisoner experiences in the United Kingdom, Burnett (2004) finds that pre-release self-assessments of desistance optimism were positively associated with actual desistance outcomes after release (see Farrall, 2002, for



similar results). Maruna (2001) explains that desisting ex-offenders "...displayed an exaggerated sense of control over the future and an inflated, almost missionary, sense of purpose in life" (p. 9). The individuals' motivation and determination to cease offending is also a key component in the desistance process (Burnett, 2004; Moffitt, 1993a; Pezzin, 1995; Shover, 1983; Shover & Thompson, 1992; Sommers, Baskin, & Fagan, 1994).

In his analysis of interviews with a sample of incarcerated burglars, Shover (1996) highlights the importance of *resolve and determination* in the desistance process. He argues that "... men who are most determined to avoid crime are more successful in doing so than their equivocating peers, even allowing for the possible influences of other factors" (1996, p. 130). Some of Shover's interviewees also expressed increasing concern with getting caught as they got older, not wanting to spend the rest of their lives in prison, and to miss out on the opportunity to make something of their lives (see also Cromwell et al., 1991). Furthermore, with age, some offenders gave less importance to material gain, which reduced the appeal of crime. Overall, crime (and all the pitfalls attached to it) has a cumulative effect on offenders and they eventually feel "worn down" by a life in crime. These findings suggest that it may not be age in itself that causes a decline in offending (Gottfredson & Hirschi, 1990) but rather the accumulation, over time, of failures, contacts with the criminal justice system, betrayals, and other problems associated with crime.

**THE ROLE OF IDENTITY TRANSFORMATION AND NARRATIVE IN THE DESISTANCE PROCESS.** Several authors have highlighted the importance of identity transformation in the process of desistance (Bottoms et al., 2004; Burnett, 2004; Gartner & Piliavin, 1988; Giordano et al., 2002; Laub & Sampson, 2003; Maruna, 2001; Meisenhelder, 1977; Shover, 1983). Maruna (2001) argues that "... to desist from crime, ex-offenders need to develop a coherent, prosocial identity for themselves" (p. 7; see also Shover, 1983). At least partially, this process involves reworking an individual's self-narrative or story. In his sample, Maruna identified a need for desisting offenders to separate their past self from their current self (see also Mischkowitz, 1994). *Making good* refers to a process of "self-reconstruction" (Maruna, 2001) involving an understanding of why past offenses were committed and of the reasons supporting the decision to stop. This process involves an ability to see the link between past mistakes and current accomplishments, to make the best of past experiences, and to discover one's "true self."

This narrative approach to understanding desistance has become increasingly popular in recent years, with a substantial body of new work confirming and modifying the idea of the "redemption script" and its role in sustaining desisting identities (for a sample of this growing evidence base, see for example, Burnett, 2004; Gadd & Farrall, 2004; Giordano, Longmore, Schroeder, & Sefrin, 2008; Giordano, Schroeder, & Cernkovich, 2007; Halsey, 2006; Healy & O'Donnell, 2008; Hundleby, Gfellner, & Racine, 2007; Vaughan, 2007; Veysey, 2008). Moreover, the construction, deconstruction, and reconstruction of self-stories is at the core of many traditional correctional interventions. Thune (1977) and O'Reilly (1997) suggest that the power of storytelling may account for the success of 12-step programs such as Alcoholics Anonymous.

Re-biographing is also essential to the practice of reintegrative shaming in the restorative justice model. Victim-offender mediation and other forms of conferencing involve a mutual retelling of the events leading up to and including the immediate offense. All sides describe

their interpretation of the event and the feelings it evoked in them, a process which has been referred to by mediation practitioners as “telling their stories” (Zehr, 1990, p. 161). This storytelling is intended to humanize victims, offenders, and the family members of both. Similar examples of storytelling and self-story analysis in corrections can be found in psychoanalysis, group therapy (Scott, 1998), and cognitive self-change interventions. As such, narrative reconstruction might even be seen as a “root metaphor” (Sarbin, 1986) for correctional practice itself.

Laub and Sampson (2003) have been particularly critical of this perspective, arguing that desistance does not necessarily require cognitive transformation or identity change. They write, “Offenders can and do desist without a conscious decision to ‘make good’...and offenders can and do desist without a ‘cognitive transformation’ ” (p. 279). Instead, Laub and Sampson argue that most offenders desist as a result of changes in adult social bonds and suggest that much desistance occurs *by default* (Laub & Sampson, 2003, p. 278).

**PATTERNS OF COGNITION IN THE DESISTANCE PROCESS.** A large body of research associates offending with what is sometimes labeled “cognitive distortions” or “cognitive errors” (but see Maruna & Mann, 2006).<sup>2</sup> As such, a primary focus of many offender rehabilitation programs is to seek challenge or “correct” these habits in the thinking patterns associated with offending (see Ross, 1995; Ross, Antonowicz, & Dhaliwal, 1995). Questions remain, however, about whether such changes are associated with desistance from crime (see Maruna & Copes, 2004; Maruna & Mann, 2006).

Barriga, Landau, Stinson, Liao, and Gibbs (2000) define cognitive distortions as “inaccurate ways of attending to or conferring meaning on experience” (p. 37). The authors distinguish between *self-serving* and *self-debasing* cognitive distortions. Self-serving cognitive distortions protect the “self” from developing a negative self-image, push the blame away from oneself, and promote harmful acts toward others. In contrast, self-debasing cognitive distortions promote self-harm, with individuals being more likely to blame themselves when negative events occur. Self-debasing cognitive distortions include four dimensions: *catastrophizing* (assuming that every situation will turn into a catastrophe); *overgeneralizing* (believing that the same outcome will apply to all future experiences); *personalizing* (blaming oneself when negative events occur and “interpreting such events as having a personal meaning,” Barriga et al., 2000, p. 39); and *selective abstraction* (selectively focusing on the negative elements on a given experience). On the other hand, self-serving cognitive distortions include self-centeredness (giving central importance to one’s own views, needs, rights, etc., and minimal importance to those of others); placing the blame on others (with regard to harmful actions or victimizations); minimizing the harm caused; labeling others with demeaning titles; and *assuming the worst* (Bandura, 1991; see also Gibbs, Potter, & Goldstein, 1995).

<sup>2</sup> Primarily, this research focuses on links between these habitual cognitions and sex offending (Abel, Becker, & Cunningham-Rathner, 1984; Marshall & Barbaree, 1990; Murphy, 1990; Segal & Stermac, 1990; Ward, Fon, Hudson, & McCormack, 1998; Ward, Hudson, Johnston, & Marshall, 1997; Ward, Hudson, & Marshall, 1995; Ward, Keenan, & Hudson, 2000). Cognitive distortions have also been said to promote aggressive behavior (Abel et al., 1989; Bumby, 1996; Murphy, 1990).

Barriga and colleagues (2000, p. 50) found that self-serving cognitive distortions were specifically associated with externalizing behavior problems, whereas self-debasing cognitive distortions were specifically associated with internalizing behavior problems. However, these cognitive distortions are not necessarily mutually exclusive; some youths drifted from one type of cognitive distortion to another. For instance, they may blame their victims, but also blame themselves if they have been victimized. The authors concluded that the processes linking cognition and behavior are “reciprocal, interactive, and mutually reinforcing” (2000, p. 54).

There is still little consensus in the literature as to whether cognitive distortions occur after the act (in which case they would contribute to maintaining offending behavior and hampering desistance efforts) or whether they occur before the act, which would imply a causal link to onset and persistence in crime (Mann & Beech, 2003, for a detailed literature review; Ward et al., 1997). Tony Ward et al. (1998) argue that “A major problem with most existing research on the cognitions of sex offenders is that it focuses primarily on postoffense cognitions and neglects the possibility that cognitive processes influence all phases of the offending cycle” (p. 147; see also Ward et al., 1997, for a similar comment). *Post-offense cognitive distortions* “. . . refer to self-statements made by offenders that allow them to deny, minimize, justify, and rationalize their behavior” (Murphy, 1990, p. 332).

This definition is similar to the concept of *techniques of neutralization* developed by Sykes and Matza (1957) to describe post-offense rationalizations that allow an individual to divert blame and shame away from oneself after an offense. Maruna and Copes (2004) argue that because neutralizations, by definition, follow rather than precede initial forays into criminality, neutralization theory may be better understood as a theory of persistence or desistance from crime than a theory of offending. If the acceptance of neutralizations is important in maintaining criminal involvement, then the rejection of these neutralizations should be associated with the process of desistance from crime. This is certainly the theory behind countless cognitive correctional interventions: dissipating neutralizations results in the cessation of a given behavior. Available evidence, however, does not support this hypothesis (Maruna & Copes, 2004; Maruna & Mann, 2006). For instance, in an analysis of the self-accounts of nearly 100 ex-prisoners, some desisting from crime and some still actively pursuing criminal pursuits, Maruna (2004) found that active offenders were more likely to internalize responsibility (blame) for their crimes than were desisting ex-prisoners.

Importantly, even the most committed cognitive psychologists in the field of criminological research make clear that desistance from crime involves more than cognition alone. Ross and Ross (1995) suggest that cognitive deficits are not a cause of crime, and that many offenders do not possess these deficits. They also argue that some offenders have highly developed cognitive skills, to the extent that they manage to escape detection and labeling by the criminal justice system. On the other end of the spectrum, some well-adapted individuals may display some of these cognitive deficits. Some environments may provide better opportunities for education, employment, and interactions with prosocial others, and these factors are likely to neutralize the effects of cognitive deficits. Ross and Ross (1995, p. 66) argue that “Crime is much too complex a phenomenon to allow one to think that a single factor such as faulty thinking could be a useful *explanatory* concept.” Although cognitive deficits may not be the sole cause of offending behavior, they may contribute to its explanation. By creating social disadvantages for individuals (in the world of education, employment, and parenting, for instance), these cognitive deficits put

individuals “at risk of behaving in illegal ways, but they do not cause them to do so” (Ross & Ross, 1995, p. 66).

### **Integrating Internal and External Factors in the Explanation of Desistance**

Recent research into desistance has sought to integrate internal (or psychological) factors with external (social) variables in order to understand how individual predispositions and life events converge to promote desistance. Piquero and Pogarsky (2002) argue that “any explanation of crime must address both the person and the person’s social situation, and in this sense, the study of crime is intrinsically social-psychological” (pp. 207–208). Likewise, Farrington et al. (1990, pp. 285–286) argue that a given environment can promote offending only for certain individuals, whereas others are likely to offend regardless of the environment. The same is therefore likely true for desistance, which also likely involves an interaction between internal and external changes.

The question becomes how to understand the relationship between these two interrelated processes. Like the “chicken and the egg,” which comes first: internal changes or external/social changes? The unraveling of these sequences is a thorny methodological issue, mainly because external and internal changes are often interdependent and occur simultaneously (Maruna, 2001; Shover, 1983). Le Blanc (1993) summarized this idea:

Some potential variables may occur in such close proximity to desistance that, for all practical purposes, it is impossible to measure which comes first; moreover, they may have reciprocal influences. . . . For example, delinquency can be caused by a weak parental attachment and it may also weaken that bond. (p. 56)

Therefore, the question of chronological ordering is vital in order to establish causality in the desistance process. For instance, since turning points and life events (like getting married) are not randomly assigned among individuals, it is difficult to assess whether these events are *causes or correlates* of desistance. Just as children with neuropsychological and other temperamental deficits are not randomly assigned to supportive or non-supportive environments (Moffitt, 1993b), life-course events may not be coincidental; these may occur as a result of a process of self-selection and reflect underlying criminal propensities. Moffitt (1993b) refers to *proactive* interactions, which occur when individuals select environments or situations that support their lifestyle. In their comprehensive review of the desistance literature, Laub and Sampson (2001) argue that there is currently “no way to disentangle the role of subjective vs. objective change as the cause of desistance” (p. 23), and that “Selection is thus a threat to the interpretation of any desistance study” (p. 41). Still, they conclude by urging further research into this issue.

Given the role of human agency in the desistance process, we need to better measure individual motivation, free will, and ultimately the decision to initiate and embrace the process of change. We need to capture changes in decision making, shifts in the perceptions of risks and rewards of crime, and fluctuations in the meanings of “doing crime” versus “going straight.” A creative integration of quantitative and qualitative research methods in this area could lead to a major contribution to our understanding desistance.

One such multi-method research project is the British study led by Tom LeBel and colleagues. LeBel, Burnett, Maruna, and Bushway (2008) identify three models to explain the interaction between social and subjective factors in desistance. In the *strong subjective model*, internal changes come first. In this regard, an individual’s motivation and desire to change increases the

likelihood of strengthening bonds with conventional social sources (e.g., one settles down first, then invests in a marriage partnership or legitimate employment). In this respect, turning points that promote desistance would be the result of a process of self-selection and would not constitute a cause of the change in behavior. In the second, the *strong social model*, the process is reversed and social changes happen first (“good things happen to bad actors”). The idea here is that many life events occur randomly among individuals, and that these turning points are directly responsible for desistance from crime. Thus, from this viewpoint, subjective characteristics are not essential to desistance from crime (e.g., Laub & Sampson, 2003). Finally, in the third model, the *subjective–social model*, life events are thought to contribute to the desistance process, but that the impact of these events will be dependent on the *mindset* of the individuals. Although motivation is a crucial component of change, it still requires support from conventional social networks to maintain desistance efforts. This last model thus integrates both objective and subjective factors, external and internal changes in its explanation of desistance.

LeBel et al.’s (2008) findings suggest that the desistance process is a system in which various internal and external factors interact in different ways. On the one hand, the researchers found that some social problems did appear to occur independently without any relation to the views of the offender (optimistic or pessimistic). On the other hand, they found that individuals who display the most confidence in their abilities to change are less likely to recidivate. Individuals who had a “desisting” mindset and the social networks to support them were better equipped to face problems, resist temptations, and avoid setbacks, provided that these problems were not tremendous. However, the authors also conclude that the desire to change may be insufficient when social problems are overwhelming and excessive.

Giordano and colleagues (2002) had a parallel finding in their own research. Although they argue in favor of a cognitive model of desistance, they found that this process was very much dependent on opportunities in the social environment. “Given a relatively ‘advantaged’ set of circumstances, the cognitive transformations and agentic moves we describe are hardly necessary; under conditions of sufficiently extreme disadvantage, they are unlikely to be nearly enough” (Giordano et al., 2002, p. 1026; see Warr, 2001, for a similar comment on the link between motivation and opportunity). In this regard, both individual and social/environmental dimensions should be taken into account in order to better understand the processes underlying desistance (see also Bottoms et al., 2004; Le Blanc, 2004). Recognizing this interplay of the subjective with the structural, Laub and Sampson (2001) summarize the key components promoting the desistance process as follows: “The significant elements to date are the decision or motivation to change, cognitive restructuring, coping skills, continued monitoring, social support, and general lifestyle change, especially new social networks” (p. 38).

## IMPLICATIONS FOR CORRECTIONAL PRACTICE

Some observers have taken the very impressively consistent age–crime curve to be evidence that the criminal justice system plays little role in whether individuals recidivate or not. Farrall (1995) writes, “Most of the research suggests that desistance ‘occurs’ away from the criminal justice system . . . , that very few people actually desist as a result of intervention on the part of the criminal justice system or its representatives” (p. 56). Certainly, as Garland (2001) and others have pointed out, factors largely outside of the criminal justice system’s control (e.g.,

economic, political, and cultural factors) appear far more important in determining rates of crime and recidivism than do the often futile actions of the criminal justice system to promote change. As a result, some observers conclude that the criminal justice system should not bother itself with efforts to reduce recidivism. Nettler (1984), for instance, argues that "Since most offenders 'mature out,' it is questionable whether 'the war on crime' should attempt to reduce criminality by correcting predators" (p. 384).

Yet, the lesson of desistance research is not that ex-offenders should be left alone to "get on with" the business of self-change. The process of desistance takes far too long and leaves too many victims in its wake. The lesson of desistance research is that correctional interventions should recognize this "natural" process of reform and design interventions that can enhance or complement these spontaneous efforts (Farrall, 2002; McNeill, 2006). The Gluecks (1937) recognize this possibility when they ask, "Can educators, psychologists, correctional workers, and others devise means of 'forcing the plant,' as it were, so that benign maturation will occur earlier than it seems to at present?" (p. 205).

A parallel can be taken from the medical world. Within the immune system, the body has regenerative powers that can naturally fight off a variety of infections and complications. Faith healing and non-traditional medicine are founded on the fact that the body itself works to heal many ills. Yet, our white blood cells and other protectors can be slow warriors, sometimes allowing annoying or painful symptoms to persist beyond the point that we can tolerate. We, therefore, turn to professional help to boost or speed up this process. The antibiotics that we are frequently prescribed are intended to *work in partnership* with our bodies' natural, self-restorative functions, not override them. Although we sometimes mistakenly credit our own recoveries to pharmaceutical treatment, we were, in fact, doing the work ourselves with some assistance.

A similar process may be possible in attempts to reduce recidivism. As efforts to "correct" offenders through the latest expert technologies have met with little success in the history of correctional practices, a new paradigm is emerging in reintegration practice, using research on how individuals "naturally" desist as its theoretical starting point. This approach has been given various labels in the research literature, including a "self-change" or "empowerment" model (Harris, 2005), "good lives model" (Ward & Brown, 2003), or "strengths-based" or "restorative" approach (Maruna & LeBel, 2003). However, this approach is most typically referred to as the "desistance paradigm" (McNeill, 2006) or "desistance-focused practice" (see Farrall, 2004; Halsey, 2006; Maruna, Immarigeon, & LeBel, 2004; Raynor & Robinson, 2005; Ward & Maruna, 2007).

McNeill (2006) offers an explanation of the "desistance-focused" approach, "Put simply, the implication is that offender management services need to think of themselves less as providers of correctional treatment (that belongs to the expert) and more as supporters of desistance processes (that belong to the desister)" (p. 46). Farrall (2004) distinguishes "desistance-focused" perspectives from "offending-related" approaches. Whereas the latter concentrates on targeting or correcting offender "deficits," the former seeks to promote dimensions thought to be associated with desistance (e.g., strong social bonds, pro-social involvements, and social capital). Although subtle, this distinction is crucial, as desistance from crime may be associated with completely different factors than the risk factors that predispose a person to crime in the first place. For instance, although much research demonstrates that convicted offenders "think differently" than non-offenders, there is much less evidence that changing these patterns of cognitions is associated with desistance from crime, nor does such knowledge provide guidance as to how ex-offenders should think differently (Maruna, 2001). The desistance-focused paradigm begins

by asking “what works” outside of correctional programs and then seeks to import those lessons into reintegration practices (Maruna et al., 2004).

Issues relating to prisoner reintegration are now more pressing than ever with the staggering increase in prison populations in the United States and elsewhere over the past few decades, despite relatively steady crime rates (Maruna et al., 2004; Petersilia, 2003; Travis & Petersilia, 2001). This “mass incarceration” phenomenon has resulted in critical implications for post-release reentry efforts (Petersilia, 2003; Travis, 2005). Petersilia (2003, p. 139) reported that “Recent data tracking inmates released from prison in 1994 show that two-thirds are rearrested, and nearly one-quarter are returned to prison for a new crime within three years of their release.” These figures obviate the need to better facilitate the transition from prison to the community for individuals who have been formerly incarcerated. The figures also suggest that more research is urgently needed on desistance from crime (National Research Council, 2007). After all, if the goal of the correctional system is to reduce recidivism, then it makes sense to learn from those former offenders who have succeeded in turning their lives around. Such “success stories” are rarely heard in a field as bleak as criminology, where our focus is almost always on explaining “failures.” Yet, these individuals may hold the key to advancing knowledge about desistance in a substantial way and improving the process of reintegration into the community among formerly incarcerated individuals.

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## CHAPTER 16

# The Flow and Ebb of American Capital Punishment

JAMES R. ACKER

### INTRODUCTION: A BRIEF HISTORY OF CAPITAL PUNISHMENT

Capital punishment laws and practices have changed significantly since 1608, when the first recorded execution on American soil was carried out in colonial Jamestown (Harries & Cheatwood, 1997, p. 17). A dozen or more felonies were typically punished by death in the original 13 states, including counterfeiting, burglary, robbery, arson, and others (Bye, 1926, p. 234; Mackey, 1982, pp. 40–41). Death sentences followed automatically on conviction (Bedau, 1982, pp. 9–10). They were carried out publicly, with great fanfare and normally by hanging. Public executions were designed to impress citizens with the state's power and authority and, accompanied by gallows sermons and often-repentant offenders, to reinforce civic values and the social order (Masur, 1989, pp. 25–49).

Stimulated by various developments—the late 18th century translation and circulation of Cesare Beccaria's influential treatise, *On Crimes and Punishments* (1764/1963), the emergence of penitentiaries as an alternative form of punishment, and jurors' frequent reluctance to convict accused felons and thus automatically dispatch them to the gallows, among others—changes began to occur in the reach and administration of the death penalty shortly after the nation was born (Banner, 2002, pp. 91–95; Rothman, 1971; *Woodson v. North Carolina*, 1976, pp. 288–295). Pennsylvania enacted legislation in 1794, soon widely copied elsewhere, that created different categories of murder and limited capital punishment to murder in the first degree (Bedau, 1982,

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pp. 4–5). The death penalty was restricted to fewer and fewer crimes over time. By the middle of the 20th century, it was used almost exclusively for murder and rape and only rarely for other offenses (Hartung, 1952, pp. 9–10).

Beginning with Connecticut in 1830, states enacted laws requiring that executions be removed from the public eye and carried out behind jail or prison walls. Some went as far as adopting legislation that prohibited the press from even reporting on executions (Madow, 1995). The last public execution, the hanging of Rainey Bethea, a black man, for murdering and assaulting a white woman, took place in Owensboro, Kentucky, in 1936 (Bessler, 1997, pp. 32–72). Methods of execution also changed over time. In most states, hanging gradually gave way to the electric chair, an innovation first used in New York in 1890 (Denno, 1994), although the gas chamber, the firing squad, and the gallows also were employed deep into the 20th century (Harding, 1996).

As time passed and the nation grew, the states no longer uniformly embraced the death penalty. Michigan repudiated capital punishment in 1847, abolishing it for all crimes except treason. Shortly thereafter, Rhode Island and Wisconsin renounced the death penalty entirely. In the late 19th and early 20th centuries, several states alternately repealed and reenacted capital punishment legislation. Although abolition of jurisdictions never predominated, ten states were without the death penalty by the mid-1960s (Bowers, 1984, p. 9). Today, 36 states, the federal government, and the U.S. Military authorize capital punishment, while 14 states and the District of Columbia do not (Death Penalty Information Center, 2008a).

Ironically, one of the most important capital punishment reforms resulted in the death penalty's temporary nationwide demise in the early 1970s. Mandatory death penalty laws yielded over time in favor of legislation that gave juries the discretion to sentence offenders either to life imprisonment or death. The trend away from mandatory capital sentencing began in the early 19th century and was essentially complete by 1963. It was prompted both by prudential and practical concerns. The sentiment generally prevailed that justice required that particular offender characteristics and offense circumstances be taken into account before a death sentence was imposed. Lawmakers also were concerned that jury nullification resulted in the acquittal of obviously guilty offenders when capital punishment followed automatically on conviction (*Woodson v. North Carolina*, 1976, pp. 288–295).

In capital trials in most jurisdictions, jurors deliberated about both guilt and punishment after considering evidence relevant exclusively to the accused's guilt or innocence. A few states used bifurcated capital trials, which allowed evidence specific to the sentencing decision to be presented at a separate penalty hearing following a capital conviction. Under both the unitary and bifurcated trial systems, jurors were given little more guidance in choosing between a capital sentence and life imprisonment than being asked whether mercy was appropriate (Acker & Lanier, 2003; *McGautha v. California*, 1971).

A fractured Supreme Court ruled in *Furman v. Georgia* (1972) that allowing jurors the unfettered discretion to make life and death decisions in this manner risked arbitrary and capricious sentencing outcomes and hence violated the Eighth Amendment's prohibition against cruel and unusual punishments. Two members of the *Furman* Court (Justices Brennan and Marshall) believed that capital punishment was under all circumstances unconstitutional. The four dissenters (Chief Justice Burger and the other three justices recently appointed by President Nixon) found no constitutional infirmities in the death penalty, either in principle or as it was then

administered. The decisive votes invalidating the death penalty focused on the vice of unregulated sentencing discretion.

Justice Douglas concluded that “these discretionary statutes are unconstitutional in their operation. They are pregnant with discrimination” against the poor, racial minorities, and others “lacking political clout” (*Furman v. Georgia*, 1972, pp. 255–257, concurring in the judgment). Justice Stewart faulted sentencing procedures that allowed “this unique penalty to be so wantonly and so freakishly imposed.” He characterized death sentences handed out pursuant to jurors’ unguided discretion as being “cruel and unusual in the same way that being struck by lightning is cruel and unusual” (*id.*, pp. 309–310, concurring in the judgment). For Justice White, capital sentences imposed as rarely as they were under the permissive legislation resulted in “the pointless and needless extinction of life with only marginal contributions to any discernible social or public purposes. A penalty with such negligible returns . . . [is] patently excessive and cruel and unusual punishment” (*id.*, p. 312, concurring in the judgment).

Death penalty laws throughout the country were nullified by this landmark decision. More than 600 offenders under sentence of death when *Furman* was decided were re-sentenced to life imprisonment. The justices’ capacious opinions and uncertain rationale spawned widespread confusion and mixed reactions. Some observers sounded alarm and outrage, and politicians in many states vowed that the Court’s action would not thwart their constituents’ desire for death penalty laws. Others rejoiced in *Furman*’s aftermath and predicted that capital punishment had come to an end in the United States (Meltsner, 1973, pp. 290–316; Zimring & Hawkins, 1986, pp. 38–45). It soon became apparent that their optimism was unwarranted.

State legislatures and Congress hurriedly crafted new capital punishment laws. Some states, in an effort to correct the problem of unregulated sentencing discretion, reverted to mandatory death penalty legislation. Other jurisdictions devised laws that preserved sentencing discretion but sought to regulate it. The “guided discretion” statutes differed in their particulars but generally authorized the death penalty for a relatively narrow range of crimes, introduced standards to guide juries or judges in making their sentencing decisions, and required appellate review of capital sentences (Steiker & Steiker, 2003).

A scant 4 years after *Furman*, the Supreme Court reviewed the diverse legislative efforts to revive capital punishment. The justices concluded that mandatory capital punishment statutes invited arbitrary application and were too inflexible to survive constitutional scrutiny (*Roberts v. Louisiana*, 1976; *Woodson v. North Carolina*, 1976). They concurrently ruled that the guided discretion laws cured the deficiencies identified in *Furman* (*Gregg v. Georgia*, 1976; *Jurek v. Texas*, 1976; *Proffitt v. Florida*, 1976). The first capital sentence carried out under the newly approved capital sentencing legislation occurred in Utah in 1977, when Gary Gilmore was executed by a firing squad (Cutler, 2002–2003). Since then, the country has seen approximately 1100 additional executions (Death Penalty Information Center, 2008b).

This chapter focuses on the modern era of American capital punishment, subsuming 1976 through the present. It discusses the death penalty’s most widely endorsed objectives and reviews evidence and arguments regarding their fulfillment. It next examines several important issues associated with the administration or implementation of the modern, guided discretion capital punishment statutes. It concludes by describing the recent pronounced and somewhat enigmatic decline in new death sentences and by speculating about future trends in the country’s capital punishment laws and practices.

## THE OBJECTIVES OF CAPITAL PUNISHMENT: EFFICACY AND ETHICS

The death penalty has been justified on several grounds, some of which are exclusively or primarily utilitarian. Such justifications include general deterrence, incapacitation, comparative costs of capital punishment and lengthy imprisonment, and responding to the needs of murder victims' family members. The other principal rationale is based on retribution, a consideration that involves the normative judgment that some crimes are sufficiently heinous and some offenders so highly culpable that only punishment by death can provide just deserts.

### General Deterrence

If the threat of capital punishment discourages prospective offenders from committing murder, and does so more effectively than alternative sanctions such as life imprisonment, then the death penalty may be said to have unique marginal or incremental value as a general deterrent to murder. The Supreme Court recognized the constitutional legitimacy of this objective when it approved modern death penalty legislation. At the same time, the justices deferred the task of evaluating the empirical evidence regarding the death penalty's deterrent efficacy to legislatures—evidence which they characterized as “having occasioned a great deal of debate” but on balance, “simply . . . inconclusive” (*Gregg v. Georgia*, 1976, pp. 184–185, plurality opinion).

Classical deterrence theory presumes that prospective offenders engage in a rational assessment of the presumed benefits and costs of committing a crime and conduct themselves accordingly. They will act or refrain from acting based on a calculus that considers the certainty, severity, and celerity (or immediacy) of the threatened punishment and balances the results against the benefits likely to be realized by committing a crime (Abernethy, 1996, pp. 383–384; Pogarsky, 2002). Capital punishment is thought to have greater value in discouraging murder than the threat of imprisonment because of its unique severity. Yet other premises important to the logic of classical deterrence are questionable.

For example, it strikes some as fanciful to postulate that more than a trivial number of prospective murderers deliberate so rationally in anticipation of killing another human being. And, if they did, the infrequency with which capital sentences are imposed and carried out and the distant threat of an execution years removed from the homicide would likely undermine deterrence because of the failed assumptions about “certainty” and “celerity” of punishment (Gerber, 2004a; see Radelet & Akers, 1996, p. 9). Moreover, if individuals do plan and act rationally in deciding whether to kill, it would seem far more plausible to conclude that either (a) they do not expect to get caught (in which case fear of the death penalty would not be a factor) or else (b) they would not be eager to spend the rest of their lives in prison, either (in which case the death penalty would have scant deterrent value beyond that already presented by the threat of life imprisonment).

Perhaps recognizing the weakness of some of the assumptions associated with classical deterrence theory, some have argued that the threat of punishment operates not only as an external constraint against criminal behavior, but also more subtly, by reinforcing social norms and thus helping individuals to internalize values consistent with those norms (Berns, 1991, pp. 139–148; van den Haag & Conrad, 1983, pp. 63–64). Under this conception, capital punishment is a dramatic reminder of the intensity with which society abhors the unlawful taking of life. The 19th

century British legal historian Sir James Fitzjames Stephen memorably captured this distinction when he wrote

Some men, probably, abstain from murder because they fear that if they committed murder they would be hanged. Hundreds of thousands abstain from murder because they regard it with horror. One great reason why they regard murder with horror is that murderers are hanged with the hearty approbation of all reasonable men. (Stephen, 1863, p. 99, quoted in Kahan & Nussbaum 1996, p. 356 n. 396)

When reasoned discourse proves inadequate to resolve an issue such as whether the death penalty is a more effective general deterrent to murder than life imprisonment, scientific evidence often can be useful. And social scientists have intensively scrutinized this question for years, using varied data and methods. The extensive literature on capital punishment and deterrence has been reviewed elsewhere (Peterson & Bailey, 2003). Suffice it to say that at the time the Supreme Court acknowledged that general deterrence is a permissible and rationally defensible justification for the death penalty, research studies overwhelmingly (although not unexceptionally) had failed to adduce evidence supporting that hypothesis (see e.g., Klein, Forst, & Filatov, 1978). Several recent studies, relying primarily on econometric techniques, have reinvigorated the debate by reporting measurable deterrent effects uniquely associated with the death penalty (e.g., Cloninger & Marchesini, 2001; Dezhbakhsh & Shepherd, 2006; Shepherd, 2005). Those studies, in turn, have been criticized and the results questioned by criminologists and other researchers (e.g., Berk, 2005; Fagan, 2006; Fagan, Zimring, & Geller, 2006).

From a constitutional perspective, those who maintain that capital punishment is a superior deterrent to murder than life imprisonment are on stronger ground as more and more conflicting studies are reported. Legislatures need only a rational basis to believe in the deterrent efficacy of the death penalty—they need not be correct (*Gregg v. Georgia*, 1976, pp. 186–187, plurality opinion)—and to the extent that social scientists continue to report that the evidence is mixed, the rationality of such a conclusion becomes increasingly difficult to dispute. Yet if validity, and not simple rationality, is the criterion of interest, the scientific evidence requires detailed examination and careful assessment, with special attention paid to the theoretical assumptions and the specific methodologies employed in the respective studies. And on these dimensions, the question at a minimum becomes considerably closer. Even if certainty about deterrence is elusive, this justification for the death penalty had clearly receded in importance and until quite recently had largely given way to other rationale (Radelet & Borg, 2000, pp. 44–46).

## **Incapacitation**

While affirming the constitutionality of the post-*Furman* guided discretion death penalty legislation, the lead opinion in *Gregg v. Georgia* (1976) noted that although it was not one of the “two principal social purposes” thought to be advanced by capital punishment, “[a]nother purpose that has been discussed is the incapacitation of dangerous criminals and the consequent prevention of crimes that they may otherwise commit in the future” (p. 183 & n. 28). Indeed, the Texas statute approved in one of *Gregg*’s companion cases made incapacitation a central concern. Before a death sentence could be imposed under that law, jurors were required to find that “there is a probability that the defendant would commit criminal acts of violence that would constitute a continuing threat to society” (*Jurek v. Texas*, 1976, p. 269, quoting Texas Penal Code Art.



37.071 (b) (2) [Supp. 1975–1976]). Subsequent research has documented that jurors' assessments of offenders' likely future dangerousness figure prominently in their life- and death-sentencing decisions, even when statutes neither require nor invite such deliberations (Blume, Garvey, & Johnson, 2001; Bowers & Steiner, 1999).

Ironically, research further suggests that predictions of future dangerousness are highly unreliable (*Barefoot v. Estelle*, 1983; Sorensen & Marquart, 2003) and that capital murderers as a class are not more prone to repeat acts of violence than prisoners generally (Cunningham, Reidy, & Sorensen, 2005; Sorensen & Pilgrim, 2000). Even if concerns about incapacitating murderers have historically helped justify the death penalty, other developments have made those concerns less salient. Unlike three decades ago, when modern capital punishment laws were enacted, the alternative sanction of life imprisonment without possibility of parole (LWOP) now is available in all death-penalty jurisdictions except New Mexico (Death Penalty Information Center, 2008c). Although murderers serving sentences of LWOP may present a safety threat to prison staff, other prisoners, or visitors, and there is a remote risk of escape or the later reduction of their sentences, the elimination of parole eligibility means that the public at large are effectively insulated from further danger at their hands.

## Cost

A lament sometimes heard in support of capital punishment is that convicted murderers should not be kept alive and provided lodging, meals, medical care, and other amenities at taxpayers' expense. Yet studies in multiple jurisdictions have concluded that capital cases represent an intense drain on resources and impose significantly greater costs on criminal justice systems than where the death penalty is not an option (Bohm, 2003a; Cook, Slawson, & Gries, 1993). It has been estimated that capital murder cases typically cost anywhere from hundreds of thousands to more than three million dollars more than non-capital murder cases. The cumulative costs of death penalty systems can be staggering; one report estimated that New Jersey invested more than \$250 million dollars in support of capital punishment between 1983 and 2005, and another estimated that New York spent \$160 million between 1995 and 2003. Neither state carried out an execution (Dieter, 2007, pp. 6–8; Tilghman, 2003).

Several factors help explain these findings. Capital trials typically involve more thorough and wide-ranging investigation, more experts, and a higher number of contested issues and litigated motions than non-capital trials. The required death qualification of jurors can protract jury selection by weeks or months, and the additional penalty hearing and corresponding witnesses increase both the length and costs of capital trials (Garey, 1985). The extra guilt-phase expenses are incurred whether or not a capital conviction results, and penalty-phase costs are absorbed even if a death sentence is not imposed; it is not uncommon for roughly half of capital trials within a jurisdiction to result in a sentence less than death (Baldus, Woodworth, & Pulaski, 1990, p. 223; Feuer, 2008). Even if a trial ends with a capital conviction and death sentence, years of judicial review typically will ensue, often resulting in the conviction and/or sentence being nullified (Dieter, 2007; Liebman, Fagan, & West, 2000). All the while, capital offenders are maintained under the restrictive and expensive conditions of death row confinement. The return on the considerable investment of trial, appellate, and incarceration costs—in the form of an execution—is likely to occur in just a fraction of cases prosecuted capitally, following a delay of a decade or more (Bohm, 2003a; Snell, 2006, pp. 10–11).

Thus, perhaps counterintuitively, capital punishment almost certainly taxes fiscal resources considerably more heavily than life imprisonment, both in individual cases and systemically. Cost considerations were one factor supporting the New Jersey Death Penalty Study Commission's recommendation—which the legislature ultimately accepted—that capital punishment should be abolished in that state. The Commission simultaneously recommended that cost savings associated with elimination of the death penalty should be devoted to programs and support services for murder victims' survivors (New Jersey Death Penalty Study Commission, 2007, p. 56). The suggestion that resources invested in capital punishment should be allocated elsewhere, to help prevent crime, support crime victims, or help finance other social programs, has been advanced by others (e.g., Radelet & Stanley, 2006) and is an important aspect of policy discussions involving the cost of the death penalty.

### Victim-Related Concerns

Like other crimes, murder is an offense against society at large. Yet its unique impact falls most directly on the victim whose life is extinguished and on the victim's family and other close survivors. Capital punishment sometimes is demanded to help promote the healing of murder victims' survivors or to provide them with a sense of "closure" (see Dressler, 2005, pp. 859–863; Gerber, 2004b, pp. 370–371). Although this justification for the death penalty is of fairly recent origin, it has gained considerable traction in the media and within the broader agenda of the victims' rights movement (Gross & Matheson, 2003; Sarat, 2001, pp. 34–59; Zimring, 2003, pp. 53–64). Notwithstanding such endorsements, promising that an offender's execution will offer closure to murder victims' survivors is a conspicuously weak justification for the death penalty.

The argument that the death penalty helps assuage grief and suffering naturally evokes empathy for murder victims' relatives, but precious little is known about how capital prosecutions and executions actually affect those who must contend with the aftermath of criminal homicide (Vandiver, 2006a). Several considerations suggest that this justification should be greeted cautiously, if not skeptically. In the first place, far more families will be denied the "benefits" of capital punishment than will realize them. Nationally, less than 2% of arrests for intentional criminal homicide result in a conviction and death sentence, and less than 1% culminate with an execution. Thus, if executions are considered important to help bring a sense of closure, the promised relief will be more illusory than real since it is unavailable to 99 out of every 100 murder victims' survivors (Acker, 2006, pp. 169–170). The episodic distribution of capital punishment also risks creating dashed expectations and perceived inequities among murder victims' survivors.

Moreover, not all murder victims' family members favor capital punishment. Some families are divided in their views, which can aggravate already-raw emotions, and others unambiguously oppose the death penalty and believe that imposing it would be an affront to their deceased relative (Cushing & Shaffer, 2002; King, 2003). Even where the victim's closest survivors are uniform in their desire to have a case prosecuted capitally, the intense publicity surrounding capital trials, the vagaries of jury sentencing, frequent reversals of convictions, and sentencing decisions on appeal, and the passage of years between trial and eventual execution may represent a traumatizing "secondary victimization" experience that inhibits healing and prevents or seriously retards the healing process. In the relatively rare case when an offender's execution

is carried out, instead of experiencing the anticipated relief, the survivors may be left with an undiminished or even accentuated sense of loss and emptiness (Armour & Umbreit, 2007, pp. 409–417).

This is not to argue that capital punishment necessarily represents a false or misguided promise as a salve for murder victims' survivors. For some, the death penalty undoubtedly has symbolic and/or practical value (Rosenbluth & Rosenbluth, 2006; Wagner, 2006). For others, it clearly does not (Kimble, 2006; Roper, 2006; Welch, 2002). At a minimum, before general conclusions can be drawn, considerably more needs to be known before the death penalty can be justified in the name of advancing the interests of murder victims' survivors.

## Retribution

The dominant non-utilitarian justification for capital punishment is retribution, or just deserts. When the Supreme Court rejected constitutional challenges to the death penalty in *Gregg v. Georgia* (1976), the justices acknowledged that “the decision that capital punishment may be the appropriate sanction in extreme cases is an expression of the community’s belief that certain crimes are themselves so grievous an affront to humanity that the only adequate response may be the penalty of death” (p. 184, plurality opinion). Retribution is the primary justification currently cited by most death penalty supporters (Pastore & Maguire, 2003, p. 147, Table 2.55; Radelet & Borg, 2000, p. 52). It also tends to be the most deeply held reason and the one most resistant to change. Retributive sentiments are likely to be rooted in part in anger and frustration about violent crime (Bohm, 2003b, p. 50; Ellsworth & Gross, 1994, p. 45) and in fundamental beliefs about justice (Blecker, 2003).

While retribution represents a moral imperative to its adherents (Berns, 1991, pp. 164–168), it simultaneously serves as a limiting principle that justifies capital punishment only for the “worst of the worst” offenders (Blecker, 2007). This reasoning has figured centrally in Supreme Court decisions that have exempted mentally retarded offenders (*Atkins v. Virginia*, 2002), offenders younger than 18 (*Roper v. Simmons*, 2005), relatively minor participants in killings (*Enmund v. Florida*, 1982), rapists and, by implication, other crimes against persons that do not involve homicide (*Coker v. Georgia*, 1977; *Kennedy v. Louisiana*, 2008) from death penalty eligibility. The challenge of line drawing—of identifying both conceptually and in practice the class of the “worst of the worst” who should be punished by death—is a daunting one for those who admit that both over- and under-inclusion threaten the integrity of retributive principles. A common rejoinder to just deserts as a principled justification for capital punishment, one shared by many (although certainly not all) major religious groups (Douglas, 2000, p. 140), is to “let God sort them out” (Steiker & Steiker, 1992).

## THE DEATH PENALTY’S ADMINISTRATION

The objections raised in the critical opinions that condemned capital punishment in *Furman v. Georgia* (1972) were essentially procedural in nature, involving concerns that unregulated sentencing discretion produced indefensible and arbitrary outcomes. When the justices ruled in *Gregg v. Georgia* (1976) and its companion cases that the replacement guided discretion

legislation had cured the previously identified deficiencies, they necessarily did so in the absence of evidence about how the newly designed statutes functioned in their application. Considerable evidence now has been assembled about the death penalty's administration in the post-*Furman* era. Whether the *Gregg* Court's optimism was justified is, at best, an open question.

### Discrimination and Arbitrariness

Racial discrimination has figured significantly in this country's use of the death penalty. Historically, African Americans charged with crimes against whites were at a particular disadvantage in being convicted and executed, if they were not first lynched (Kennedy, 1997, pp. 76–86, 311–326; Vandiver, 2006b). Researchers have investigated whether the use of sentencing standards and more intensive appellate review have expunged racial influences in the death penalty's administration under the modern, guided discretion statutes. Studies completed in several states report finding evidence of racial disparities, although usually in a different guise than how racial influences traditionally were manifested. Although black defendants convicted of killing white victims continue to fare worst in potentially capital cases, the current primary locus of racial disparities is the race of the murder victim: in many jurisdictions, white-victim cases are significantly more likely to be prosecuted capitally and end in a sentence of death than comparable cases involving non-white victims (Baldus & Woodworth, 2004; U.S. General Accounting Office, 1990).

In *McCleskey v. Kemp* (1987), the Supreme Court confronted a challenge to Georgia's revised death penalty law—the same law that the justices had upheld against a facial (i.e., “as written”) attack in *Gregg v. Georgia* (1976)—based on evidence that, in application, the odds were 4.3 times higher that white-victim murders would result in a death sentence than comparable black-victim killings. McCleskey, an African American, had been sentenced to death for murdering a white police officer in Atlanta. Although crediting the reliability of the study demonstrating the racial disparities, the justices ruled (5–4) that the evidence was inadequate to undermine the law's constitutionality. This ruling effectively insulated death penalty laws from constitutional challenge based on aggregate, or state-wide evidence of racial disparities in their administration (Baldus, Woodworth, & Pulaski, 1990, pp. 370–393).

Substantial evidence also has been produced that the administration of death penalty laws is far from uniform within jurisdictions. In particular, prosecution and sentencing practices can be so highly variable within states that *where* a killing occurs can be far more important in determining whether an offender will live or die than how aggravated the murder was, the offender's prior record, or other legally relevant considerations (Paternoster et al., 2003; Songer & Unah, 2006). Such within-state disparities in administering the death penalty perhaps should not be surprising in light of prosecutors' considerable discretion and the lack of oversight of capital charging decisions in nearly all jurisdictions. Even where appellate courts have effective mechanisms to detect geographical disparities in capital charging and sentencing decisions (and most do not), the irregular application of death penalty statutes within states traditionally has not been considered unlawful. Still, widely divergent capital charging and sentencing policies among counties arguably interject an element of arbitrariness in the administration of state death penalty laws (Brock, Cohen, & Sorensen, 2000; Ditchfield, 2007).

## Wrongful Convictions

No issue touching capital punishment has fueled more recent debate and controversy than the risk of executing innocent persons. Illinois' record between 1977 and 2000 of having executed 12 men convicted of murder and releasing 13 others from death row—one of whom came within 48 hours of being executed—based on undisputed or legally compelling evidence of their innocence led former Governor George Ryan first to order a moratorium on executions and in 2003 to commute the sentences of all 167 state prisoners then on death row to life imprisonment (Governor's Commission on Capital Punishment, 2002, pp. 1–6; Warden, 2005). Nationally, 128 individuals convicted of capital murder and sentenced to death have been exonerated<sup>1</sup> in the post-*Furman* era, including 16 for whom DNA evidence helped establish innocence (Death Penalty Information Center, 2008d). Concerns about the possibility of executing innocent people have led to calls for moratoriums on executions and the formation of death penalty study commissions in several jurisdictions (Kirchmeier, 2002; Lanier & Acker, 2004) and have raised questions among many citizens and government officials about the integrity of the capital punishment enterprise.

Although death penalty supporters recoil at the prospect of executing an innocent person, they are not persuaded that this risk should lead to capital punishment's abolition. Some point out that all human institutions, including the criminal justice system, are fallible and suggest that demanding perfection in administering capital punishment or any other enterprise would essentially disable government from functioning (Zuanich, 2006). Others argue that the accidental loss of human life is predictable in other endeavors, such as automobile travel, yet is tolerated in order to realize corresponding social benefits, as it should be in the context of capital punishment (van den Haag, 1978, p. 57). Still others maintain that there is no evidence that innocent persons have been executed in modern times and that the release of wrongfully convicted individuals demonstrates that the criminal justice system is effectively detecting and correcting errors (Markman & Cassell, 1988; Marquis, 2005, p. 518).

In 2002, a U.S. District Court ruled the federal death penalty unconstitutional, reasoning that the law subjected innocent people to an undue risk of erroneous execution. This decision was quickly overturned on appeal (*United States v. Quinones*, 2002). Massachusetts' governor charged a special commission in 2003 with designing a statute authorizing the death penalty yet ensuring that no innocent person would be subjected to it (Hoffmann, 2005), while in 2006 Wisconsin voters, in an advisory referendum, approved of capital punishment being introduced into state law conditioned on the offender's guilt being established through DNA evidence (Kittner, 2006). Meanwhile, Supreme Court justices have exchanged sharply contrasting views about the risk that the death penalty might claim innocent lives (*Kansas v. Marsh*, 2006, pp. 2531–2539, Scalia, J., concurring; *id.* at 2544–2546, Souter, J., dissenting). This issue of course has existed since the inception of capital punishment, although the nearly incontrovertible weight of DNA evidence appears to have made it surface anew with special intensity. Whether or not it is sufficiently weighty to affect death penalty policies, the issue of innocence almost certainly has thrust the country into “a period of new empirical argument about how ‘death is different’” (*Kansas v. Marsh*, 2006, p. 2545, Souter, J., dissenting).

<sup>1</sup> Within the category of “innocent” persons under sentence of death are those whose capital convictions were overturned and who later were acquitted at a retrial, or had all charges against them dropped, or who were pardoned based on new evidence of their innocence (Death Penalty Information Center, 2008d).

## The Capital Jury

Trial juries are required to find all facts needed to support a capital sentence (*Ring v. Arizona*, 2002) and, because they are presumed to reflect and express community values, they are relied on in almost all jurisdictions to make life and death sentencing decisions. Their crucial responsibilities for determining guilt and punishment make the composition and workings of capital juries especially important. All jurisdictions require that jurors be “death qualified,” or willing at least to consider imposing a death sentence, as a prerequisite to serving in capital trials (*Wainwright v. Witt*, 1985). Capital jurors also must be “life qualified,” meaning that they will consider imposing a sentence of life imprisonment rather than automatically voting for death if an offender is convicted of murder (*Morgan v. Illinois*, 1992). A sizeable number of potential jurors, estimated in some jurisdictions as comprising 8–14% of the jury pool, are not death qualified (Acker, 1996, p. 152). Death qualification generally is thought to exclude far more prospective jurors than life qualification, although recent research has questioned that assumption (Blume, Johnson, & Threlkeld, 2001, pp. 1220–1224; Sandys & McClelland, 2003, p. 394).

While death qualification ensures that jurors are willing to consider imposing a capital sentence, and thus will not nullify a law authorizing the death penalty, this process has additional consequences. Research suggests that excluding individuals with strong scruples against the death penalty from capital jury service produces juries that are more “conviction prone”—i.e., more inclined to return guilty verdicts, and for more serious offenses—than juries that are not death qualified (Haney, 1984; Thompson, Cowan, Ellsworth, & Harrington, 1984). In addition, because African Americans and women disproportionately hold strong views against capital punishment, death qualification skews the representativeness of capital juries (Haney, 2005, pp. 106–108). The Supreme Court has rejected constitutional challenges to death qualified juries, with a majority of the justices expressing skepticism about the research evidence and recognizing the legitimacy of states relying on a single jury in capital cases to determine both guilt and sentence (*Lockhart v. McCree*, 1986).

The representativeness of capital juries can further be undermined by the attorneys’ exercise of peremptory challenges. Prosecutors in capital trials commonly use their peremptory challenges against prospective jurors who express reservations about the death penalty but who are not disqualified as a matter of law. While defense attorneys will try to counter by excusing potential jurors who support capital punishment, such individuals are likely to far outnumber their counterparts who disfavor the death penalty. The exercise of peremptory challenges can further prune blacks and women from capital juries, either as a byproduct of their more negative views about the death penalty or because of invidious discrimination (Baldus, Woodworth, Zuckerman, Weiner, & Broffitt, 2001; *Miller-El v. Dretke*, 2005; Winick, 1982).

Capital juries comprised exclusively or overwhelmingly of whites tend to exhibit different deliberation dynamics and to be more likely to impose a death sentence, especially where the offender is black, than juries that include blacks (particularly black males) (Bowers, Sandys, & Brewer, 2004; Bowers, Steiner, & Sandys, 2001). Research based on interviews with more than 1200 individuals from 14 states who served on capital juries suggests more generally that a substantial chasm exists between theory and practice with respect to guided discretion death penalty legislation. Specifically, large percentages of former capital jurors report relying on deliberation processes and criteria that diverge markedly from statutory directives. They further evidence a misunderstanding of rules regarding mitigation evidence and other matters fundamental to capital punishment jurisprudence. Such sobering results suggest that the elaborate rules put in place

to regulate capital jurors' sentencing discretion may be ineffective and in practice represent little more than "legal fiction" (Bowers, Fleury-Steiner, & Antonio, 2003).

### Other Administrative Issues

Several other important issues are relevant to the death penalty's administration. The quality of defense counsel is central to the fair and reliable dispensation of justice, and because nearly all capital defendants are indigent, this premise has special relevance in the context of court-appointed counsel. For various reasons, including not only the need to investigate and contest guilt but also to prepare for a sentencing hearing, the heightened use of motions and reliance on experts, unique jury selection strategies, required familiarity with complex legal doctrine, and others, capital trials can impose unusual demands on defense counsel. Unfortunately, defense attorneys are not always up to the challenge. Ineffective assistance of defense counsel figures prominently in the high reversal rate of capital cases (Liebman et al., 2000).

States differ markedly in their appointment, training, and qualification requirements for counsel in capital cases, in the resources they provide to compensate appointed counsel and fund defense investigators and experts, in whether a specialized capital defense unit exists, in whether court-appointed counsel is made available beyond the mandatory appeal of a capital conviction and sentence, and in other important particulars (Acker & Lanier, 1999). Horror stories abound about the quality of capital defense counsel, including lawyers who have been intoxicated and/or sleeping during trials, their high rate of disbarment, their lack of preparation, effort, and experience, and the abysmally low rate at which they are compensated (Bright, 1994). Recent Supreme Court decisions have invigorated what was formerly an essentially toothless standard regarding constitutionally ineffective assistance of counsel in capital cases (*Rompilla v. Beard*, 2005; *Wiggins v. Smith*, 2003). Still, more needs to be done in many jurisdictions, including those that most aggressively pursue capital punishment, to ensure that defendants on trial for their lives receive able representation by adequately funded attorneys (Williams, 2005).

The post-trial stages of capital cases are also important. Federal courts vacated approximately 40% of the state capital convictions or sentences that they reviewed between 1973 and 1995 based on constitutional errors that they detected (Liebman et al., 2000). In 1996, concerned about typical delays of a decade or more between sentencing hearings and executions, during which both state and federal post-conviction review occurs, Congress enacted legislation designed to expedite this process. The Anti-terrorism and Effective Death Penalty Act of 1996, or AEDPA, also requires the federal courts to be more deferential to state court judgments on habeas corpus review. AEDPA's influence on federal courts' review of state capital convictions and sentences has yet to be fully determined, although there is cause for concern that meritorious issues are not being addressed and errors are not being corrected because of the new requirements (Jacobi, 2007; King, Cheesman, & Ostrom, 2007; Kovarsky, 2007).

Executive clemency historically has been considered indispensable to promoting both justice and mercy in capital cases. In this context, clemency typically takes the form of a reduction of a death sentence to life imprisonment. In the pre-*Furman* period, governors commonly granted such relief with some regularity. For example, Florida governors commuted death sentences in nearly one case out of four (23.1%) between 1924 and 1966 (Vandiver, 1993, pp. 321–322). The rate was comparable in several other jurisdictions (Acker & Lanier, 2000, pp. 212–213). In the post-*Furman* period, clemency has continued to be a factor in reducing capital sentences,

although it generally has been used more sparingly (Burnett, 2002; Sarat, 2008). Between 1977 and 2007, excluding Governor Ryan's blanket commutation of all of Illinois' death-sentenced prisoners in 2003, clemency was granted 69 times in capital cases nationally. During that same period, 1099 executions were carried out (Death Penalty Information Center, 2008b, 2008e). Accordingly, outside of Illinois, decisions favorable to the condemned were made in 5.9% of cases requiring a clemency decision; when Governor Ryan's 172 commutations in Illinois are included, decisions favorable to the condemned were made in 18% of cases.

Lethal injection became the execution method of choice in nearly all American jurisdictions as the 21st century arrived. Although originally hailed as essentially painless, and a more humane form of execution than alternatives such as the electric chair or lethal gas, evidence soon mounted that problems plagued lethal injection procedures. Most physicians and others within the medical profession refused to participate in executions on ethical grounds, leaving the administration of the lethal drugs to "execution technicians" of varying skill levels. Finding suitable veins in which to inject the poisonous chemicals was difficult for some prisoners, especially those with a history of drug abuse. The drugs would be exquisitely painful if not administered in the proper sequence and dosage, although the paralytic effects of one of the chemicals would prevent the condemned from crying out or writhing (Denno, 2007).

Litigation caused a halt in executions throughout the country from late 2007 into 2008 while first the lower courts and eventually the Supreme Court pondered whether the risks associated with lethal injection violated the Eighth Amendment's prohibition against cruel and unusual punishments (*Baze v. Rees*, 2008). Although the Supreme Court declined to disable capital punishment because of the problems associated with lethal injection, the temporary cessation of executions and the accompanying debate focused the nation's attention on execution processes stripped of many of the abstractions that tend to dominate the vocabulary of capital punishment (see Camus, 1960, pp. 132–134). Identifying a palatable method for carrying out sentences of death presented another challenge to the administration of capital punishment.

## THE RECENT DOWNTURN IN CAPITAL SENTENCING AND EXECUTIONS

Doubts about the utility, cost-effectiveness, morality, and fairness of capital punishment appear to have begun to spill into practice. While governmental commissions in several states and the American Bar Association have increasingly scrutinized the death penalty's administration (Acker, 2008; Fleischaker, 2007), the number of new death sentences imposed annually nationwide has plummeted over the past decade. And after peaking at a post-*Furman* high of 98 in 1999, yearly executions also have dropped, to 42 in 2007 (a total reflecting, in part, uncertainties surrounding the constitutionality of lethal injection) (*Baze v. Rees*, 2008). Table 16.1 illustrates the trends in death sentences and executions between 1977 and 2007, including the downturns which began in the late 1990s and have since accelerated.

It is too early to pinpoint the reasons accounting for these striking declines or to predict whether the downturns in new death sentences and executions will continue, level off, or rebound to higher levels. Among the possible explanations for the trends are the recent and nearly universal availability of LWOP as an alternative to capital punishment; growing concerns about the risk that innocent persons will be executed, fueled largely by DNA-based exonerations, which could inhibit juries from imposing and prosecutors from seeking capital sentences; the monetary costs of capital prosecutions, particularly as law enforcement and a host of social programs com-



**TABLE 16.1. Death Sentences Imposed and Executions Carried Out in the United States by Year, 1977–2007**

Year	Death sentences imposed	Executions
1977	137	1
1978	185	0
1979	151	2
1980	173	0
1981	223	1
1982	267	2
1983	252	5
1984	284	21
1985	262	18
1986	300	18
1987	287	25
1988	291	11
1989	258	16
1990	251	23
1991	268	14
1992	287	31
1993	287	38
1994	315	31
1995	326	56
1996	323	45
1997	281	74
1998	306	68
1999	284	98
2000	235	85
2001	167	66
2002	169	71
2003	153	65
2004	140	59
2005	138	60
2006	115	53
2007	110 (est.)	42

SOURCES. Death Penalty Information Center, 2008b, 2008f; U.S. Dept. Justice, Bureau of Justice Statistics, 2007: Tables 14, 15.

pete for diminishing public resources; declining crime rates and the receding importance of the death penalty as a political issue in state and federal elections; increasingly diverse jury pools, which are more likely to reflect skepticism or concerns about the death penalty maintained in the broader community; the advent of skilled, system-wide capital defense organizations in more jurisdictions; the exemption of juvenile and mentally retarded offenders from death penalty eligibility; and other factors (Note, 2006; Sundby, 2006).

A longer perspective and further analysis will be required before conclusions are drawn about the continuing vitality of capital punishment in 21st century America. The death penalty

has been abolished throughout Europe, elsewhere in North America (Canada and Mexico), Australia, New Zealand, and throughout much of Central and South America for ordinary crimes (i.e., crimes other than treason, military crimes, and certain other exceptional offenses). It is practiced most regularly in China, Iran, Saudi Arabia, and in other countries in Asia and Africa (Death Penalty Information Center, 2008g; Proctor, 2006–2007). Accordingly, if the downward trend in death sentences and executions continues in this country and capital punishment increasingly falls into disuse, the United States would join company with its closest political and economic allies rather than remain in the company of nations that share such different traditions.

## CONCLUSION

The death penalty has deep roots in American history and culture. It remains an authorized punishment in 36 states, under federal law, and in the U.S. Military, although the number of offenders under sentence of death and the number executed within those jurisdictions vary markedly. Nationally, both new death sentences and executions have declined significantly over the past decade. It is too early to tell whether those trends will continue. The future of capital punishment in the United States remains uncertain. It is unlikely that the death penalty will soon be abolished, just as it is unlikely that it will increase dramatically and become a staple of criminal justice systems.

Capital punishment endures in an uneasy equilibrium marked by its legal availability and its infrequent use, an equilibrium that is satisfactory neither to those who are persuaded that it is an immoral or inefficacious sanction nor to those expressing frustration that it cannot serve its retributive or deterrent functions when it is so rarely employed. The explanation for this uncomfortable tension almost certainly involves the death penalty's unique symbolism. For many, capital punishment has important expressive value in demarcating and reinforcing moral boundaries and in signifying society's anger and frustrations about violent crime and helping appease-related fears. These deep-seated psychological and emotional associations with the death penalty are not likely to be readily relinquished (Gerber, 2004b).

At the same time, a countervailing portrait of capital punishment has begun to emerge in many people's eyes. They see the death penalty as an ill-functioning lethal instrument that threatens the innocent, that is marked by racial and class biases, and that is an extravagantly wasteful and ineffective social policy. Such reservations, coupled with religious and moral misgivings, cause many to repudiate the death penalty and help account for its irregular implementation. It is difficult to predict which persona of capital punishment ultimately will prevail and what transformations may occur in death penalty policies and practices. In the short term, the current standoff between the largely symbolic retention of the death penalty and its practical nullification will likely continue to characterize capital punishment in America.

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## CHAPTER 17

# The Joint Effects of Offender Race/Ethnicity and Sex on Sentencing Outcomes

PAULINE K. BRENNAN

### INTRODUCTION

Statistical data suggest that offender race/ethnicity and sex play important roles in criminal justice processing. Minority offenders and males, for example, are disproportionately overrepresented in U.S. prisons and jails. Specifically, based on the number of prison and jail inmates incarcerated in state facilities at mid-2005, Harrison and Beck (2006) estimated that rates of incarceration were five and one-half times higher for blacks and two times higher for Hispanics than they were for whites (p. 10). With regard to offender sex, at mid-2006, males constituted 92.8% of the U.S. prison population; they were 14 times more likely than women to be incarcerated (Sabol, Minton, & Harrison, June 2007, p. 5). Moreover, researchers estimate that a male has a 1 in 9 chance of going to prison in his lifetime, while a female has a 1 in 56 chance (Bonczar, 2003, p. 8).

Incarceration statistics also reveal how the degree of minority overrepresentation varies by an offender's sex; a larger proportion of the male prison population consists of minority inmates. According to 2006 year-end data, white inmates made up 38% of the male prison population; in comparison, 47% of all females incarcerated in state and Federal prisons were white (Sabol, Couture, & Harrison, December 2007, Table 7). Relative to their white counterparts, black

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women were about three times as likely to be incarcerated at the end of 2006, and Hispanic females were 1.7 times more likely to be behind bars (Sabol et al., December 2007, p. 8). The rates were more disparate among male offenders. Based on data for the same year, black men were about six times more likely to be in prison than white men, and the likelihood of incarceration was almost three times higher for Hispanic men than for white men (Sabol et al., December 2007, p. 8). Furthermore, researchers estimate that the lifetime chances of going to prison are highest for black males (32% or 1 in 3), followed by Hispanic males (17% or 1 in 6), and then white males (6% or 1 in 17) (Bonczar, 2003, p. 8). Interestingly, however, the lifetime chances of going to prison for black females are nearly as high as they are for white males (5.6%) (p. 8). In contrast, about 1 in 50 (2.2%) Hispanic females and approximately 1 in 100 (0.9%) white females are expected to go to prison during their lifetimes (Bonczar, 2003, p. 8). The above statistics suggest that criminal justice outcomes differ for minority offenders and for females and that offender race/ethnicity and sex interact to influence outcomes.

There are now a number of studies that examine the additive effects of race/ethnicity and/or sex on sentencing outcomes, and excellent literature reviews have been written about the effects of both variables. In the two most recent reviews of the effect of race on sentencing outcomes, Spohn (2000) and Mitchell (2005) reached the same conclusion—race matters. Both found that minority offenders received more severe punishments, even after offense seriousness and prior criminal record were taken into account (see also Chiricos & Crawford, 1995). This was especially true for examinations of the decision of whether to incarcerate the offender (Mitchell, 2005; Spohn, 2000; see also, Chiricos & Crawford, 1995). With regard to the effect of sex on sentencing outcomes, Nagel and Johnson (1994) reviewed the extant literature and noted that “female offenders consistently received more favorable sentences than similarly situated males” (p. 185), and the likelihood of a favorable outcome was particularly pronounced for the incarceration decision (p. 186; see also Steffensmeier, Kramer, & Streifel, 1993). Daly and Bordt (1995) reviewed research findings from studies published through the mid-1990s and “found no case in which the overall results showed that men were favored” (p. 144). For the most part, female offenders were more likely than males to receive lenient sentences. Similar conclusions are also reported in more recent reviews (see for example Brennan, 2002; Rodriguez, Curry, & Lee, 2006; Steffensmeier, Ulmer, & Kramer, 1998).

The above conclusions are based on a body of sentencing research that largely tests additive models; but additive models do not allow one to assess whether offender race/ethnicity and sex operate jointly to influence outcomes. In other words, past research is largely premised on the assumption that all women are likely to be treated more leniently than all men and that all minority offenders are likely to receive harsher punishment than all white offenders. But findings of leniency for female offenders may be conditioned by race/ethnicity. And findings of preferential treatment for white offenders (or more punitive treatment for minorities) may be conditioned by sex. Thus, as other researchers have warned, a failure to consider the intersection of sex and race/ethnicity may result in inaccurate conclusions about the effects of these variables on sentencing outcomes (Crew, 1991; Daly & Tonry, 1997; Steffensmeier & Demuth, 2006; Steffensmeier et al., 1993, 1998; Spohn & Beichner, 2000; Young, 1986).

Are all women, regardless of their race/ethnicity, more likely to receive preferential treatment relative to their male counterparts, or is leniency reserved only for women of certain races? Are the effects of race/ethnicity on sentencing outcomes similar or different for male and female offenders; does race/ethnicity predict sentencing outcomes among women? Relative to other males and females, are black men most likely to receive the harshest sentences? Are white

women, in particular, most likely to be given the least severe sentences? Empirical questions such as these have received limited attention in sentencing studies. The purpose of this chapter is to provide the reader with an understanding of how sex and race/ethnicity may operate together to influence sentencing outcomes and to suggest a direction for future inquiry.

## EXTANT LITERATURE

### **Theoretical Perspectives on the Effects of Race/Ethnicity and Sex on Sentencing Outcomes and Discussions of the Interaction Effect**

Sentencing scholars often argue that offender sex or race/ethnicity influences judicial behavior because of stereotypes held for members of certain groups. Specifically, negative stereotypes about minorities (including perceptions of danger and culpability) are believed to produce more punitive outcomes for black and Hispanic offenders (see e.g., Albonetti, 1991; Bridges & Steen, 1998; Steffensmeier et al., 1998; Zatz, 1984). And harsher outcomes are expected for male offenders because perceptions of threat, culpability, and criminality are less likely to be linked to females (see e.g., Brennan, 2002; Steffensmeier & Demuth, 2006). What is generally missing, however, from the extant theoretical literature is a discussion of how racial/ethnic stereotypes may condition gender stereotypes. Theoretically, the intersection of race/ethnicity and sex should work to produce disparate sentencing outcomes for certain offenders.

**THEORETICAL DISCUSSIONS OF THE IMPACT OF GENDER AND RACIAL/ETHNIC STEREOTYPES ON SENTENCING OUTCOMES.** Much has been written about the role that stereotypes play in criminal justice decision making. Labeling theorists, for example, contend that classifications based upon a variety of stereotypes (some of which may be derived from sex and/or race/ethnicity) influence both the attribution of a deviant label and reactions to that label (Becker, 1963; Bernstein, Kelley, & Doyle, 1977; Bernstein, Kick, Leung, & Schultz, 1977; Schur, 1971, 1983). Harris (1977) has similarly argued that perceptions of the types of behaviors or roles that are likely or unlikely for one to exhibit or perform are derived from how one is “typescripted.” Typescripts may be used to identify those who are likely to be deviant and, consequently, those who are more deserving of harsher punishment.

In line with discussions of the influence of stereotypes on judicial decision making, Albonetti’s (1991, 1997, 2002) “uncertainty avoidance/causal attribution” perspective explains the harsher sentences imposed on minorities and males. Albonetti (1991) asserted that when people are forced to make decisions, but do not have all relevant information, they will attempt to reduce uncertainty by relying upon prior experience, stereotypes, and prejudice. Judges and prosecutors, she argues, rely on stereotypes of minorities and men as more dangerous and likely to recidivate to help them attempt to achieve “rational outcomes in the face of limited information.”

Another theoretical framework that emphasizes the role of stereotypes in discretionary decision making within the context of limited information is the “focal concerns” perspective (Steffensmeier, 1980; Steffensmeier & Demuth, 2001, 2006; Steffensmeier et al., 1993, 1998; Ulmer & Johnson, 2004). Steffensmeier and his colleagues (1998) asserted that judges’

sentencing decisions are guided by three focal concerns: an assessment of the blameworthiness or culpability of the offender, a desire to protect the community by incapacitating dangerous offenders or deterring potential offenders, and concerns about the practical consequences (or social costs) of sentencing decisions (see also Demuth & Steffensmeier, 2004; Kramer & Ulmer, 2002; Steffensmeier & Demuth, 2000, 2001, 2006; Steffensmeier, Kramer, & Ulmer, 1995). However, they also noted that judges rarely have enough information to adequately determine either the costs associated with sentencing an offender or the offender's culpability or future dangerousness. Therefore, judges develop a "perceptual shorthand," based on stereotypes linked to an array of offender characteristics, including race/ethnicity, gender, social class, and other social positions (Engen, Gainey, Crutchfield, & Weis, 2003, p. 110; Kramer & Ulmer, 2002, p. 904; Steffensmeier & Demuth, 2000, p. 709; Steffensmeier et al., 1998, p. 768; Ulmer & Johnson, 2004, p. 145). According to the focal concerns perspective, these offender characteristics (along with offense type and prior record) influence sentencing outcomes because images or attributions connect them to groups thought to be bad (or good) risks for rehabilitation, potentially dangerous (or not), and more (or less) culpable (Steffensmeier & Demuth, 2000, p. 709).

Based on the focal concerns perspective, preferential treatment of female offenders is expected because females are assumed to be less likely to commit crimes (or less capable of doing so), less responsible when they do, less dangerous, and more likely to be rehabilitated than men. Indeed, much of the previous research on female offenders underscores how gender stereotypes impact expectations of female behavior (Armstrong, 1999; Barak, 1994; Barnett, 2006; Berrington & Honkatukia, 2002; Bond-Maupin, 1998; Brennan, 2002, 2006; Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972; Chesney-Lind, 1999; Daly, 1994; Edwards, 1986; Estep, 1982; Farr, 2000; Grabe, Trager, Lear, & Rauch, 2006; Huckerby, 2003; Landrine, 1985; Macdonald, 1995; Madriz, 1997; Naylor, 2001; Wilczynski, 1991; Willemssen & van Schie, 1989; Young, 1986). Willemssen and van Schie (1989), for example, found that "stereotypes about criminal behavior were very pronounced and predominantly masculine" (p. 635), and these "stereotypes influence[d] the interpretation of behavior" (p. 625). Thus, when women do engage in criminal activity, full responsibility is not likely to be attributed to them. Blame is not likely to be assigned to women because females are believed to be passive, dependent, irrational, impulsive, and neurotic (Brennan, 2002; Heilbrun, 1982; Smart, 1977).

Not only are females believed to be less likely to commit criminal acts and less responsible for when they do, but they are also believed to be less likely to engage in future criminal activity (Parisi, 1982; Spohn, Welch, & Gruhl, 1985; Steffensmeier, 1980; Steffensmeier & Demuth, 2006; Steffensmeier & Kramer, 1980). Steffensmeier and Demuth (2006) argue that this is because "women are perceived to maintain community ties more so than males (e.g., with children, parents) and are more closely bonded to conventional institutions that also serve to reduce the likelihood of future involvement with the criminal justice system" (p. 246). In addition, women offenders are not generally envisioned as dangerous (Nagel & Weitzman, 1971; Steffensmeier, 1980; Steffensmeier & Demuth, 2006; Steffensmeier & Kramer, 1980). Whereas females have been stereotyped as passive and dependent, males have been characterized as aggressive and autonomous (see Brennan, 2002). In addition, because of physical differences, males are believed to be more apt and willing to use force to harm or threaten others (Brennan, 2002). Thus, there is a greater fear and danger associated with the male offender.

With regard to the effect of race/ethnicity, focal concerns theorists also argue that negative racial and ethnic stereotypes make court actors assume that blacks and Hispanics are more dangerous, more culpable, and more likely to commit crime in the future (see e.g., Steffensmeier

& Demuth, 2006). Such preconceived notions result in harsher sentences for minority offenders. This is because judges often lack ample information on defendants and must, therefore, rely on a “perceptual shorthand” for decision making based on stereotypes (Engen et al., 2003, p. 110; Kramer & Ulmer, 2002, p. 904; Steffensmeier & Demuth, 2000, p. 709; Steffensmeier et al., 1998, p. 768; Ulmer & Johnson, 2004, p. 145).

Much has been written about the prevalence of negative racial/ethnic stereotypes in our society (Barak, 1994; Brennan, 2002, 2006; Dates & Pease, 1997; Entman, 1990, 1992, 1994, 1997; Farr, 2000; Humphries, 1981; Hurwitz & Peffley, 1997; Kurokawa, 1971; Landrine, 1985; Madriz, 1997; Peffley, Shields, & Williams, 1996; Sarat, 1993; Surette, 1992). Kurokawa (1971) points out that in American society, where whites comprise the majority, “white ethnocentrism prevails, attributing a positive image to the whites and a negative one to other racial groups” (p. 214). Although this statement was made decades ago, more recent studies lend support for this notion.

For example, in the 1992 National Election Study (the authoritative academic public opinion survey from the University of Michigan), 57.4 percent of white respondents rated blacks as lazier than whites; 66 percent of whites rated blacks as more violence-prone; 49.4 percent of whites said blacks were less intelligent (Entman, 1997, p. 30).

Similar findings concerning societal views of whites and minorities were reported in a study conducted by the National Opinion Research Center at the University of Chicago (Smith, 1990) and by Gladwell (2005) in his book, *Blink: The Power of Thinking Without Thinking*. Gladwell examined the ways in which individuals used mental schemata to process information and make snap judgments in a given situation. In one chapter, he described a research tool (i.e., the Race Implicit Association Test) designed to measure the unconscious attitudes individuals have toward blacks and whites (see pp. 81–87). The test presented black and white faces on a computer screen, along with words such as “good,” “bad,” “wonderful,” and “evil,” to name a few. Respondents were asked to link such words to either a white or a black face. Gladwell (2005) reported that “more than 80% of all those who have ever taken the test end up having pro-white associations” (p. 84) and that about half the African-Americans tested also made more pro-white than pro-black associations (p. 85). He went on to explain that the results are not surprising because all around us (e.g., newspapers and television) whites are paired with “good” things.

Minorities, in contrast, are paired with “bad” things, such as deviant behavior. In general, most researchers who have examined media depictions of minorities and crime have arrived at the same conclusion—minorities are presented as posing more of a threat to society than whites (Barak, 1994; Barlow, 1998; Entman, 1990, 1992, 1994, 1997; Humphries, 1981; Hurwitz & Peffley, 1997; Madriz, 1997; Sarat, 1993; Smith, 1990). In a series of studies, Entman (1990, 1992, 1994, 1997) found that, across time, media depictions of criminal activity by African-Americans were significantly more likely to (1) emphasize violent or drug crime (1992, 1994), (2) receive the greatest percentage of news coverage (1990, 1992), (3) be accompanied by a mug shot (1990, 1997; see also Peffley et al., 1996), (4) emphasize racial/ethnic differences between the offender and victim (1990), (5) have the case spoken about by a criminal justice official not of their own race (1992), and (6) show African-Americans in police custody (1994, 1997). Thus, the media helps to link blacks to crime and, consequently, renders stereotypes of blacks more negative (Hurwitz & Peffley, 1997, p. 376). Similarly, Barlow (1998) noted

[e]vening news broadcasts, television crime dramas, and the “real” crime stories of programs like “Cops” and “LAPD” bombarded the American public with images of “young black male” offenders under authoritarian police control. The message is that the police are the thin blue line protecting law-abiding citizens from [these] dark and dangerous street criminals (p. 155).

Over time, these messages become part of a vicious cycle—negative media depictions breed fear, resentment, and negative attitudes toward minority group members. Since the media tend to reflect larger social ideas, negative media portrayals influence the ways that minorities are perceived, thus furthering their negative treatment.

In addition, there is some evidence that notions of who is likely to offend are coupled with ideas about who is likely to be rehabilitated. To elaborate, Hurwitz and Peffley (1997) examined how negative “pictures in the head” about black offenders influenced respondent support for harsh punishment over rehabilitation. When presented with different scenarios, individuals who perceived “blacks as a violent underclass beyond the hope of rehabilitation” were very likely to believe a stiff punishment was warranted (Hurwitz & Peffley, 1997, p. 395).

**THEORETICAL DISCUSSIONS ABOUT THE COMBINED INFLUENCE OF GENDER AND RACE/ETHNICITY ON SENTENCING OUTCOMES.** While the arguments and conclusions drawn from the above literature are informative, the aforementioned discussions are limited in that they reveal little about how gender and race/ethnicity combine to influence expectations. In those rare instances where sex and race are simultaneously considered, researchers who study media depictions of offenders suggest that the most common image of a criminal is that of a young, black (or other minority) male (Barak, 1994; Barlow, 1998; Chermak, 1994; Humphries, 1981; Madriz, 1997). Sentencing scholars likewise argue that the brunt of negative stereotyping falls most heavily on young, unemployed, black males (see e.g., Spohn & Holleran, 2000; Steffensmeier et al., 1998). Scholars have also acknowledged that Hispanic males have increasingly been associated with crime and fear of crime (Anderson, 1995; Brennan & Spohn, 2008; Mann & Zatz, 1998; Steffensmeier & Demuth, 2001, 2006). But what does this say about perceptions of minority women? Does this mean that black (or other minority) females are not likely to be perceived as criminal? How are minority women viewed relative to white women and relative to males? And, how may these perceptions influence court processing outcomes?

A review of the extant literature reveals that minority women have been stereotyped more negatively than white women, and negative stereotypes provide a basis for one to predict that minority women would receive less favorable treatment by the criminal justice system. Landrine (1985), for example, found that white women were more likely to be stereotyped as “competent, dependent, emotional, intelligent, passive. . .and warm” (p. 72), whereas black women were more likely to be stereotyped as “dirty, hostile, and superstitious” (p. 71–72). Furthermore, other scholars have found a strong tendency for minority females, in general, to be stereotyped as “hyper-sexed” (Farr, 2000, p. 55; see also Madriz, 1997; Young, 1986) and as “welfare queens” (Hurwitz & Peffley, 1997, p. 393). In short, racist conceptions of “femininity” more closely fit white women (Klein, 1995).

Stereotypes held for women of different races/ethnicities are a product of culture, history, and society. Historically, black women were not dependent upon men because slavery dictated against a sexual division of labor; there was no material basis for it (Gilkes, 1983). Female slaves participated fully in every facet of plantation life; the vast majority did precisely the same work as men. Black women continue to be more economically independent than white women, in part

because black men are blocked access to good jobs, which results in their earning less money than their white counterparts or no money at all (Adler, 1985; Healey, 1997). Thus, it would appear that the characterization of black women as independent has arisen, in part, because the traditional assignment of women to the home, versus the labor sector, is less tenable among blacks than whites (Brennan, 2002; Brittan & Maynard, 1984; Datesman & Scarpitti, 1980; Gilkes, 1983).

Another common image of the black female is that she is domineering. This image is based on the assumption that the black family is matriarchal in type, where the male role has been marginalized (Datesman & Scarpitti, 1980). Conceptions of matriarchy are reinforced via societal characterizations of the black family as either a female-headed household or an intact family where the wife has authority (Young, 1986). Young (1986) has taken the notions of independence, strength, and dominance and has characterized them under one label—"the Amazon" (see also hooks, 1981). This image serves to defeminize the black woman and, consequently, allows her to be perceived as culpable for her actions.

Black women have also been perceived as dangerous, rather than as passive and non-aggressive (Farr, 1997; Madriz, 1997; Young, 1986). The image of the black woman as dangerous has two components. First, she is perceived as a threat to the ideology of patriarchy and oppression. Second, and possibly stemming from this threat, she is viewed as a danger to the black community as well. Taken together, these images have been labeled the "sinister sapphire" (Gilkes, 1983; Young, 1986).

Black women have a history of threatening the established order. As noted above, black women have, generally, never been economically dependent on black men. Instead, they have worked for centuries, an activity that is "in total opposition and contradiction to the central themes of patriarchal ideology" (Gilkes, 1983, p. 290). Furthermore, black women have historically been a well-organized political force against racial oppression (Gilkes, 1983). During slavery, they actively resisted the master and overseer of the plantation. Indeed, slave women posed a greater threat to the harmony of the slave community than slave men. They created more trouble and showed a higher degree of insolence than their male counterparts (Obitko, 1977). In addition, black women encouraged their children to hope for freedom (Gilkes, 1983). In short, the model of womanhood that developed in the slave community, where assertiveness and self-reliance were encouraged, contradicted the ideology of patriarchy, where passivity and dependence defined images of women (Gilkes, 1983). According to Gilkes (1983), these stereotypes born in slavery are widely shared throughout society (see also Fishman, 1998; Rome, 1998). Judges may share these views and may, in turn, sentence black females more harshly than white females but no differently than males.

There are also myths surrounding the sexuality of the black female. One stereotype is that she is a highly sexual being (Farr, 2000; Fishman, 1998; Rome, 1998; Young, 1986).

The fictional image of the black man as rapist has always strengthened its inseparable companion: the image of the black woman as chronically promiscuous. For once the notion is accepted that black men harbor irresistible and animal-like sexual urges, the entire race is invested with bestiality (Davis, 1981, p. 82, as cited in Rome, 1998, p. 88).

Moreover, an examination of history shows that when men sought prostitutes, they often selected black females. "The choice of black over white women tailored personal desire to a value structure in which race separated wenches from women deserving respect" (Pease & Pease, 1990, p. 148). In conjunction with the above depictions, black women have been referred to as a "nation of prostitutes" (Gilkes, 1983), "seductresses" (Gilkes, 1983), "fallen women" (Young,

1986), and “baby-making machines” (Fishman, 1998). All these images regard the black female as loose, immoral, permissive, and sexually depraved (Young, 1986). Given Steffensmeier and his colleagues’ (1998) discussion of focal concerns, these images suggest that black females would be perceived as more culpable, more threatening to the established order, and less inclined toward rehabilitation. Thus, black females may be treated more punitively relative to white females but no differently relative to males.

When compared with discussions of the black female, the literature on Hispanic females, particularly with regard to the stereotypes held for them, is scant. Although black and Hispanic women differ historically and culturally both groups hold a minority position in society. Societal position is important because minorities are believed to socialize their children to different values and behavior that may be viewed as “deviant” or “problematic” from the viewpoint of the majority culture (Brittan & Maynard, 1984; Healey, 1997). Because socialization practices among minorities differ from those of the dominant culture, it is not surprising that non-black minority women, like black women, have had socially undesirable characteristics associated with them.

Portillos (1998) argues that Hispanic females are stereotyped as negatively as their male counterparts and also are believed to be likely gang members. In addition, they are presumed to be “sexy women of easy virtue” (Castro, 1998, p. 134; see also Portillos, 1998). They are also portrayed as likely drug users who become “welfare queens” and irresponsible mothers of gang members (Portillos, 1998, p. 162). Considering Steffensmeier and his colleagues’ (1998) discussion of judicial focal concerns, this may lead to one’s perception that Hispanic women are more culpable and deviant than white women. For the same reasons, judges may perceive lower costs in incarcerating a Hispanic female versus a white female. These factors combined, Hispanic women may be deemed more deserving of harsher treatment by the criminal justice system. Negative stereotypes about black and Hispanic women, in short, provide reason to believe that racial/ethnic variation in sentencing would exist.

Moreover, the few studies of how media portrayals differ for minority women versus white women (Bond-Maupin, 1998; Farr, 1997, 2000; Huckerby, 2003) provide further support for the expectation that race/ethnicity and sex would interact to influence treatment in the criminal justice system. The main conclusion that seems to underlie all these studies is that white women are more likely than minority women to have their behavior excused in some way by the media, deeming them worthy of a “mad” or “sad” label instead of a “bad” label. In line with the “bad” label, relative to white female offenders, researchers have found that minority women are more likely to (1) have masculine traits ascribed to them (Farr, 1997, 2000), (2) be portrayed as sexually deviant (Bond-Maupin, 1998; Huckerby, 2003), and (3) be depicted as inherently unfit mothers (Huckerby, 2003). Such ascriptions by the media reinforce the stereotype that minority women defy gender-role expectations, which makes it more likely that minority women will be held accountable, even when they are accused of similar offenses (Huckerby, 2003). In essence, given societal expectations, it seems that “white, middle-class women effectively have a head start; poor women of color are already perceived as ‘bad’ [women] before they even commit a crime” (Huckerby, 2003, p. 169).

Klein (1973) similarly argued that the notion of “goodness” is based on the image of the ideal woman, an image specific to middle- or upper-class white females; minority women who enter the criminal justice system deviate from the picture of “lady.” Belknap (1996, p. 70) likewise speculated that women of color may not receive chivalrous treatment accorded white women because the former are less likely to appear and behave in ways consistent with traditional gender



stereotypes (see also Brennan, 2002, 2006; Farnworth & Teske, 1995; Griffin & Wooldredge, 2006; Visher, 1983; Young, 1986). These observations suggest that minority women may be treated no differently than males. However, when compared with white females, because of negative racial/ethnic stereotypes, they may be sentenced more severely. What does the empirical research suggest about the joint effects of offender race/ethnicity and sex on sentencing outcomes?

### **Empirical Research on the Joint Effect of Race/Ethnicity and Sex on Sentencing Outcomes**

There are essentially two approaches that have been taken to assess whether offender race/ethnicity and sex operate jointly to influence sentencing outcomes. First, some researchers have estimated separate models for specific groups (i.e., for blacks, whites, and Hispanics or for males and females) to determine whether the same variables acted similarly or differently for different groups of offenders. Second, some researchers have created a new variable (or variables) by multiplying together the values for race/ethnicity and sex; they then included the new variable(s) in a multivariate model that estimated the sentencing outcome. These approaches are evident in the following studies.

**FINDINGS FOR THE EFFECT OF RACE/ETHNICITY FROM STUDIES WITH SEX-SPECIFIC MODELS.** Sex-specific models may address a number of questions, including whether judges are more punitive toward black than white women and whether the effects of race/ethnicity on sentencing outcomes are similar or different for male and female offenders. Table 17.1 provides a summary of the findings for the effect of race/ethnicity from studies with sex-specific models.

Overall, these findings suggest greater similarity in the sentences of white, black, and Hispanic females than in the sentences of white, black, and Hispanic males. Specifically, of the nine studies reported in Table 17.1, seven reported more lenient sentencing outcomes for white males relative to minority males (Crew, 1991; Kruttschnitt, 1984; Spohn & Beichner, 2000; Spohn & Holleran, 2000; Steffensmeier & Demuth, 2006; Steffensmeier et al., 1993, 1998). These findings are consistent with conclusions reached in recently published reviews of the literature on the additive effect of race/ethnicity on sentencing decisions (see e.g., Mitchell, 2005; Spohn, 2000).

However, because most sentencing studies are based on male-only samples or on samples that consist almost entirely of male offenders, researchers are often unable to determine whether the same conclusion (i.e., that race/ethnicity matters) applies to female offenders (see Brennan, 2002, 2006).<sup>1</sup> As Table 17.1 suggests, the effect of race/ethnicity may be less tenable among women. Specifically, in six of the studies presented in Table 17.1, race/ethnicity did not make a difference for women (Bickle & Peterson, 1991; Crew, 1991; Farnworth & Teske, 1995;

<sup>1</sup> This assertion is supported by the summary information reported in Tables 17.1 and 17.4. Both tables show how many sentencing studies are based on a relatively small number of cases for female offenders and/or a disproportionately large number of cases for male offenders.

TABLE 17.1. Summary of Findings for the Effect of Race/Ethnicity for Sentencing Studies with Sex-Specific Models

Author(s)	Data year	Place, sentencing structure	Sample	Dependent variable	Main effect of race/ethnicity	Effect of race/ethnicity from sex-specific models	
						Male only	Female only
Bickle and Peterson (1991)	1973-1978	8 Federal district courts, Indeterminate	390 M 124 F	In-out	Main/additive effect not reported	NS	NS
Crew (1991)	1980	Kentucky, indeterminate	228 M 108 F	Sentence length	NS	B more likely to receive shorter sentences than W	NS
Farnworth and Teske (1995)	1988	California, determinate	13,427 M 2,482 F	4-category variable (fine, probation, jail, prison)	Main/additive effect not reported	NS	NS
Krutttschnitt (1984)	1972- 1976	Minneapolis (MN), indeterminate	504 M 523 F	8-category variable (range = suspended sentence or fine to prison)	NS	NW more likely to receive harsher sentences than W.	NS
Spohn and Beichner (2000)	1993	Chicago, determinate Miami, guidelines Kansas City, determinate	2,642 M 263 F 2,452 M 248 F 1,242 M 223 F	In-out	Chicago: Incarceration more likely for B and H than W. Miami: H (but not B) more likely to go to prison. Kansas City: Race NS.	Chicago and Miami: Incarceration more likely for B and H than W. Kansas City: Race NS.	NS

(cont.)

TABLE 17.1. (Continued)

Author(s)	Data year	Place, sentencing structure	Sample	Dependent variable	Main effect of race/ethnicity	Effect of race/ethnicity from sex-specific models	
						Male only	Female only
Spohn and Holleran (2000)	1993	Chicago, determinate	2,265 M 245 F	In-out and sentence length	Chicago: Incarceration more likely for B and H than W. Miami: H (but not B) more likely to go to prison, Kansas City: Race NS for in-out decision. NS for sentence length in any city.	Chicago and Miami: young B and H males more likely to go to prison than middle-aged WM. Race NS in Kansas City.	Sample too small to allow estimation of separate model.
		Miami, guidelines	2,455 M 248 F				
		Kansas City, determinate	1,214 M 211 F				
Steffensmeier and Demuth (2006)	1990, 92, 94, 96	U.S. State-level felony data from 54 large urban counties, varies	20,525 M 3729 F	In-out and sentence length	B and H more likely to go in than W. H (but not B) more likely to go for longer periods than W.	B and H more likely to go in and for longer periods than W.	NS
Steffensmeier, Kramer, Streifel (1993)	1985–1987	Pennsylvania (statewide data), indeterminate	52,109 M 8,635 F	In-out and sentence length	B more likely to be incarcerated and for longer periods than W.	B more likely to be incarcerated than W. NS race effects for length.	B more likely to be incarcerated and for longer periods than W.
Steffensmeier, Ulmer, and Kramer (1998)	1989–1992	Pennsylvania (statewide data), indeterminate	119,715 M 19,201 F	In-out and sentence length	B more likely to be incarcerated and for longer periods than W.	Race matters for younger M, but not for older M. Young BM more likely to go in and for longer than all other M.	Across all age groups, W less likely to go in and are more likely to go for shorter periods.

Table Key: B = blacks, BF = black females, BM = black males, F = females, H = Hispanics, HM = Hispanic males, M = males, NS = not statistically significant, NW = non-whites, W = whites, WF = white females, WM = white males.

Kruttschnitt, 1984; Spohn & Beichner, 2000; Steffensmeier & Demuth, 2006). It mattered in only two studies (Steffensmeier et al., 1993, 1998). Both of those examinations used statewide sentencing data from Pennsylvania, and both revealed that black females were more likely to be incarcerated and for longer periods than white women.

In addition to these examinations, there are also a few studies that have focused exclusively on female offenders (Brennan, 2002, 2006; Crawford, 2000; Kruttschnitt, 1980–1981, 1982). Table 17.2 provides a summary of the findings from these studies.

Interestingly, the results from these examinations suggest that offender race does matter for women in particular instances. Crawford (2000) and Kruttschnitt (1980–1981, 1982) found that minority women were more likely to receive harsher sentences than white women if convicted of drug offenses. These offense-specific findings support theoretical discussions of the “moral panic” surrounding drug use and the war on drugs (Chambliss, 1995; Tonry, 1995). Moral panic theorists (Jenkins, 1994) argue that society is characterized by a variety of commonsense perceptions about crime and drugs that result in community intolerance for such behaviors and increase pressure for punitive action. In short, sentencing scholars argue that the moral panic surrounding drug use and drug-related crime, coupled with stereotypes linking racial minorities to a drug-involved lifestyle, have resulted in more severe sentences for black and Hispanic drug offenders (see e.g., Steen, Engen, & Gainey, 2005). Indeed, a number of sex-neutral or male-specific examinations have found that offender race and/or ethnicity directly influence sentencing outcomes among drug offenders (for a comprehensive review of this literature see Brennan & Spohn, 2008). Thus, it may be wise for researchers to consider stereotypes about both crimes and criminals when assessing the influence of race/ethnicity for male and female offenders (Crawford, 2000; Steen et al., 2005).

**FINDINGS FOR THE EFFECT OF SEX FROM STUDIES WITH RACE/ETHNICITY-SPECIFIC MODELS.** With regard to the question of whether women of a certain races/ethnicities are likely to receive preferential treatment relative to their male counterparts, Table 17.3 provides a summary of the findings for the effect of sex from studies with race/ethnicity-specific models.

Overall, these findings suggest that female offenders are likely to receive more lenient sentences than male offenders of the same race/ethnicity. With regard to the in–out decision, the following findings are reported: (1) black females are less likely to be incarcerated than black males (Albonetti, 1997; Gruhl, Welch, & Spohn, 1984; Spohn et al., 1985; Steen et al., 2005; Steffensmeier & Demuth, 2006); (2) the likelihood of receiving a prison or a jail sentence is higher for white males than for white females (Albonetti, 1997; Gruhl et al., 1984; Steen et al., 2005; Steffensmeier & Demuth, 2006); and (3) Hispanic females are less likely to be put behind bars than Hispanic males (Gruhl et al., 1984; Steffensmeier & Demuth, 2006). Studies of the length of incarceration generally support these findings, with a few exceptions. Table 17.3 shows that black and white females are likely to receive shorter sentences than males of the same race (Albonetti, 1997; Steen et al., 2005; Steffensmeier & Demuth, 2006), although some have observed no statistically significant differences (Zatz, 1984). Few studies include Hispanic-only models, so it is difficult to determine whether offender sex matters for this population. In one study, Hispanic females received shorter sentences than Hispanic males (Steffensmeier & Demuth, 2006), but sentence length did not vary by offender sex in another study (Zatz, 1984).

TABLE 17.2. Summary of Findings from Sentencing Studies with Exclusive Focus on Female Offenders

Author	Data year	Place, sentencing structure	Sample	Dependent variable	Blacks receive harsher outcome than whites?	Hispanics receive harsher outcome than whites?
Brennan (2002)	1989	New York City, indeterminate	1,137 misdemeanor offenders sentenced at arraignment	In-out	NS direct effect. Indirect effects through prior record, place of arrest, and charge type favoring whites	NS direct effect. Indirect effects through prior record, place of arrest, and charge type favoring whites
Brennan (2006)	1989	New York City, indeterminate	678 misdemeanor offenders sentenced post-arraignment	In-out	NS direct effect. Indirect effects through education, prior record, employment, and community ties favoring whites	NS direct effect. Indirect effects through education, employment, and community ties favoring whites
Crawford (2000)	1992–1993	Florida, guidelines	1,103 habitual-offender eligible	Habitual offender sentence	Yes, especially among drug offenders (compared with non-black category)	No separate category for Hispanics
Krutttschnitt (1980–1981)	1972–1976	California, indeterminate	1,034 mixed	8-category variable (range = suspended sentence or a fine to imprisonment)	Yes, if convicted of disturbing the peace or a drug offense	No separate category for Hispanics
Krutttschnitt (1982)	1972–1976	California, indeterminate	1,034 mixed	8-category variable (range = dismissal to prison time)	Yes, if convicted of a drug offense	No separate category for Hispanics

Table Key: NS = not statistically significant.

TABLE 17.3. Summary of Findings for the Effect of Sex from Sentencing Studies with Race/Ethnicity-Specific Models

Author(s)	Data year	Place, sentence structure	Sample	Dependent variable	Main effect of sex	Effect of sex in race/ethnicity-specific models		
						Black only	White only	Hispanic only
Albonetti (1997)	1991–1992	U.S. Federal Courts, guidelines	14,189 (only drug offenders)	Probability of incarceration and sentence length	Probability of incarceration lower and length shorter for F than M.	Probability of incarceration lower and length shorter for BF than BM.	Probability of incarceration lower and length shorter for WF than WM.	NS for either outcome.
Gruhl, Welch, and Spohn (1984)	1977–1980	Los Angeles (CA), determinate	7,279	In-out	Main effects not reported	Incarceration less likely for BF than BM.	Incarceration less likely for WF than WM.	Incarceration less likely for HF than HM.
Kautt and Spohn (2002)	1997–1998	U.S. Federal courts, guidelines	11,713 mandatory- minimum cases, 5,337 hybrid cases, 957 guideline cases (only drug offenders)	Sentence length	Main effects not reported	Mandatory- minimum cases: NS hybrid cases: NS guideline cases: NS	Mandatory- minimum cases and hybrid cases: WF receive shorter prison sentences than WM. Guideline cases: NS	NA
Spohn, Welch, Gruhl (1985) <sup>a</sup>	1968–1970	Metro City, indetermi- nate	2,637	93-point sentence severity scale and in-out	Main effects not reported	NS for sentence severity. Incarceration less likely for BF than BM.	Not enough WF for analysis.	NA

(cont.)

TABLE 17.3. (Continued)

Author(s)	Data year	Place, sentence structure	Sample	Dependent variable	Main effect of sex	Effect of sex in race/ethnicity-specific models		
						Black only	White only	Hispanic only
Steen, Engen, and Gainey (2005)	1995–1998	Washington State, guidelines	20,328 (only drug offenders)	In-out and sentence length	M more likely to be incarcerated than F and for longer periods.	In general, BM more likely to go in and for longer than BF. Findings favoring BF hold for non-dealers but NS for dealers.	In general, WM more likely to go in and for longer than WF. Findings favoring WF hold for dealers and non-dealers.	NA
Steffens meier and Demuth (2006)	1990, 92, 94, 96	U.S. State-level felony data from 54 large counties, varies	24,254	In-out and sentence length	M more likely to be incarcerated than F and for longer periods.	BM more likely to go in and for longer periods than BF.	WM more likely to go in and for longer periods WF.	HM more likely to go in and for longer periods than HM.
Zatz (1984)	1978	California, determi- nate	4,729	Sentence length	NS	NS	NS	NS

Table Key: B= blacks, BF = black females, BM = black males, F = females, H = Hispanics, HF = Hispanic females, HM = Hispanic males, NA= Non-applicable, NS= not statistically significant, WF = white females, WM = white males.

<sup>a</sup>Spohn et al. (1985) examined mean sentence severity scores and percentages of incarcerated black females, black males, and white males. There were not enough white females in their sample to allow for conclusive comparisons. Findings for black females versus black males are reported. Sentences given to black females did not differ from those given to white males.

Also noteworthy are the findings from two studies of drug offenders where separate race-specific models were estimated (i.e., Kautt & Spohn, 2002; Steen et al., 2005). As reported in Table 17.3, the findings from both studies suggest that among drug offenders an offender's sex may matter more for whites than for blacks. To elaborate, Kautt and Spohn (2002) examined racial disparity among federal drug offenders by focusing on whether prison sentence length was influenced by particular sentencing interventions. They, therefore, modeled outcomes for mandatory minimum offenses (i.e., drug offenses that carried mandatory minimums and received a mandatory minimum), hybrid offenses (i.e., offenses that fell under a mandatory minimum statute but did not receive a mandatory sentence), and simple guidelines drug offenses (p. 10). For each sentence-specific intervention, separate models were estimated for black and white offenders. White women received shorter sentences than white men for drug offenses that carried mandatory minimum sentences and for hybrid offenses, but for simple guidelines drug offenses white women were treated no differently than white men. Unlike the findings for white drug offenders, no sex differences were found among blacks for any of the three sentence-specific interventions.

Steen et al.'s (2005) examination of drug offenders sentenced under Washington State's Sentencing Guidelines also suggested that offender sex mattered more for white offenders than for black offenders under certain conditions. Specifically, when assessing how "images of danger and culpability" affected sentencing outcomes for blacks and whites, they examined how different types of male and female drug offenders were treated. For both blacks and whites, findings favoring female offenders consistently held for non-dealers. However, the effect of being a male dealer with priors (i.e., the most dangerous and culpable drug offender) mattered more for whites than for blacks. Among whites, female dealers were less likely to be incarcerated and were more likely to receive shorter prison sentences than their male counterparts. In contrast, black female dealers were treated no differently than black males convicted of dealing drugs. Combined, the findings from Kautt and Spohn's (2002) and Steen et al.'s (2005) studies imply that the effect of offender sex may not be invariant by race; among drug offenders, offender sex may play a more important role for white offenders.

**FINDINGS FROM SENTENCING STUDIES THAT INCLUDE A RACE/ETHNICITY-BY-SEX INTERACTION TERM OR DUMMY VARIABLE(S).** To examine questions of whether leniency is reserved primarily for white females and/or whether minority men are especially likely to receive the harshest sentences, researchers have included race/ethnicity-by-sex interaction terms or dummy variables in their examinations of sentencing outcomes. However, the number of included race/ethnicity-by-sex interaction or dummy variables is not consistent from one study to the next. For example, Griffin and Wooldredge (2006) and Koons-Witt (2002) examined the effect of only one sex-by-race interaction variable, which allowed them to specifically assess how sentences for white females differed from sentences imposed on minority females. Because other race/ethnicity-by-sex interactions were not calculated, sentences imposed on white females could not be compared with those given to minority males or white males. Other researchers have been able to make more comparisons via the inclusion of multiple race/ethnicity-by-sex dummy variables in their models. By doing so, they have been able to assess how white females fare relative to all others and/or how black males are punished relative to white males, Hispanic males, white females, black females, and/or Hispanic



females (Hartley, Maddan, & Spohn, 2007; Spohn & Beichner, 2000; Spohn & Spears, 1997; Steffensmeier & Demuth, 2006; Steffensmeier et al., 1998). Table 17.4 provides a summary of the findings from these studies.

The table shows that a fairly prominent approach is to compare sentences given to white females with outcomes for other offenders. White women are often associated with ideal images of “good” women (Brennan, 2002; Huckerby, 2003; Klein, 1995; Landrine, 1985; Young, 1986). In contrast, scholars argue that women of color are less likely to fit this image because of negative racial and ethnic stereotypes (Brennan, 2002, 2006; Young, 1986). Minority women should, therefore, be treated more punitively than white women but no differently from male offenders. However, as Table 17.4 shows, there is weak empirical evidence to support that prediction.

Table 17.4 shows that white women are generally treated more leniently than white men, black men, and Hispanic men, with some exceptions. Steffensmeier and Demuth (2006) examined sentences given in 54 large urban counties throughout the United States and found that white women were less likely to be incarcerated and were more likely to receive less time behind bars than white men, black men, and Hispanic men. Spohn and Spears (1997), however, examined outcomes in Detroit (Michigan) and found differences only for white women relative to black males. Relative to black males, but not white males, white women were less likely to be sent to prison. Interestingly, however, black females were less likely to be incarcerated than white males and black males. Spohn and Beichner (2000) also analyzed the likelihood of incarceration, but for offenders in Chicago, Miami, and Kansas City. In Chicago and Kansas City, but not in Miami, white women were less likely to go to prison than black males and white males.

Although conclusions differed somewhat across the three above studies in terms of differences between white women and black and white men, all three examinations reported no statistically significant differences between white women and minority women (Spohn & Beichner, 2000; Spohn & Spears, 1997; Steffensmeier & Demuth, 2006). Other researchers report more mixed findings. Specifically, as shown by Table 17.4, Koons-Witt (2002) analyzed the likelihood of incarceration for offenders convicted during three different periods in Minnesota (i.e., pre-guidelines period, early-guidelines period, post-guidelines period). She found that non-white females were less likely to be incarcerated than white females during the early guidelines period. During the pre-guidelines and post-guidelines periods, however, there were no statistically significant differences. Griffin and Wooldredge (2006) were also interested in whether the implementation of sentencing guidelines influenced sentencing outcomes. They found that black women were as likely as white women to be sent to prison before sentencing guidelines were implemented in Ohio. Interestingly, however, black women received shorter prison sentences during this period. Their post-guidelines analyses produced different results. After Ohio’s guidelines were put in place, black women were less likely to be incarcerated, but there were no differences in terms of the length of prison term. In short, the results from these two studies suggest either no differences between black females and white females or differences that favor black females.

Table 17.4 also shows one study where researchers found weak evidence of preferential treatment for white females relative to black females and Hispanic females. Specifically, Hartley and his colleagues (2007) observed that both black and Hispanic females were less likely than white females to receive substantial assistance departures if convicted of powder-cocaine offenses eligible for sentencing under Federal guidelines. But, race/ethnicity did not make a difference among women convicted of crack-cocaine or powder-cocaine offenses subject to mandatory-minimum provisions. Black males, on the other hand, were consistently at a disadvantage. For both crack-cocaine and powder-cocaine guidelines cases, black males were less likely

TABLE 17.4. Summary of Findings from Sentencing Studies that Include a Race/Ethnicity X Sex Interaction Term or Dummy Variable(s)

Author(s)	Data year	Place, sentencing structure	Sample	Dependent variable	Main effect of sex	Main effect of race/ ethnicity	Race/ethnicity x sex interaction effect	
							Black male = reference	White female = reference
Curran (1983)	1965–1966, 1971, 1975– 1976	Dade County (FL)	232 M 271 F	Sentence severity scale (range = no sentence to life sentence)	F receive less severe sentences than M.	NS	Reference not clear from text or table. NS effect noted by author.	Reference not clear from text or table. NS effect noted by author.
	1995–1996	Ohio pre- guidelines period	953 M 143 F	In-out and sentence length	In-out: F less likely to go to prison pre- and post-guidelines. Length: NS sex effect pre- and post-guidelines.	In-out: NS pre- guidelines. B more likely to go in post- guidelines. Length: NS pre-guidelines. B go in for shorter periods post- guidelines.	BM interaction term not included in analyses.	In-out: NS difference vs. BF pre-guidelines. BF less likely to go in post-guidelines. Length: BF get longer sentences pre-guidelines, but NS difference post- guidelines.
Griffin and Wool- dredge (2006)	1997	Ohio post- guidelines period	772 M 92 F					
	2000	U.S. Federal courts, guidelines	Powder- cocaine: 4,484 M 707 F. Crack cocaine: 4,423 M 493 F	Substantial assistance departure (SAD) for guideline cases and mandatory- minimum cases	F more likely to receive SADs.	B and H (except for crack mandatory- minimum cases) less likely to receive SADs than W.	WM, WF, BF, and HF more likely to receive SADs. NS differences between HM and BM.	Only for powder-cocaine cases under guidelines were BF and HF less likely to receive SADs.

(cont.)

**TABLE 17.4.** (Continued)

**TABLE 17.4.** (Continued)

Author(s)	Data year	Place, sentencing structure	Sample	Dependent variable	Main effect of sex	Main effect of race/ ethnicity	Race/ethnicity x sex interaction effect	
							Black male = reference	White female = reference
Steffens- meier and Demuth (2006)	1990, 92, 94, 96	U.S. State-level felony data from 54 large counties, varies	20,525 M 3,729 F	In-out and sentence length	M more likely to go in and for longer periods than F.	B more likely to be incarcerated and for longer than W.	BM not the reference category. Sex-specific results are in Table 10.1.	WM, BM, and HM more likely to go in and for longer. NS for BF and HF vs. WF.
Steffens- meier, Ulmer, and Kramer (1998) <sup>c</sup>	1989–1992	Pennsylvania (statewide data), inde- terminate	119,715 M 19,201 F	In-out and sentence length	M more likely to go in and for longer periods than F.	B more likely to be incarcerated and for longer periods than W.	Relative to BM age 18–29, all other race-gender-age groups receive more lenient sentences.	WF not the reference category, but sex-specific results reported in Table 17.1

*Table Key:* B = blacks, BF = black females, BM = black males, F= females, H= Hispanics, HF = Hispanic females, HM = Hispanic males, m= males, NS = not statistically significant, NW = non-whites, NWF = non-white females, W = whites, WF = white females, WM = white males.

<sup>a</sup>Logistic regression coefficients and odds ratios were not presented in tabular form or in the text for the model with white females as the reference category. Therefore, sentences for white females cannot be compared with sentences given to white males or Hispanic males.

<sup>b</sup>Spohn and Spears (1997) also found that black females were less likely to be incarcerated and were more likely to receive shorter sentences than white males.

<sup>c</sup>Steffensmeier et al. (1998) were interested in the joint effects of offender race, sex, and age. They created 12 race–sex–age subgroup combinations—black males 18–29, black males 30–49, black males 50 or older, white males 18–29, white males 30–49, white males 50 or older, black females 18–29, black females 30–49, black females 50 or older, white females 18–29, white females 30–49, and white females 50 or older. Black males who were 18–29 years old served as the reference category.

to receive substantial assistance departures than white males, white females, black females, and Hispanic females. Substantial assistance departures were also less likely for black males relative to white males, white females, and black females for crack-cocaine cases subject to mandatory minimums. There were no statistical differences between black and Hispanic males.

Other scholars have also used black males as the reference category in their analyses, with results that generally support the argument that black males are treated more harshly than females and white males (see Table 17.4). Spohn and Spears (1997) found that black males were more likely to be sent to prison than white males, white females, and black females in Detroit. In a later study, Spohn and Beichner (2000) reported that the likelihood of incarceration was higher for black males than for black females or white females in Chicago and Kansas City, but white males were as likely to end up behind bars. Their findings were somewhat different in Miami; black males were more likely to be incarcerated than black females and white males in that City, but there were no statistically significant differences between black males and white females.

Steffensmeier and his colleagues (1998) also examined how sentences for black males compared with sentences given to other offenders, but they examined the influence of a three-way interaction between race, sex, and age. They found that relative to black males between the ages 18–29 offenders in all other race–sex–age groups were less likely to be sent to prison and were more likely to receive shorter prison sentences. Black males of other ages were not necessarily sentenced more severely than other offenders. For example, the incarceration odds for the oldest category of black males and white males were similar, and black male offenders aged 50–69 received incarceration sentences that were a bit shorter than those given to white male offenders of the same age (Steffensmeier et al., 1998, p. 780). Spohn and Holleran (2000) also found that the interaction of offender race and age predicted sentence severity (see Table 17.3). The results of their multivariate analyses showed that young, minority males (i.e., blacks and Hispanics aged 17–29) were more likely to be incarcerated than white males aged 30–39 (i.e., “middle-aged” whites). However, black males over the age of 40 were treated no differently than middle-aged white males.

The findings from Steffensmeier et al.’s (1998) and Spohn and Holleran’s (2000) studies demonstrate that the relationship between race and sentencing is complex and may be contextualized by offender age. Overall, the studies reviewed here provide some evidence to support the argument that black men are likely to receive punitive sentences relative to most other offenders. There is little evidence, however, to support the assertion that white women are likely to receive preferential treatment relative to all other offenders.

## DISCUSSION AND CONCLUSION

Many researchers have examined the additive effects of offender race/ethnicity and sex on sentencing outcomes (for reviews of the literature on the effect of race/ethnicity see Mitchell, 2005 and Spohn, 2000; for reviews of the effect of sex see Daly & Bordt, 1995 and Brennan, 2002). Few to date, however, have examined how these two highly visible characteristics might operate together to influence the types of punishments offenders are likely to receive. An examination of the joint effects of these variables is important because it allows one to determine whether all women are likely to be treated more leniently than all men and whether all minority offenders are likely to be given harsher punishments than all white offenders.

Sentencing scholars often argue that offender sex or race/ethnicity influence judicial behavior because of stereotypes held for members of certain groups. Preferential treatment of female offenders is expected because females are assumed to be less likely to commit crimes (or less capable of doing so), less responsible when they do, less dangerous, and more likely to be rehabilitated than men. Indeed, much of the previous research on female offenders underscores how gender stereotypes impact expectations (see e.g., Bond-Maupin, 1998; Brennan, 2002; Chesney-Lind, 1999; Daly, 1994; Young, 1986). Much has also been written about the prevalence of negative racial and ethnic stereotypes in our society (see e.g., Entman, 1990, 1992, 1994, 1997; Healey, 1997; Hurwitz & Peffley, 1997; Peffley et al., 1996; Sarat, 1993). Theorists argue that negative stereotypes make court actors presume that blacks and Hispanics are more dangerous, more culpable, and more likely to commit crime in the future than whites (see e.g., Steffensmeier & Demuth, 2006). Thus, harsher sentences result.

What is generally missing from the extant theoretical literature is a discussion of how racial/ethnic stereotypes may condition gender stereotypes. Theoretically, it is possible that images of threat, culpability, and criminality may be associated primarily with black and Hispanic males rather than with black and Hispanic females. Researchers who study media depictions of offenders suggest that the most common image of a criminal is that of a young, black (or other minority) male (Barak, 1994; Barlow, 1998; Chermak, 1994; Humphries, 1981; Madriz, 1997). Sentencing scholars likewise argue that the brunt of negative stereotyping falls most heavily on young, minority males (see e.g., Spohn & Holleran, 2000; Steffensmeier et al., 1998).

A review of the extant literature further reveals that minority women have been stereotyped more negatively than white women (Brennan, 2002, 2006; Castro, 1998; Farr, 2000; Healey, 1997; Landrine, 1985; Madriz, 1997; Portillos, 1998; Young, 1986). Consequently, some have speculated that women of color are less likely than white women to be accorded preferential treatment (Belknap, 1996; Brennan, 2002, 2006; Farnworth & Teske, 1995; Griffin & Wooldredge, 2006; Visser, 1983; Young, 1986). Indeed, studies of media portrayals of female offenders reveal that white women are more likely than minority women to have their criminal behavior excused in some way (Bond-Maupin, 1998; Farr, 1997, 2000; Huckerby, 2003). Thus, it is possible that negative racial and ethnic stereotypes for minority women may result in sentences that are similar to those given to male offenders. In other words, findings of leniency for female offenders may be conditioned by race/ethnicity.

Are all women (regardless of their race/ethnicity) more likely to receive preferential treatment relative to their male counterparts or is leniency reserved only for white women? Researchers have attempted to answer this question in one of two ways. Recall from Table 17.3 that some have constructed race/ethnicity-specific models of sentencing outcomes to determine whether offender sex appears as a statistically significant predictor in separate models for blacks, whites, and Hispanics. Overall, findings from this body of research do not support the assertion that leniency at the sentencing stage bypasses minority women. Instead, findings from studies with race/ethnicity-specific models suggest that female offenders are likely to receive more lenient sentences than male offenders of the same race/ethnicity. Specifically, researchers have found that black females are less likely to be incarcerated than black males (Albonetti, 1997; Gruhl et al., 1984; Spohn et al., 1985; Steen et al., 2005; Steffensmeier & Demuth, 2006). Among whites, the likelihood of receiving a prison or a jail sentence is higher for males (Albonetti, 1997; Gruhl et al., 1984; Steen et al., 2005; Steffensmeier & Demuth, 2006). And, Hispanic females are less likely to be put behind bars than Hispanic males (Gruhl et al., 1984; Steffensmeier &

Demuth, 2006). Studies of the length of incarceration generally support these findings (Albonetti, 1997; Steen et al., 2005; Steffensmeier & Demuth, 2006).

Others have used a different approach to assess whether all women are equally likely to receive preferential treatment relative to males. Specifically, recall from Table 17.4 that some researchers have included race/ethnicity-by-sex interaction terms or dummy variables in sentencing models to make this assessment. Findings from these examinations generally support the notion that white women are treated more leniently than white men, black men, and/or Hispanic men (Spohn & Beichner, 2000; Spohn & Spears, 1997; Steffensmeier & Demuth, 2006). They do not, however, support the notion that minority women are denied preferential treatment relative to males of the same (or other) race/ethnicity.<sup>2</sup> In fact, Spohn and Spears (1997) found that black females were less likely to be incarcerated and were more likely to receive shorter prison sentences than white males. Thus, relative to men, black and Hispanic women, like white women, appear to “benefit more from their female status than would be expected all else equal (i.e., given their racial/ethnic status)” (Steffensmeier & Demuth, 2006, p. 257).

Black men, in contrast, are likely to be treated more punitively than females of varying races/ethnicities (Hartley et al., 2007; Spohn & Beichner, 2000; Spohn & Spears, 1997) and white males (Crew, 1991; Hartley et al., 2007; Kruttschnitt, 1984; Spohn & Beichner, 2000; Spohn & Holleran, 2000; Steffensmeier & Demuth, 2006; Steffensmeier et al., 1993, 1998). This may especially be the case for young, black males (see Spohn & Holleran, 2000; Steffensmeier et al., 1998). To summarize, findings from the extant literature indicate that relative to males, females of all races/ethnicities seem to benefit as a result of their gender. And, relative to whites, black males seem to be penalized as a result of their race. But, what does the extant literature reveal about how minority women are treated relative to white women?

To answer that question some researchers have included race/ethnicity-by-sex interaction terms or dummy variables in their models of the sentencing outcome (recall Table 17.4). There is little evidence from those studies to indicate that white women receive preferential treatment relative to other women. In fact, in two separate studies of sentencing outcomes that occurred before and after guidelines implementation, researchers found either no differences between black and white females or differences that favored black females (Griffin & Wooldredge, 2006; Koons-Witt, 2002). Others have also observed that black and white women are equally likely to be incarcerated (Spohn & Beichner, 2000; Spohn & Spears, 1997). And, research findings from studies with sex-specific models (recall Table 17.1) generally lend support to the conclusion that race/ethnicity does not make a difference among women (Bickle & Peterson, 1991; Crew, 1991; Farnworth & Teske, 1995; Kruttschnitt, 1984; Spohn & Beichner, 2000; Steffensmeier & Demuth, 2006).

However, in two separate examinations of sentencing outcomes in Pennsylvania, Steffensmeier and his colleagues (1993, 1998) found that black females were more likely to be incarcerated and for longer periods than white women. Moreover, findings from examinations with exclusive focus on female offenders (recall Table 17.2) suggest that offender race does matter for women, but only in specific instances. Crawford (2000) and Kruttschnitt (1980–1981, 1982) found that minority women were more likely to receive harsher sentences than white women if

<sup>2</sup> However, very few researchers have compared sentences given to minority women with sentences given to white men. Recall from Table 17.4 that most comparisons are made with reference to either black males or white females.

convicted of drug offenses. In line with these findings, Kautt and Spohn (2002) and Steen and her colleagues (2005) observed that preferential treatment for white women convicted of drug offenses (relative to white men) was more likely than preferential treatment for black women convicted of drug offenses (relative to black men). Specifically, Kautt and Spohn (2002) found that white women received shorter sentences than white men for drug offenses that carried mandatory minimum sentences or drug offenses designated as “hybrid offenses.” No sex differences were found among blacks for either of these sentence-specific interventions. In Steen et al.’s (2005) study, white female dealers were less likely to be incarcerated and were more likely to receive shorter sentences than white male dealers. In contrast, black female dealers were treated no differently than black males convicted of dealing drugs. Given these mixed research findings, a definitive statement regarding the effect of race/ethnicity among female offenders cannot be rendered at this point.

Future researchers would be wise to consider the joint effects of offender race/ethnicity and sex on sentencing outcomes, especially for drug offenders. Steffensmeier and Demuth (2000) argue that sentencing outcomes are likely to be particularly severe for minority drug offenders and offer a number of theoretical reasons for this expectation (see also Demuth & Steffensmeier, 2004; Steffensmeier & Demuth, 2001). Although there are now a number of studies that focus on the issue of racial and/or ethnic disparities in the sentencing of drug offenders (Albonetti, 1997; Chiricos & Bales, 1991; Crawford, Chiricos, & Kleck, 1998; Crow & Johnson, 2008; Demuth & Steffensmeier, 2004; Engen & Steen, 2000; Gainey, Steen, & Engen, 2005; Klein, Petersilia, & Turner, 1990; Lagan, 1996; Maxfield & Kramer, 1998; McDonald & Carlson, 1993; Myers, 1989; Rodriguez et al., 2006; Spohn, 1999; Spohn & Spears, 2000; Steen et al., 2005; Steffensmeier & Demuth, 2000, 2001; Unnever, 1982; Unnever & Hembroff, 1988; U.S. Sentencing Commission, 1995), most of these studies do not allow for comparisons to be made between black, white, and Hispanic females. This is unfortunate because, as Steen and her colleagues (2005) have suggested, stereotypes about drug offending are likely to be influenced by stereotypes about gender *and* race/ethnicity. Future researchers should, therefore, consider how race/ethnicity, gender, and crime intersect to influence sentencing outcomes. Such assessments will add to our understanding of the context by which discrimination operates.

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## CHAPTER 18

# Knowledge to Practice or Knowledge of Practice? A Comparison of Two Approaches to Bringing Science to Service

DAVID E. DUFFEE

### PURPOSE

This chapter examines the struggles to get everyday clinical treatment to utilize empirically supported or tested theories in guiding treatment practice. It does not cover the findings of treatment studies themselves. These topics are covered in a variety of other print and electronic sources (e.g., Campbell Collaboration; Cochrane Collaboration; Cullen & Gendreau, 2000; Lipsey, 1992, 1995; Lipsey, Wilson, & Cothorn, 2000). Instead, this chapter reviews the literature on how evidence about treatment process and outcomes is applied to practice. In some types of treatment research, the distinction between studying treatment and using the results is relatively fuzzy. In others, the difference between creating knowledge and applying it is more distinct. The research practice that draws firmer boundaries is probably more familiar in the field of criminology.

The primary goal is to compare, contrast, and propose a tentative integration of two main approaches of getting research knowledge about treatment into treatment practice on a wide-scale

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Remaining errors are my own.

basis. Although the proponents of both approaches occasionally recognize stages of research or of program implementation in which the alternate approach is arguably more fitting, readers will commonly find adherents of each approach to be rather antagonistic and exclusionary in their thinking about research methods. Examining the massive, if intriguing, challenges involved to effectuate evidence-based practice (EBP) and use treatment techniques that are supported by research (ESTs) both practice and research might benefit by softening these staunch positions. (Both EBP and EST will be defined in more detail below.) The balance of evidence recommends complementary usage.

One of these research approaches involves the creation of knowledge about treatment in special settings, ideally employing experimental methods, followed by a process of dissemination, adoption, and implementation. The other strategy involves the creation of knowledge about treatment in the course of systematic problem solving in clinical settings. The first, which we shall call the Adoption Strategy, tends to separate knowledge generation and use, while the second, which we will call the Development Strategy, tends to merge learning and action, as the name suggests (Cunningham & Duffee, 2009).

This review and the proposed integration of research strategies draw from a wide variety of literature on treatment and program implementation. Special attention is provided to correctional, delinquency, and child welfare treatments, since these instances of treatment are those most likely to concern researchers in criminology and criminal justice. The next most pertinent treatments are probably those to benefit victims of crime, neglect, and abuse. The main argument of this chapter should apply in victim treatments as well. Illustrations of some treatment–practice issues will be drawn from an ongoing research–practice partnership, Service Outcomes Action Research, or SOAR, which has been pursuing the scientific guidance of treatment in two residential treatment centers (RTC) for adolescents. While technically in the child welfare system, RTC clients face a range of problems that could easily have led to mental health and juvenile justice placements rather than RTC placement (Lerman, 2002).

## DEMANDS FOR EVIDENCE-BASED TREATMENT

The pressure on practitioners to adopt EBP is intense (Aarons, 2004, 2005; Biglan, Mrazek, Carnine, & Flay, 2003; Blome & Steib, 2004; Blythe & Briar, 1985). EBP is endorsed by virtually all the health professions, including those providing behavioral health services (National Institutes of Health Council on Training in Evidence-Based Behavioral Practice, 2008, p. 1; hereafter, Council on Training). It is also endorsed and promoted by the National Institute of Corrections and many state correctional agencies (Bogue et al., 2004; MacKenzie, Styve, & Gover, 1998).

EBP in delinquency, correctional, and other behavioral settings was imported from evidence-based medicine. The Cochrane Collaboration is one of several organizations that promotes and disseminates systematic reviews of evidence-supported medical interventions, without which evidence-based medicine would be far less feasible. In 2000, the Cochrane approach was emulated by the Campbell Collaboration for dissemination of reviews on EST interventions in social work, education, and criminology in order to facilitate evidence-based decision making in those fields (Farrington & Weisburd, 2007).

The funding process is now a main driver for EBP. Many governments are moving from service-based to results-based contracting with providers (Cozens, 1999; Kahn & Kamerman,

1999). Pressures have mounted on the public sector, and through it, on private not-for-profit and profit-making providers, to be accountable to taxpayers by demonstrating the results of service, rather than by reporting activities or resources expended. *Reinventing Government* (Osborne & Gaebler, 1992) was especially influential in championing this change to results-based management.

When the results-based management approach is applied to treatment, the public purchaser of services requires evidence of client outcomes (Benbenishty, 1996; Cozens, 1999; Gira, Kessler, & Poertner, 2001). In child welfare and juvenile justice areas, and to a lesser extent in corrections, an increasingly common manifestation of this trend is to emulate managed health care, allegedly rewarding provider efficiency, despite the fact that many child, youth, and family interventions are not yet supported with an evidence base consistent with managed care assumptions (Kahn & Kamerman, 1999). The mismatch between the imposition of a managed care model and the level of knowledge needed to promote effective outcomes leads to a variety of pathologies, such as suboptimization, in which one government department pays more later for cheaper treatment by another department now. For example, counties can delay or withhold youth services to youths who are within months of aging into the criminal justice system. In the SOAR project, researchers observed one county child welfare office withdraw services for a 15-year old, since he would soon be a criminal justice problem. In addition, the public entity seeking to promote EBP through shared risk contracting might not in fact have the capacity to distinguish EBPT from conventional practice or to analyze data about results, if they are forthcoming. Or the contracting entity might have an insufficient supply of providers, rendering penalties for performance short falls unenforceable. For instance, SOAR staff observed one county awarded an exclusive contract to a vendor who promised "100% success," to the detriment of vendors who had made more realistic estimates of treatment success rates. With good intentions, another county required that outcomes for all clients be reported each quarter. However, neither the county nor the agencies understood the difference between cross-sectional and client-based, longitudinal reports. As a result, each report was full of unhelpful entries of "not applicable." Events such as these understandably make providers cynical about the need, actually, to adopt EBP. Currently, they might find it sufficient simply to claim adoption. However, the literature suggests that the EBP trend is not dissipating and that governments will become increasingly sophisticated about what they require. Consequently, treatment agencies are wise to learn now what is entailed in EBP, to practice it as feasible, and to document obstacles to EBPT in their funding and regulating environments (Council on Training, 2008).

Funding is not the only driver in this movement. Governments have also begun to use legislation to require adoption of results-based management, including EBP. The Federal legislation aimed at federal agencies is the Government Performance and Results Act of 1993 (GPRA), which requires each major program to identify mission and goals and to measure progress toward those goals. GPRA has been bolstered by the introduction of the National Performance Review (Martin, 1998). Use of legislation to promote EBP has been passed on to the states (Hatry, 1997; Moynihan, 2005). Oregon has gone further than most states. Legislation passed in 2003 (ORS 182.525) required state agencies to demonstrate that 25% of services paid for are evidence based by July 2005 and that 75% be evidence based by July 2009. In Florida and Maine, all contracted child welfare services must be performance based (Martin, 1998). Spurred in part by these public trends, the United Way of America has made a large investment to promote EBP by its member agencies through training materials and technical assistance (Martin, 1998; United Way of America, 1996).



In addition to regulation, providers themselves are promoting EBP, through their accrediting bodies. For example, in child welfare, the Council on Accreditation of Services for Families and Children (COA), the federation accrediting many child and youth services in the United States, requires that at least one client outcome be measured in each case and that outcome data be aggregated and analyzed so that it can be used in service and risk management (COA, 2005).

Many treatment professions have adopted standards about EBP (Council on Training, 2008, p. 1; Gira, Kessler, & Poertner, 2004; Rosen, 1994). For example, the National Association of Social Workers has recently adopted standards that require EBP and information about ESTs to be covered in all practice courses. The Council on Training (2008, p. 3) states that *Evidence-Based Behavioral Practice* (EBBP) rests on the concept of professionalism, which includes life-long learning and inquiry, motivation to integrate research into practice, and critical evaluations of practice.

There are some signs to consider effectiveness as part of the right to treatment (Hartnett & Kapp, 2004; McNeill, 2006). This idea is consistent with the ethical positions of the treatment professions. However, in criminologically related treatment, with the possible exception of EST for victims, a right to treatment is not enforceable, let alone a right to effective treatment. In corrections, administrators can argue that treatments as a condition of conviction are punishments, which offenders must endure as a consequence of conviction, whether they are effective or not.

Lastly, certainly one important impetus for EBP is the growing evidence that certain psychosocial interventions are effective in reducing a variety of health, behavioral health, and conduct problems (Council on Training, 2008, p. 1). In both juvenile justice and adult corrections, there are interventions for some problems or conditions known to reduce recidivism. There is also growing evidence about treatments that do not work or are counterproductive. As a policy matter, employing effective interventions makes sense for taxpayers, regardless of the level of public sympathy for a class of clients (Cullen & Gendreau, 2000; Lipsey et al., 2000). Only through EBP is the identification and adoption of relevant ESTs possible, in any systematic way.

While the demand for EBP is great and increasing, there is also consensus among the professions and treatment researchers that very few clinical programs actually engage in EBP or use ESTs with attention to fidelity (Aarons, 2004; Cozens, 1999; Crime & Justice Institute, 2004; Cullen & Gendreau, 2000; Ferguson, 2002; Grella, Hser, Teruya, & Evans, 2005; Kendall & Beidas, 2007; Liddle et al., 2002; Patton, 1997; Rein & White, 1981; Rosen, 1992, 1994; Stevens, Liabo, Frost, & Roberts, 2005; Young, Moline, & Farrell, 2006) or have the capacity to do so (Miller, Kobayashi, & Noble, 2006). For example, most clinicians are not likely to use standardized assessment measures unless they are mandated to do so, and many report never using the standardized assessment data in practice even when it is available (Garland, Kruse, & Aarons, 2003). In addition, there is a troublesome time lag between development of promising interventions which have shown efficacy in research studies and the adoption and implementation of these interventions in clinical settings. Moreover, even when vendors claim to have adopted such interventions, they rarely conduct the research that would demonstrate that they have done so with fidelity to the model that they claim to have adopted (Bedell, Ward, Archer, & Stokes, 1985). In short, while there is a demand for EBP, it is in short supply. Attention to resistances and obstacles to EBP is warranted.

## DEFINITIONS

Some key terms that apply across research strategies must be defined. The two primary strategies for getting research to practice will be defined later.

### Treatment

Cullen and Gendreau (2000, p. 112) define correctional rehabilitation as planned, explicitly undertaken interventions that target some aspect of offenders that is thought to contribute to criminality and is intended to make the offender less likely to break the law. This definition seems simple enough, but in criminal and juvenile justice settings, defining treatment is complicated by strong beliefs about both punishment and citizens' rights and by the politicization of treatment in justice contexts. There is considerable confounding of strong beliefs about what *should* happen to adjudicated youth or convicted adults with evidence of what is empirically known to be effective (Cullen & Gendreau, 2000, p. 111). Several of these issues should be dealt with briefly here.

**VOLUNTARINESS.** While less often heard now than 40 years ago, some jurists and citizens' rights advocates raise strong objections to applying the label "treatment" to processes in juvenile and adult correctional settings since administrators have used that appellation to deflect challenges to arbitrary and capricious processing (American Friends Service Committee, 1970). Among other things, rights advocates have claimed that treatment could not be effective unless it were voluntary.

Some intervention theorists make the same claim. For example, in a major treatise on intervention theory, Argyris (1970) defines intervention in general as

to enter into an ongoing system of relationship, to come between or among persons, groups, or objects for the purpose of helping them.... An intervener in this view assists a system to become more effective in problem solving, decision making, and decision implementation in such a way that the system can continue to be increasingly effective in these activities and have a decreasing need for the intervener (p. 17).

He proposes that the client of interventions must remain autonomous of the treatment agent and must make free and informed choices about the nature of her problem and what to do about it. The goal of the intervener is the provision of valid information for problem solving, once the client has defined the problem. Without the free choice, the client would not be committed to the course of action, and the treatment would not be efficacious (Argyris, 1970, pp. 17–20). This argument is very close to the liberal position about correctional treatments: they could be provided only if changes in punishment conditions or duration of sentence were not used as leverage for recruiting offenders to treatment and treatment progress were not a criterion for ending punishment (Von Hirsch, 1976).

While there is no doubt that a treatment rationale has been used as a smokescreen for arbitrary and capricious decisions, there is mounting evidence that mandated treatments often are effective (Cullen & Gendreau, 2000), that withholding treatment or seeking to change behavior

through increased punishment rather than treatment is dehumanizing to offenders and justice staff (Toch & Grant, 1982), and that some treatments, such as for substance abuse, may be more effective when mandated rather than chosen voluntarily (Duffee & Carlson, 1996). In the SOAR project, even youths who attributed their residential placement to others or thought that placement was “not their fault,” still had positive views of the residential program, if they perceived that the staff could help them (Englebrecht, Peterson, Scherer, & Naccarato, 2008). Youths in residential treatment, in other words, could distinguish between a mandate and treatment outcomes. It is quite likely that adults can do the same.

**TREATMENT AS A BENEFIT.** The conservative arguments against justice system treatments have either posited that nothing works (Martinson, 1974), which has been discredited, or claimed that offenders are undeserving of benefits that improve their lives, which has no empirical test. Since treatment aims to improve lives, by most standards, conservatives have argued that treatment is unethical as a response to wrongdoing. However, adherents of this position are not opposed to changing offender behavior so long as the process is unpleasant, as in specific deterrence programs, which presumably also benefit the offender. There seems to be a confounding between a desirable or pleasant process and beneficial outcomes, although few treatment experts would claim that effective treatments are designed to be pleasant.

**THE CONUNDRUM OF SPECIFIC DETERRENCE.** The distinction that Cullen and Gendreau (2000) draw between correctional treatment and specific deterrence appears suspect on its face. Specific deterrence is typically defined as an unpleasant consequence of conviction that would convince the offender subject to it not to reoffend. This kind of intervention seems to comport with their definition of treatment, above. However, there is little, if any, evidence to support the efficacy of such treatments (Cullen & Gendreau, 2000; Lipsey et al., 2000). Hence, while it might be more consistent conceptually to consider specific deterrents as treatments, they would not currently be among practices that could be supported as ESTs.

**NONTHERAPEUTIC PUNISHMENTS.** There are punitive acts that do not meet the criteria for treatment. These would include any punitive intervention that does not target the future behavior of the offender subject to the punishment. Punishments justified for their general deterrent effect, for example, are not treatments because no effect on the individual offender is proposed or sought. Retributive punishment, similarly, does not seek change in the future behavior of the target of the intervention.

## **Evidence-Based Practice**

Evidence-based practice (EBP) has been defined in diverse ways. All definitions require that practitioners use the best available evidence in decisions about how to intervene in a case. Most definitions include the use of empirically based principles, including employment of standardized assessment tools before, after, and preferably during treatment (Bogue et al., 2005; Gira et al., 2001). Some definitions also require valid and reliable measures for the processes applied

(Blythe & Briar, 1985). Other definitions are less stringent about the evidence. For example, Benbenishty (1996) defines empirical practice as “being continuously informed and guided by empirical evidence that is gathered and processed systematically” (p. 77). Following the American Psychological Association (APA), Kendall and Beidas (2007) state that EBP is the application of “empirically supported principles toward treatment” (p. 13), which is similar to the approach adopted by the National Institute of Corrections (Bogue et al., 2004, 2005). Kendall and Beidas use EBP to refer to that form of empirically guided practice with the weakest connection between empirical evidence and intervention: merely that the intervention proposed bears some logical relationship to empirically verified knowledge about the etiology of a problem. For these authors, EBP does not require evidence that the specific intervention is effective.

In contrast, Blome and Steib (2004) require using the best available evidence, paying attention to treatment fidelity and applicability/generalizability, and conducting practice-based research on the specific intervention to determine outcome in that instance. Similarly, Cournoyer and Powers (2002, p. 799) state that evidence-based social work must follow two principles: first that practices are guided by prior evidence about the kind of practice that when applied in that kind of situation would yield predictable outcomes and second that all client-service systems are themselves researched to determine that the outcomes predicted in the first principle do in fact apply in this specific case. This is perhaps the most stringent definition and the one favored by the Council on Training (2008).

The most important disagreement is among those who define EBP as a process of continual inquiry in clinical settings and those who define EBP as specific interventions which have shown efficacy in multiple, high-quality research trials. The first version of EBP – as a process of activity – uses the term practice in the singular. *Practice* is the work of clinicians assessing client condition and problems and delivering services to individual clients. In this use, EBP is the assessment, delivery, reassessment, and adjustment of services or specific interventions, using the research literature about interventions, when there is a relevant body of work to refer to, but deploying clinician conducted research on the clinical practice in all cases.

The Council on Training (2008, p. 5) summarizes this process of empirically guided practice as comprised of five steps:

1. Ask a question
2. Acquire the evidence
3. Appraise the evidence
4. Apply the evidence
5. Analyze and adjust practice

EBP practitioners conduct assessments using empirically tested instruments. They utilize repeated high-quality measures of outcomes, in order to monitor client progress during and after intervention, comparing these results to a baseline. Armed with a solid appraisal of the case issues, they also know how and where to obtain the best available evidence about research-supported interventions that might be applicable in the instant case and prefer to use such evidence-supported treatments when available. They can integrate treatment evidence with their own and their colleagues’ clinical judgment and with client condition, characteristics, and preferences to decide what is appropriate for a specific client. They then implement an

intervention or package of interventions based on what is known about those specific processes, including measures of service delivery or fidelity. They compare short- and long-term results to those expected and adjust the selected interventions accordingly. They report findings, especially divergences between expected and obtained outcomes, with calls for additional research, when relevant. When evidence-supported interventions do not exist for the client issues at hand, EBP practitioners engage in systematic study of their own practices with similar clients, in order to build local knowledge. While individuals can conceivably engage in EBP, the process is usually more feasible when it is implemented by an interdisciplinary team that comprises all the skills needed (Council on Training, 2008, p. 9).

The second version of EBP is different. It refers to the specific interventions or techniques that have shown efficacy and their implementation with fidelity. In other words, this version of EBP is referring to many different practices which have been scientifically supported. A good example of this second usage comes from the Substance Abuse and Mental Health Services Administration (2008), which keeps a registry of clinical procedures or practices that have met the following criteria:

1. The intervention demonstrates one or more positive outcomes ( $p \leq 0.05$ ) in mental health and/or substance use behavior among individuals, communities, or populations.
2. Intervention results have been published in a peer-reviewed publication or documented in a comprehensive evaluation report.
3. Documentation of the intervention and its proper implementation (e.g., manuals, process guides, tools, training materials) is available to the public to facilitate dissemination.

In this chapter, to avoid the confusion that currently exists in the literature that uses “evidence-based practice” to refer to both a form of *Practice* and to specific practices, procedures, or interventions, we will use the term Evidence-Supported Treatments (ESTs) to refer to the second usage (Kendall & Beidas, 2007, p. 14). We will reserve the term EBP to connote the process of delivering services, using ESTs when available, but using systematic evidence gathering for assessment, measurement of application, measurement of results, and revision of the treatment plan, regardless of whether ESTs are available and deployable for a particular client. This process meaning is the one currently preferred by the National Institutes of Health and the American Psychological Association and is more consistent with the original notion of evidence-based medicine, from which EBP emerged into behavioral health and related fields. Epistemologically, it is a misnomer to talk about “evidence-based” rather than “theory-based” practice. Basic conventional (Kerlinger, 1973) and action (McNiff & Whitehead, 2006) research methods would agree that researchers frame evidence gathering through their sense of what matters, their expectations of what to look for and what not to look for, or their theory of a treatment. So, the best term for our subject matter might be evidence-supported-theory-based practice. Unfortunately, the term “theory-based treatment” often is used to connote treatments that are based on belief, ideology, or untested “theory,” rather than theories that have lead to empirical verification and revision. Therefore, while all EBP is actually a theory-building and theory-testing process, the term “theory based” will not be used here.

Program and practice are occasionally distinguished. When they are, evidence-based programs are defined as a collection of evidence-based practices that have been aligned and coordinated for some overall effect(s) on clients with complex problems (Fixsen, Naoom, Blasé,

Friedman, & Wallace, 2005; Kendall & Beidas, 2007). Frequently, however, practice is used broadly to connote either a specific technique or a package of them.

There are two primary ways of developing knowledge of interventions that practitioners can employ in EBP. In one, the evidence comes predominantly from published research and utilizes special search and review processes to identify potentially effective interventions. Cunningham and Duffee (2009) call this the "Adoption Strategy." The Adoption Strategy would refer to the scientific development of ESTs and their dissemination, adoption, and implementation. In the other strategy, practitioners rely heavily on their own practice-based research, utilizing information about their previous clients and past performance. Cunningham and Duffee call this the "Developmental Strategy." Both approaches have strong advocates. EBP, as defined above, actually requires both research strategies.

## ADOPTION STRATEGY

The Adoption Strategy for identifying and promoting ESTs utilizes rigorous research, ideally experimental designs with random assignment to experimental and control conditions (RCTs), dissemination to clinicians of findings and information on the intervention, and the practitioners' adoption and implementation of the efficacious interventions. Data come primarily from heavily controlled research settings rather than everyday clinical programs. A primary assumption of this strategy is that rational practitioners will adopt techniques known to work.

The preference for RCTs as the "gold standard" for determining "net outcomes," or "the changes that would not have occurred without the program" (Rossi, 1997, p. 25) has become pronounced in criminology in the last 40 years (Bushway & Weisburd, 2006) and is certainly shared by many other treatment researchers (Council on Training, 2008). The preference is based on Donald Campbell's convincing argument that RCTs were the most efficient means of dispensing with rival explanations of outcomes (Yin, 2000).

There are many more human problems subject to intervention than there are interventions subject to RCTs. As a result, researchers in the Adoption Strategy also rely on high-quality non-experimental designs, using statistical controls for potentially confounding causes of outcome. In either case, the Adoption approach stresses the need for replication to address questions of external validity, so that as many different types of clients, therapists, and contexts are subject to study as possible. Meta-analyses (Lipsey et al., 2000) and systematic reviews (e.g., Armelius & Andreassen, 2007) are employed to provide careful syntheses and conclusions across studies (Farrington & Weisburd, 2007).

When sufficient findings are compiled, efficacious treatments are disseminated and adoption and implementation must take place in specific clinical settings before ESTs are actually employed. Unlike the settings in which the treatment research is often done, these phases of Adoption Strategy unfold in very complex, real world settings (Aarons, 2004) and are rarely subject to scientific study (Fixsen et al., 2005; Mowbray, Holter, Teague, & Bybee, 2003). These stages of this strategy are the location of the largest segment of the research-to-practice gap (Fixsen et al., 2005).

If causal attribution, or internal validity, is the greatest strength of the Adoption Strategy, its greatest weakness, relative to EST implementation, is its tendency to treat complex interventions as black boxes, focusing on outcomes rather than how the independent variable(s) was manipulated (Blythe & Briar, 1985; Chen & Rossi, 1989; Reid, 1990). Its critics call this approach

“methods driven,” rather than “theory driven” (Stame, 2004) and state that while it renders accurate summary judgments, it often does not assist with implementation or with improvements in existing services (Patton, 1997; Stame, 2004). Methods-driven evaluations are also quite narrow, often limited to a single issue, such as one specific technique for a narrowly defined problem, a focus unresponsive to the needs of practitioners (Chen & Rossi, 1989; Kendall & Beidas, 2007). RCTs, for example, stress the comparison of treatment and control groups, not what to do with specific clients in specific circumstances (Reid, 1990). Averages across contexts or practitioners or client groups will not enable practitioners to implement properly (Reid, 1990, pp. 135–136).

To be sure, there have been some improvements in this regard. Increasingly the studied treatments are converted into a manual providing the adopting provider instruction on how to implement ESTs appropriately. However, many practitioners respond negatively to manuals (Addis & Krasnow, 2000; Kendall & Beidas, 2007). In one study of 891 practicing psychologists nationwide, only 47% had ever used a manual and only 6% reported using it on a regular basis. Research psychologists and younger psychologists were more likely to see manuals as producing positive outcomes. Clinical psychologists, especially those in private practice, and older respondents were concerned that manuals would hurt the treatment process. They were especially concerned that manuals would dehumanize the interaction, harming the client–therapist alliance (Addis & Krasnow, 2000; and on the alliance, see Martin, Garske, & Davis, 2000).

While manuals are an important component of the Adoption Strategy, and are increasingly required by intervention research funders, there is as yet little research about the validity of fidelity criteria with which to guide practitioners toward the critical aspects of an intervention (Mowbray et al., 2003). Researchers would get better uptake if they identified core components, determined effectiveness of implementation procedures, measured implementation outcomes, rather than just program outcomes, and described contexts that enabled implementation (Fixsen et al., 2005, pp. 74–75). However, the greater the range of difficulties faced by actual clients and the more complex the intervention package assembled to deal with them, the less likely are validated fidelity criteria available to guide manualization and the less feasible are experimental designs for sorting out what process actually produced the results observed.

There is also a growing methodological debate about the accuracy of the “gold-standard” appellation applied to RCTs. Practitioners do not see RCTs as relevant to them (Magill, 2006) in part because the research is too controlled (Rein & White, 1981; Rosen, 1983) and oblivious to issues that matter in clinical settings, if not in research settings. Theory-based evaluators argue that methods-driven studies treat program context as confounding variables to be controlled (Blamey & Mackenzie, 2007, p. 440), leading to aggregation of results for individuals across programs, rather than seeing individuals in programs. These critics of RCTs are particularly sensitive to designs that exclude from research the political and organizational contexts of implementation. While they need not, most RCTs treat policy decisions as rational processes and not as one of the contingencies relevant in the study of treatment itself. Practitioners and theory-based researchers see little basis in fact for this assumption, therefore, studies of what is effective, they would claim, must include the real clinical world issues of how to implement in the context of multilayered governments and resource-strapped agencies embedded in particular communities (Stame, 2004; Steib, 2004). As a result, says Pawson (2003), we can never say what would have happened without the program, making the goal of RCTs a red herring. More simply, Reid (1987) argues that RCTs often do not anticipate what a new intervention will actually achieve in practice (p. 22).

Finally, there are some less esoteric concerns. For example, practitioners usually cannot find the appropriate research findings, even if they exist, and cannot interpret them without assistance (Hanrahan & Reid, 1984; Stevens et al., 2005). But perhaps more to the point, most often research on the type of case at hand does not exist (Kessler, Gira, & Poertner, 2005; Rosen, 1983). This is certainly the case, for instance, in the juvenile justice area, where the research does not permit conclusions of what works for whom, under what conditions (Lipsey et al., 2000). Consequently, even if practitioners and researchers do agree on the quality of research behind the adoption strategy, it usually is simply not sufficient. Practitioners are faced with either continuing to abide by convention and practice wisdom or with conducting their own research (Blythe & Briar, 1985).

## DEVELOPMENTAL STRATEGY

The Developmental Strategy for getting research to practice is conducted in the clinical program with practitioner participation (Cunningham & Duffee, 2009; Reid, 1987, 1990). The primary assumptions are that purveyors or change agents disseminating a new intervention must build practitioners' commitment to get implementation with good fidelity and that practitioners will be committed when they participate in the research and in the decisions about its application (Dobmyer, Woodward, & Olson, 2002; Roscoe, 2002).

King (1998) defines this form of research as "systematic inquiry by collaborating, self-critical communities, a cyclic process that includes problem framing, planning, acting, observing, and reflecting in order to improve practice" (p. 59). French and Bell (1995) define action research as "research on action with the goals of making that action more effective while simultaneously building a body of scientific knowledge" (p. 137). Action research, originated by researchers and practitioners such as John Collier, Kurt Lewin, Rensis Likert, Edwards Deming and others, emerged to solve real-world problems (French & Bell, 1995; Susman & Evered, 1978; Thomas, 1980). A primary source for the strategy is John Dewey's (1933) *How We Think*. Practitioners are involved because "the administrator and the layman must themselves participate creatively in the research, impelled as it is from their own area of need" (Collier quoted in French & Bell, 1995, p. 144). Many scholars recognize Herman Goldstein's (1979) application of action research to problem solving in policing, as a first major application in criminal justice or criminology, although the self-study process devised by Toch (1969; Toch, Grant, & Galvin, 1975) to deal with violence emerged earlier, as did O'Leary's application of organizational development in corrections (Duffee, 1980; O'Leary, Duffee, Wenk, 1977).

Action research on treatment is known as "developmental research" (Bogue et al., 2004; Susman & Evered, 1978). Reid (1987, p. 17) argues that it is especially suited for use in natural settings to determine how an intervention or intervention package actually is working in clinical settings and what it actually achieves. In this approach, the connections from process to intermediate to long-term outcomes are drawn by examining the chain of events in multiple applications, or, in other words, in the process of constructing and reconstructing a theory of intervention (Pawson, 2003). This strategy utilizes repetition and close observation of means-ends connections and multiple methods and sources, rather than more conventional control devices, such as random assignment and comparison groups (Reid, 1987, p. 32).

Action research relies on a cycle of problem identification, action on the problem, and assessment and new action (Fortune & Reid, 1998; French & Bell, 1995; McNiff & Whitehead, 2006). That cycle as applied to EBP is described as



1. Identifying and using the best assessment methods to analyze the problem and appropriate collaboration with stakeholders about the problem;
  2. Implement appropriate intervention and document the intervention;
  3. Interpret the results, including collaboration with stakeholders;
  4. Adjust actions on the basis of analysis and continue the cycle;
  5. Disseminate results during and after the assessment-action-adjustment cycle
- (Council on Training, 2008, p. 9; and see also Fawcett et al., 1994, Fortune & Reid, 1998; Rosen, 1994; Thomas & Rothman, 1994).

In general, it is a systematic method of connecting treatment processes and outcomes in order to answer “the master question. . . what works with whom, how, and under what conditions” (Reid, 1990, p. 130; and see Pawson, 2003).

The articulation of the intervention theory is a central aspect of this research (Hernandez, 2000). Despite this centrality, there is shockingly little research, including simple process reports, of how program theories are constructed (Blamey & MacKenzie, 2007; Mason & Barnes, 2007; Thomas, 1980). There are debates, for example, about whose theory is important, the stakeholders’, the researchers’, or those established in the literature (Patton, 1989; Sullivan & Stewart, 2006). There are questions about when in the action research process the theory is developed, whether prior to program or after investigation of program operations (Mason & Barnes, 2007). And researchers are questioning the function of theory development, from building practitioner consensus about what to do to providing causal explanations of how and why outcomes varied (Blamey & MacKenzie, 2007). Technical reports on the method of theory construction are just beginning to emerge (e.g., Brickmeyer & Weiss, 2000; Cole, 1999; Renger & Hurley, 2006; Renger & Titcomb, 2002; Rosas, 2005; Yampolskaya, Nesman, Hernandez, & Koch, 2004).

The development and use of theories of action in the study of that action is found in two surprisingly unrelated literatures: action research and theory-based evaluation. These two differ in origin but are similar if not identical in process and objectives (Argyris, 1970, pp. 17–34; McClintock, 2004; Patton, 1997, pp. 196–238). Action research is associated with organizational development, the technologies of which are heavily influenced by Kurt Lewin (French & Bell, 1995). Theory-based evaluation emerged in the 1980s in the broader field of social program evaluation, as researchers and practitioners became dissatisfied with “method-based” evaluations that stressed attribution of outcomes to program but treated programs as black boxes (Chen & Rossi, 1989; Weiss, 1997). The relatively recent merger of these traditions McClintock (2004) recognizes as “Evaluation OD” and Patton (1997) as “developmental evaluation.”

Typically, the intervention theory is not explicit before the action researcher and practitioners collaborate (Fortune & Reid, 1998; Hernandez, 2000; Mason & Barnes, 2007; Patton, 1997; Wholey, 1987). The theory process is therefore as much theory building, or theory construction, as it is theory “surfacing” (Anderson-Butcher, Lawson, Fallara, & Furano, 2002; Mason & Barnes, 2007).

The program theory is required to compare what is happening to what is expected. Discrepancies then lead to additional planning and action (Chen & Rossi, 1989; Patton, 1997). This is a formative approach to program evaluation (Krisberg, 1980) and a cumulative approach to knowledge building; theory is constantly refined (Blamey & Mackenzie, 2007; Mason & Barnes, 2007; Pawson, 2003). In Patton’s terms, the objective is improvement, not substantive judgment. The process is one of determining what, in fact, the independent variable(s) is (are) (Reid, 1987).

Typically, the theory testing utilizes multiple methods and sources. It would include statistical modeling of cause, when possible, but would also include “pattern matching,” or a

comparison of theoretically expected patterns and actual results (Chen & Rossi, 1989), and close observation (Reid, 1987, 1990). The greater the temporal separation of therapeutic action and client response, the more tenuous the conclusions and the more difficult the task of ruling out rival hypotheses (Yin, 2000). Action research strategies have included small RCTs under unusual conditions, such as in choosing between two apparently equal options within a more complex theoretical string.

One of the primary strengths of the action research process applied to treatment is its ability to deal with the political and ideological pressures that inhabit treatment environments. Many stakeholders pressure for programs without evidence, and there are conflicting views among stakeholders about what matters (Mason & Barnes, 2007; Rosen, 1994). Action research can be designed to include different stakeholders' competing hypotheses (Patton, 1997; Yin, 2000) and thereby provide for conflict resolution, provided that the conflicting stakeholders were included in the theory construction and trust the data. If this can be done, rejection of findings by persons whose views were not supported is less likely than if they were excluded.

Another advantage of action research is that discovery of discrepancies between expected actions and measured actions or between expected outcomes and actual outcomes leads fairly directly to implementation of corrective action because the target site has participated in addressing the problem and will support solutions that it helped to craft (French & Bell, 1995, p. 143). Introducing the precise measures of action and outcome in the practice setting leads to better implementation because it provides objective criteria from which practitioners can learn (Blamey & Mackenzie, 2007; Chorpita, Daleiden, & Weisz, 2005; Fortune & Reid, 1998; Grella et al., 2005; Mowbray et al., 2003).

Action research can be especially useful to decompose a complex intervention into its core components (Card, 2001; Mann-Feder, 1996; Mowbray et al., 2003; Pawson, 2003). Chen and Rossi (1989, pp. 303–304) point out that steps can be taken in theory-driven research to deal with some of the issues that RCTs deal with through randomization, such as by selection bias modeling, regression-discontinuity designs, time series analysis and patched-up designs. It also has been found to improve clinical data, as practitioners see how records are actually used to improve services (Dobmyer et al., 2002).

Among the greatest weaknesses in the Developmental Strategy is its inefficiency in ruling out rival hypotheses (Yin, 2000). In a large survey of practicing evaluators in the United States and Canada, the majority thought participation led to use but reduced technical quality (Cousins, Donohue, & Bloom, 1996), although other studies have found evidence to the contrary (O'Sullivan & D'Agostino, 2002). As mentioned above, another problem is the dearth of knowledge on the advantages and disadvantages of different theory construction techniques (Blamey & MacKenzie, 2007, p. 446; Thomas, 1980). Many even staunch adherents of this approach note that it is very time consuming, perhaps more so than methods-driven approaches (Fawcett et al., 1994; King, 1998). Wakefield and Kirk (1996) challenge the feasibility of the practitioner–researcher role on any large-scale basis.

## IMPLEMENTATION

The Adoption and Developmental Strategies are best suited to deal with different steps in the EBP process and different challenges in the EST identification and implementation process. Fixsen et al. (2005) define implementation as “a specified set of activities designed to put into practice an activity or program of known dimensions” (p. 5). Klein and Sorra (1996) define it as the time

“between decision to adopt and routine use of an innovation” (p. 1057). Both the process of EBP and the specific practices of various ESTs can be considered activities or programs of known dimensions subject to the research on implementation.

The foundation of scientific study of implementation can be traced to Bennis, Benne, and Chin (1961), Havelock and Havelock (1973), Pressman and Wildavsky, (1973), and Williams (1980). Despite that history, even researchers very rigorous about treatment research are often unsystematic or uninterested in scientific approaches to implementation (Fixsen et al., 2005; Mark & Henry, 2004; Moore, Rapp, & Roberts, 2000; Mowbray et al., 2003). Recently, this has begun to change (e.g., Mihalic, Irwin, Fagan, Ballard, & Elliott, 2004), although Fixsen et al. (2005) estimate that only 6–24% of all studies of service program effects actually report on the quality of implementation in the site at which effects were studied. We know much less about implementation of either ESTs or EBP than we do about either ESTs that might work if implemented or the steps in problem solving that undergird EBP. Researchers tend to blame practitioners for not adopting or implementing correctly; practitioners tend to blame researchers for irrelevant research and poor guidance on exactly what to do.

This lack of implementation knowledge is odd, since we do know that simply presenting information about new effective techniques is not associated with adoption and that decisions to adopt are not associated with implementation (Fixsen et al., 2005, p. 18; Simpson, 2002). Moreover, applying increased external pressure on agencies or on their personnel to effect implementation of new, efficacious behaviors does not work either (Addis & Krasnow, 2000; Bartholomew, Joe, Rowan-Szal, & Simpson, 2007; Bedell et al., 1985; Cousins et al., 1996; Dobmyer et al., 2002; Hartnett & Kapp, 2004).

EST implementation is difficult (Blome & Steib, 2004; Chen & Rossi, 1989; Fixsen et al., 2005; Rosen, 2003) and implementing well is critical to good outcomes (Fixsen et al., 2005; Mihalic et al., 2004; Schoenwald, Sheidow, & Letourneau, 2004). In many instances, the problem with ESTs is not finding out what works but figuring out how to implement what works in specific clinical settings (Blome & Steib, 2004; Cullen & Gendreau, 2000, p. 143; Fixsen et al., 2005, p. 2; Steib, 2004). Without good implementation, and good data about its achievement, practitioners and researchers will not know whether disappointing outcomes are attributable to the poor effort in the clinical case or the failure of the treatment theory behind the EST (Chen & Rossi, 1989; Patton, 1997, pp. 223–229; Rossi, Lipsey, & Freeman, 2004, pp. 191–196). There is substance to the argument that “good theories” that cannot be implemented well in clinical settings are poor theories, or theories with poor external validity (Council on Training, 2008; Fixsen et al., 2005).

Unresolved is the debate between the “engineering approach” to implementation and the “social systems” approach to implementation (Chen & Rossi, 1989, p. 303). In the former, it is believed that no changes can be made in the EST when it is replicated or implemented. In the latter, it is assumed that changes are inevitable and that implementation should replicate strictly the “core intervention components” but provide for flexibility in the remainder (Blakely et al., 1987; Fixsen et al., 2005; Kendall & Beidas, 2007). In other words, the social systems approach would seem to favor adaptation of ESTs based on local research conducted through EBP. The engineering approach often leads to lack of consultation with clinicians about implementation, perhaps because designers consider negotiations moot. Evidence suggests that the engineering approach alienates practitioners, leading to poor implementation or outright rejection (Garland et al., 2003). However, the core components might not be known, especially if the intervention was designed using the Adoption Strategy. Lack of knowledge about what aspects of the

intervention can change without diminishing outcomes can pressure for the engineering approach to implementation, since people do not know what can change without risking less acceptable outcomes (Chen & Rossi, 1989; Fixsen et al., 2005). To make matters worse, we currently lack agreed upon means for identifying core components (Mowbray et al., 2003).

These are significant problems, sufficiently so that Patton (1997) calls the gap between knowing and using knowledge a social crisis. They are also complex problems, which, like interventions, require their own systematic study (e.g., Dunn & Swierczek, 1977; Fairweather & Tornatzky, 1977; Rothman, Teresa, Kay, & Morningstar, 1983). The theory of steps taken for a program to achieve outcomes, or what must be put in place when to achieve outcomes, has been called variously “implementation theory” or “prescriptive theory” (Blamey & MacKenzie, 2007), in part to distinguish it from EST or program theory. Like intervention theories themselves, implementation theories need to be articulated and tested (Mark & Henry, 2004; Mowbray et al., 2003), so that purveyors or change agents understand not only how to proceed but also how to serve as a shared road map during implementation to keep the different players in implementation on the same page. In other words, articulating a theory makes it more likely to happen (Blamey & MacKenzie, 2007; Brandon, 1998).

The more complicated an EST, the more complicated its implementation theory; there will be more conceptual elements in its causal chain operating over a longer period of time. Similarly, one would imagine that engaging in the process of EBP with very complex and knotty client problems is more complicated and difficult than with simpler problems. Nevertheless, the evaluation, knowledge utilization, and program implementation literature displays some rough agreement on common elements in the theoretical chains, and evidence is mounting in some of these areas about forces that hinder or promote implementation.

### Degrees of Implementation

In 1977, organizational theorists called to our attention the capacity of public organizations to ward off environmental pressures and protect the stability of their “working core” through ceremonial, structural adoption of new beliefs, practices, and techniques that did not affect the performance of personnel (Meyer & Rowan, 1977). While institutional theorists explained this behavior as functional in the highly politicized, poorly rationalized environment of public services, ceremonial adoption can also retard implementation of changes for which there is good technical evidence. This phenomenon, as it applies to EST implementation, has been called the “fallacy of programmatic change,” namely that many programs are adopted in name only, with no significant effects on provider performance or client outcomes (Fixsen et al., 2005). This problem has led to recognition of “levels of implementation” (Hernandez & Hodges, 2003). The National Implementation Research Network (NIRN) team (Fixsen et al., 2005, p. 6) labels these as

1. Paper implementation: putting in place policies and procedures justified as needed to implement a new program;
2. Process implementation: the installation of new operating procedures such as training, supervision, and new reporting requirements intended to implement a new program; and
3. Performance implementation: actual procedures and processes associated with putting core intervention components in place at the consumer level and using them with good effect.

Performance implementation must occur before we can measure effects of program adoption (Fixsen et al., 2005), but many checks on EBP rely on paper or process implementation. Settling for paper implementation is common in the accreditation process and even the contracting process, when reviewers ask for reports, formats for reports, or written policies, but do not have the capacity to determine if any of the measures seen on paper reflect behaviors. Trying to enforce fidelity through process reporting can lead workers to satisfying paper measures rather than achieving outcomes, such as documenting client contacts rather than doing something useful in the client encounter (Argyris, 1970; Mowbray et al., 2003). Process implementation is a greater investment for an agency, since it might include the creation of new units or changes in work assignments and supervision structures. But it is in this structural embodiment of program that Meyer and Rowan (1977) first noticed ceremonial adoption in public schools: structure, but not function, had changed. In the youth treatment area, agency quality assurance personnel spend a great deal of time checking timeliness of reports, as required by their regulatory agencies, who have substituted report punctuality for service quality. Similarly, the National Institute of Justice fulfills its national performance review responsibilities by reporting the proportion of promised research products that have been turned in on time (e.g., National Institute of Justice, 2008). Results-based management has been converted into a new form of bean counting.

Monitors and regulators settle for paper or process implementation partly because this behavior is their own agency's manifestation of ceremonial adoption. However, more substantively, it has also taken both researchers and administrators some time to come to grips with the complexity of implementation of EBP. It has often been treated as an event (adoption decisions) rather than a process.

### **Stages and Elements of Implementation**

Researchers differ on the number and names for the stages in the implementation process. NIRN recognizes six stages for the implementation of ESTs. These stages appear helpful in conceptualizing the implementation of EBP as well, since the NIRN team reviewed a broad swath of program and policy implementation literature (Fixsen et al., 2005). The authors label these common stages: (a) exploration and adoption, (b) installation, (c) initial implementation, (d) full operation, (e) innovation, and (f) sustainability.

Within each of these stages, different units or elements of the implementation process should be examined for their contributions to implementation. NIRN conceptualizes these elements as the source of the new behavior to be implemented, the destination (implementation site) of the innovation, the purveyor or change agent responsible for moving the innovation from source to destination, feedback from purveyor to destination site on performance of each stage of implementation, and contextual influences on those elements (Fixsen et al., 2005). The important Blueprints program, studying implementation of ESTs for violence prevention, suggests a somewhat different list of theoretical elements in implementation: site assessment, effective organizations, qualified staff, program champions (purveyors), program integration, training and technical assistance, and implementation fidelity (Mihalic et al., 2004).

## Levels of Analysis in Implementation

The levels of implementation or the social system units in which specific changes must occur if EBP implementation is to occur and be sustained include (a) the economic, political, and cultural environment of the implementation site; (b) the implementation organization(s); and (c) the individual providers of service at the client level (Frambach & Schillewaert, 2002; Klein & Sorra, 1996; Simpson, 2002; Simpson & Flynn, 2007). Implementation can stall out or fail because of obstacles at any of these levels.

## Research on Implementation

Research on the affects of implementation elements on implementation outcomes is thoroughly reviewed by NIRN (Fixsen et al., 2005). A brief summary of research is difficult and empirical attention to the different stages, elements, and activities in implementation varies. However, a brief summary, ordered around activities, and the elements contributing to each of these are provided below. Positive implementation is favored under the following conditions.

**SELECTION OF STAFF FOR IMPLEMENTATION.** Staff has been selected for its capacity to learn and has greater education but fewer years in service (Aarons, 2004; Aarons & Sawitzky, 2006; Howe & Joplin, 2005; Mihalic et al., 2004); staff has attitudes likely to promote compliance with the innovation's requirements, such as believing in scientific evidence (Aarons, 2004; Aarons & Sawitzky, 2006; Cousins & Earl, 1992; Cousins & Leithwood, 1986; Frambach & Schillewaert, 2002).

**TRAINING.** Training affects attitudes as well as skills and should be attractive, responsive, and provide for practice of the new behavior to be implemented (Bartholomew et al., 2007). Training by itself, without follow-up, does not lead to implementation, but training can prepare an organization by changing attitudes and imparting values as well as technical information (Fixsen et al., 2005).

**COACHING.** Providers need access to on-the-job technical assistance about new behaviors (Klinger, Ahwee, Pilonieta, & Menendez, 2003). Accessible, reflective, work-based coaching with practice and feedback, including the opportunity to try out and fail without repercussions, is important (Howe & Joplin, 2005, p. 56). There is mixed evidence about the effects of how emotionally supportive the coach should be (Schoenwald et al., 2004).

**PERCEIVED BENEFITS FOR CLIENTS.** Staff members who are internally motivated and committed to service will respond to the perception that the new EBP or EST will assist

clients; they are likely more responsive to this perception than to external rewards and sanctions for compliance (Bedell et al., 1985; Camasso, 2004; Cousins & Leithwood, 1986; Cullen & Gendreau, 2000; Klinger et al., 2003; Patton, 1997; Roscoe, 2002).

**STAFF INVOLVEMENT.** Perhaps the most consistent finding is the positive effects of participation or involvement of target site members in the entire planning and implementation process, including a high degree of feedback from practitioners to researchers about the new behavior to be implemented (Aarons, 2005; Addis & Krasnow, 2000; King, 1998; Mowbray et al., 2003; Patton, 1997; Rosen, 1983, 1994).

**IMPLEMENTATION MONITORING SYSTEMS.** The means of recording implementation activities and providing feedback to implementers must be present (King, 1998; Rosen, 1983). Performance appraisal with objective targets is important, staff must be held accountable, but performance criteria are no substitute for coaching (Howe & Joplin, 2005). Monitoring program fidelity at the agency level is probably equally important, but rarely present (Fixsen et al., 2005).

**LEADERSHIP.** Agency leaders must convey the value of the change both externally and internally (Bogue et al., 2004, 2005). Managers must supervise in a way that provides room for practitioner discretion (Rosen, 1983, 1994, 2003). Managers providing facilitative support and planning for, obtaining, and husbanding time, resources, patience, and commitment will have better results than managers that want quick results and are directive in style (Cousins & Earl, 1992; Dobmyer et al., 2002).

**CHANGE AGENT OR PURVEYOR.** The change agent or purveyor of the new process or intervention must be comfortable with high levels of participation and skilled in promoting it (Bedell et al., 1985; Cousins & Earl, 1992; Cousins & Leithwood, 1986; Dunn & Swierczek, 1977). Research on specific steps to prepare a site to accomplish buy-in is lacking (Fixsen et al., 2005).

**ORGANIZATIONAL CLIMATE.** Employees who are not under constant stress, who are collegial, and who feel the risks of innovation can be managed will facilitate implementation (Aarons, 2004, 2005; Courtney, Joe, Rowan-Szal, & Simpson, 2007; Klein & Sorra, 1996).

**ORGANIZATIONAL CULTURE.** The target site culture that promotes innovation, objectivity, and service supports implementation (Aarons, 2005; Fixsen et al., 2005); supportive cultures can integrate new activities into existing routines and can overcome resource losses (Glisson, 2007). The congruence between organizational values and the new behavior and the

consistency of values across groups in the agency promotes implementation (Bedell et al., 1985; Cousins & Leithwood, 1986; Patton, 1997; Rosen, 1983).

**TURNOVER.** Low turnover promotes consistent networks and collective memory (Cousins & Earl, 1992). Therefore, it will help with implementation if the attitudes and values in those networks are favorable toward innovation.

**ORGANIZATIONAL STRUCTURE.** Informal and formal vertical and horizontal networks that convey a common message about new ESTs or the new practice of EBP and that are not rigid or top-down assist in implementation (Aarons, 2004; Frambach & Schillewaert, 2002; Simpson & Flynn, 2007).

**AGENCY TYPE.** Some research has found better implementation of EBP and more effective implementation of ESTs in behavioral health agencies and not-for-profit agencies rather than in public justice agencies (Aarons, 2004; Lipsey et al., 2000). These findings are probably related to differing organizational structures in the agency types.

**AGENCY ENVIRONMENT.** Consistent messages from the environment about the need to change promote implementation; the density of agencies in a setting emulating a specific EST model or engaging in EBP and the level of competition may affect implementation (Bedell et al., 1985; Bogue et al., 2004, 2005; Cousins & Leithwood, 1986; Hernandez, 2000; Kahn & Kamerman, 1999; Mihalic et al., 2004). However, external pressures for implementation do not work. Agency environments that are not supportive will likely undermine both agency and practitioner level commitments to the new program (Fixsen et al., 2005).

**SUSTAINED IMPLEMENTATION.** Sustaining a new organizational behavior appears achievable only if intervention staff sees concrete evidence of changes in outcomes (Liddle et al., 2002), if core intervention components have been identified and innovation is encouraged in noncore activities (Blakely et al., 1987; Fixsen et al., 2005; Kendall & Beidas, 2007; Mowbray et al., 2003; Simpson, 2002; Simpson & Flynn, 2007). Getting data about outcome change to frontline staff is a major problem in service sectors, such as child welfare and corrections, where follow-up data has been poor or nonexistent for decades, because EBP and many ESTs require new conceptions of measurement, merging of data from separate MIS that span different agencies, new capacity with analysis, and new behavior from staff, who must learn how to respond to outcome feedback, often for a first time (Wulczyn, 2005).

## **CONCLUSION: CONNECTIONS BETWEEN ADOPTION AND DEVELOPMENTAL STRATEGIES**

One way to consider the relationship of the two strategies for promoting the use of scientific evidence in treatment provider behavior is to think of them as different paradigms responding



to related but different segments of EBP development. The Adoption Strategy relies heavily on experimental and related methods of nomothetic research, “employing a positive epistemology designed to confirm or disprove some hypothetical proposition,” while the Development Strategy relies heavily on ideographic research “a knowledge building strategy that enables the practitioner to assess the efficacy of objective knowledge within the subjective context of the world of practice” (Cournoyer & Powers, 2002, p. 800; and see Richters, 1997). We need to link these strategies to get the most out of both and to take on the considerable implementation challenges that are outlined above (Kendall & Beidas, 2007; Rosen, 1983, 2003; Thomas & Rothman, 1994).

The Council on Training (2008) makes it clear that, regardless of how much evidence exists prior to selecting an EST implementation, EBP is not completely implemented unless the practitioner engages in practice-based research to determine if the outcomes achieved through the new EST were effected in the instant case, how they were effected, and whether the results are similar to or different from the expectations based on prior research about the EST. In this very important view, experimental and action research must be combined in order for ESTs to be effectively implemented and for EBP to be practiced with rigor.

The mode of that combination is problematic. For example, Patton (1997) is very dubious that one study or project can serve both functions (p. 78). But it is unlikely that these strategies can succeed if they go alone. Magill (2006) argues that EBP implementation in social work will simply not be widespread without close partnerships between researchers and practitioners in clinical settings. Without that give and take, practitioners are not likely to comprehend EBP as a mode of proceeding based on continual inquiry, rather than a call to emulate a few models found in the library or pushed by some central agency (something one of SOAR’s agency directors calls the “McDonaldization of treatment.”) But, Wakefield and Kirk (1996) raise serious doubts about the feasibility of EBP in their critique of the “scientist-practitioner” model as neither common enough nor skilled enough to produce effective practices, at least as an alternative to nomothetic research that identifies ESTs. However, posing EBP as a practitioner alternative to reviewing for, adopting, and implementing ESTs, when and if they are available, is setting up an unnecessary juxtaposition. The developmental process of EBP and the more conventional research process of studying ESTs are rarely seeking the same objectives (although, arguably, the developmental method might be used “on the ground” in clinical settings to identify and design emergent ESTs that could then undergo more rigorous testing).

Nevertheless, the antagonism in worldviews and the differences in competency packages among people associated with these different strategies would suggest that simply noting inadequacies of the other form of knowing is not sufficient. The common way to fit these methods together is by sequencing them. For example, Fortune and Reid (1998, p. 442) propose that the Development approach is more appropriate when trying to determine what the independent variable is, in existing programs or new ones, while nomothetic research should be applied when we think we have it right (Reid, 1987, p. 18). But this approach, while it has some logic, does not seem to have pulled the skills of these approaches together in a way that is capable of tackling the enormity of the EBP task cycle and the competencies to mount it.

Seeking more active integration and cross-fertilization might be more productive than just giving each camp its own niche. This review suggests several opportunities for integration. These are summarized in Table 18.1, which is organized around the stages of the implementation

process, using the NIRN version of implementation stages. In Table 18.1, the Adoption Strategy approach to implementing ESTs and the Developmental Strategy for implementing EBP are both aligned against the stages of implementation. At most stages of these different but related tasks, there are skills and knowledge of method of each strategy that can conceivably help the other strategy be more effective.

Four specific points of integration will be discussed in more detail here. These are (a) assessing the strengths and weaknesses of a specific clinical program before deciding that instituting EBP is worth the investment, (b) confronting the problems of fidelity criteria at initial implementation of an EST, (c) filling out the cause–effect linkages in an EST that might not be fully known before implementation, and (d) linking the testing of fully developed clinical intervention models that originated through EBP to the rigors of EST testing methods.

First, the investment in developmental, action research is very difficult for agencies to make and risky for researchers to undertake. It simply is not the case that every existing program is worth a developmental effort (Wholey, 1987). The investment in action research should be weighed carefully. Certainly one aspect of that consideration should be the initial or face-value comportment of a specific clinical program service package with what is known in the EST literature. At a minimum, this would mean that the Development Strategy should pass the theory construction stage in a particular site *only* if a thorough examination of the Adoption Strategy EST literature seems to support (or at least not contradict) the interventions prominent in that local practitioner theory. For example, in the SOAR RTC study, there are systematic reviews to support some of the interventions (Armeliuss & Andreassen, 2007), meta-analyses to support others (Hair, 2005; Knorth, Harder, Zandberg, & Kendrick, 2008; Shirk & Karver, 2003), and, in all cases, *at least one high-quality study* to support many of the other interventions used in the residential programs. There are no significant elements in the RTC program theory for which there is not some evidence. There is, however, no existing research on how and with what effects these interventions come together (Hair, 2005; Knorth et al., 2008), or whether they apply in the specific context of the SOAR agencies. Consequently, the investment in development research appears required if the specific logic model is to be tested for its accuracy or the programs are to be improved over time. In addition, the research investment appears worth the risk since the available “best evidence,” as incomplete as it is, would appear in general terms to lend support to the logic of the practitioners’ model.

Second, consider the connections potentially available in the use of action research in the discovery and application of fidelity criteria for ESTs. The iterative approach to developing criteria of fidelity (Mowbray et al., 2003) is virtually identical to the action research steps of “realistic evaluation,” a variant of action research (Pawson, 2003). This is particularly so when fidelity criteria are developed in operating programs not previously subject to efficacy research, since that process would begin by constructing a theory of existing services and identifying core components through an iterative, collaborative process with the practitioners (Mowbray et al., 2003, pp. 325–326, and see Kendall & Beidas, 2007). Additionally, even if initial, conventional research has somehow included the development of fidelity criteria, the inevitability of struggling with fidelity during the process of adaptation suggests that coupling action research to program implementation is critical over time (e.g., Taxman & Bouffard, 2002). It is possible that the development of fidelity criteria lags behind the hypothesis testing processes of nomothetic

TABLE 18.1. Points for Integrating Adoption and Development Strategies

Implementation stage	Adoption processes	Development processes
Exploration and adoption Should be considered from both researcher viewpoint and destination viewpoint	<p>From the researcher side, the main work of the adoption process is the efficacy research that is completed by now.</p> <p>However, the dissemination of this research about ESTs in primary form and in secondary form via systematic reviews, meta-analyses, and other vehicles (e.g., Aos et al. (2004)) is a critical step as clinical agencies search for program innovations.</p> <p>Dissemination is assisted if researchers include development of manuals, evidence on core components and fidelity criteria; availability via phone or web for technical consultation with and coaching of interested destinations sites is important. Could consult with action researchers about how to make research findings attractive and comprehensible to practitioners. And action researchers are likely to be better informed about implementation research than many adoption researchers</p>	<p>Agency might seek to improve an existing but unevaluated program, calling upon action researchers for assistance.</p> <p>Evaluability assessment, including assessment of readiness of system, agency, and practitioners may be among first steps. Full-scale development of program theory or logic model follows.</p> <p>Action researchers should assess espoused local site theory using best available evidence about relevant ESTs.</p> <p>Action researchers might also assist practitioners translate and critique applicability of research findings about ESTs.</p> <p>Whether improving existing program or adopting new program, action researchers can assist practitioners with development of implementation theory</p>
Installation	<p>Researchers rarely are, but can be, available for installation consultation about ESTs (e.g., Schoenwald et al., 2004).</p> <p>Research on adoption and implementation, not just research on intended program, is relevant here in that consultation.</p> <p>Installation issues require hands-on participation and feedback, rarely available in the skill set of the adoption researchers (but see Mihalic et al., 2004).</p> <p>Developmental and Adoption teams might be effective here</p>	<p>If practitioners agree to implement and EBP process to improve existing program, installation includes development of all measures for monitoring core components, changing supervision to include monitoring of practice, and the collection of data about practice. This stage should also include integrating agency installation needs with system supports, and training staff in new/revised behaviors.</p> <p>This stage appears to require the skills of action researchers, but they should be guided by thorough search on installation issues in the research literature, rarely available in program literature. They might also be able to borrow or adapt existing outcome and process measures for the local logic model testing</p>

(cont.)

TABLE 18.1. (Continued)

Implementation stage	Adoption processes	Development processes
Initial implementation	<p>Training and coaching by program innovators might be available, but often are not.</p> <p>If available, fidelity measures should be instituted. If they are not available, adoption consultants might suggest to local site development researchers how the fidelity measurement might start</p>	<p>Culture and climate change, training, and coaching are activities well suited to action research skill set. If installing new ESTs through EBP, development researchers should be utilizing a system for feedback from practitioners about practice issues and feeding back initial implementation problems into literature. If new EST is identified through EBP as relevant to clients, and the new program comes without core component knowledge or fidelity indicators, action researchers should be developing and employing these and the contributing this new knowledge to the literature</p>
Full operation	<p>Fidelity research at agency and practitioner level often not available but should be encouraged at a system level. At best, system-level policy makers often settle for “one-off” assessments that things are working (Pawson, 2003). Promising programs from developmental process might be subject to experimental design and dissemination</p>	<p>New program model or new model of existing program has been implemented, and data on outcomes from this program are available.</p> <p>Monitoring fidelity to model and monitoring deviations from expected outcomes are core development activities.</p> <p>It is at this stage that adoption and developmental processes are most similar.</p> <p>In either case, a clear model has been selected or developed and its emulation in practice over time is the goal. Outcome research and service measurement at the local level must take place</p>
Innovation	<p>Often discouraged, although evidence suggests innovation is necessary (Blakely et al., 1987).</p> <p>Research on innovation from original researchers often not available unless they stay in touch with destination sites.</p> <p>Need to distinguish innovation from drift (Fixsen et al., 2005).</p> <p>Connecting adoption researchers to local development teams would help with knowledge of when and how innovation occurs</p>	<p>Innovation emerges from analysis of deviations of practice from espoused practice or outcomes from expected; action researchers should be disseminating findings on incremental changes in program. Need to distinguish innovation from drift. If the process has included incorporation of ESTs, literature on that intervention might help distinguish positive and negative innovation</p>

(cont.)

TABLE 18.1. (Continued)

Implementation stage	Adoption processes	Development processes
Sustainability	Question about where innovation becomes "new program," little if anything known about dynamic fidelity measurement systems (Mowbray et al., 2003)	Action researchers assist program/agency with reporting effectively to regulators and funders; action research can be used to determine effective means of training new practitioners; sustainability enhanced by number of destination agencies sharing program research issues on cluster basis (e.g., Miller et al., 2006). Development approach is sustained if destination system has become learning system (Senge et al., 2000) and therefore committed to the EBP process as a means of improving services

research on ESTs precisely because establishing fidelity criteria occurs at the juncture of the two sciences to service strategies. In addition, timing of adaptation of ESTs is important (Patton 1997, p. 100). If change occurs too soon, the EST is not really implemented. Wait too long, and the EST has been retained beyond its utility, because of local context or environmental changes. Therefore, EBP at the clinical site is essential to know when and how to adapt an EST. It would appear that real implementation of ESTs requires self-evaluating or learning organizations, or those that have adopted EBP (Senge et al., 2000; Usher, 1995; Webster, Needell, & Wildfire, 2002). A third critical potential integration point concerns the possible contributions of action research to improving internal validity of the theories supporting ESTs. Brandon (1998) contrasts participative research, done to increase utilization and nonparticipative research done to increase knowledge. But, he provides evidence that participation can improve validity; researchers understand the program better with participation of practitioners. O'Sullivan and D'Agostino (2002) report similar findings. To accomplish this linkage, we need to devise strategies for feeding site-based action research findings back into the more distant, abstract, Adoption Strategy literature. One illustration of this type of feedback is available from the SOAR investigation of client engagement in the treatment process. Many staff members stressed the importance of engaging clients as a prerequisite to effective intervention. Recent meta-analyses on the therapeutic alliance between adult clients and therapists and on the client-therapist relationship between adolescents and their therapists both supported this practitioner perception (Martin et al., 2000; Shirk & Karver, 2003). However, only one prior study of engagement had been done in an RTC setting (Carlson, Barr, & Young, 2004), and that study cast doubt on engagement as a predictor of positive outcomes for youth. In addition, the meta-analyses generally concern one-on-one therapies. It was not certain that the therapist-client alliance would generalize to staff-client relationships in general or be applicable to collective interventions. SOAR tracked youth engagement, multiple interventions, and multiple outcomes and found very mixed results. Generally, engagement appeared to affect outcomes but it often did not work through interventions, and engagement affected some

outcomes but not others (Smith, Duffee, Steinke, Huang, & Larkin, 2008). As a result, the SOAR practitioners have learned that delaying services while waiting for an increase in engagement is not necessarily a good strategy and that for some treatment objectives, client engagement is not an important ingredient for setting the stage. Such action research findings should promote more systematic examinations of engagement with youth.

Lastly, based on the 8-year SOAR experience, there also appears to be one fundamental way in which adoption methods and developmental methods are the same. This point often is missed or overlooked at the implementing agency level. *Both* strategies eventually yield a model, or an explicit set of expected staff behaviors, to which real staff behavior will be compared. Practicing agencies might miss the point that modeling their own treatment through EBP to find their own ESTs does not imply that agency and provider behavior need not change. Even an intervention model devised following a Development Strategy will differ from actual practitioner behavior at any specific point (presumably less so over repeated measures). That divergence between theory and actual behavior, or the disconfirmation that espoused theory is also practiced, should lead to correction action, in the Development paradigm. But Cozens (1999) reports that many agencies do not realize that the implication of collecting data on their own behavior is to act on these discrepancies, rather than only to report the results! If this nonreactive response to action research is widespread, then perhaps agencies are taking up such research for the wrong reasons. They might see it as protecting them from change (such as the imposition of externally developed and externally imposed EST models) rather than as a means of guiding change toward more effective behavior.

The effective integration of the two strategies would appear very difficult for single clinical agencies to effect, except in some rather limited cases. It is more likely that encouragement to both incorporate the best available evidence from the Adoption Strategy and engage in site-specific Development strategies would be better accomplished from some policy or funding center. In the SOAR experience, this integration has not yet occurred. National, state, and county regulatory and funding agencies appear to promote the dissemination or adoption of models from nomothetic research, as the state of Washington has done (Aos, Lieb, Mayfield, Miller, & Pennucci, 2004), far more often they promote local research in clinical sites, despite the fact that fidelity testing will require at least a minimal level of local research. One of the stronger moves to promote integration would be for policy makers to require local site development research and to pay for that as a natural component of service provision. Development research is part of the cost of service. But currently many service purchasers reject “research” as unrelated to service. They are likely thinking about adoption strategy research when they do so. But they might also be realistically concerned about cost. Promoting and facilitating some form of cluster evaluation so that providers with similar logic models could pool data and share findings may reduce the costs associated with development research. Nevertheless, local and state governments need to recognize that excluding action research from the services they pay for probably increases public cost in the long term, since local providers will otherwise have little ability to engage in EBP. EBP is the integration of research activity into day-to-day practice. That kind of integration is certainly a long way down the road in youth services, although there is currently an attempt to promote it in adult community corrections (Bogue et al., 2004, 2005).

This chapter has reviewed two approaches to developing evidence for better treatment services. Both strategies have strengths and weaknesses and both are necessary. They are likely to be more effective when employed in an integrated manner rather than being thought of as alternatives. Their strengths might be complementary and therefore we might be able to reduce

the weaknesses as these two approaches come together in a planful way. In order to hasten that integration, the practice and research sectors would be wise to adopt a common language that allows us to discuss both evidence-supported treatments and evidence-based practice without confusing the two.

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## **PART IV**

# **SPECIAL TOPICS IN CRIME AND DEVIANCE**

**ALAN J. LIZOTTE**

In this section, we wanted to include topics that have generated much current interest and on which there have been significant theoretical and research advances. Surprisingly, after having identified the topics and the respective experts, we realized that many of them have been the subject of ongoing research interest and of concern among policy makers for a number of years. From the beginning of American criminology, gangs and peer relationships have been a central focus and certainly are an important area of study, as well as a key challenge for policy makers today. Similarly, the connections between drugs and violence and between gun use and violence continue to be major contributing factors to the crime problem in this country. Many of the theories that were addressed earlier in this book include the family arena as a key component of the explanation of crime and delinquency. The most dramatic issue in family relationships is violence within the family, including both domestic violence and child abuse. While criminologists have long recognized the importance of such behaviors on the cycle of violence, recent research on these issues has significantly advanced our understanding of why they have an impact. The two topics that seem to have more recently come into focus are research on hate crimes and cyber crime. Although behaviors that are consistent with hate crimes are certainly not new, the topic as a distinct area of study is new. What we now know as cyber crime is, of course, dependent on advancements in technology, but as is argued in the chapter included in this edition, the general behavior has been around for many years even though we have not understood it as such.

The first two chapters in this section deal with delinquent groups. Mark Warr has done some of the most insightful research on the impact that delinquent peers have on one's behavior. He opens the section by discussing the issues and controversies related to this area of research, including his own contributions that have served to clarify some of these issues. Gangs represent

an extreme form of peer association. Dana Peterson has been working with the G.R.E.A.T. project, combining a gang prevention program with an ambitious research program. Here she not only examines the contributions of the G.R.E.A.T. program but also focuses on the move to establish a research agenda to compare and contrast gangs in different countries.

Well known for their extensive and longitudinal work on delinquency, Helene Raskin White, Kristina Jackson, and Rolf Loeber exhaustively review the literature on substance use and violence. Then they use longitudinal data from the Pittsburgh Youth Study to estimate trajectories of drinking and violence between early adolescence and early adulthood showing when and how the two are related.

While there are large bodies of research on both legal and illegal gun ownership and use, the correlates and causes of the two rarely have been contrasted. Rik Legault and Alan Lizotte have made substantial contributions to this literature and continue to do so in their chapter that contrasts the causes and correlates of legal and illegal gun ownership and use.

Carolyn Smith and Timothy Ireland review and synthesize more than 30 years of the extensive literature on child abuse and domestic violence. They focus on the connection between the two and how they are linked to both later adolescent and adult offending.

Hate crime is an emerging area of research and as such, there is still much ambiguity in the legal status of such behavior, the definition and identification of hate crime, and the research issues that should be priorities for future research. Ryan King arguably has been making the most significant research contributions to this area and in his chapter focuses on both hate crime law and hate crime offending.

Graeme Newman has been a creative and frequent contributor of research on cyber crime. In this compelling chapter, he shows that cyber crime is nothing more than a new name for an ancient crime. These are crimes that change with the available technology. Understanding this demystifies cyber crime.

## CHAPTER 19

# Peers and Delinquency

MARK WARR

*Tell me thy company and I will tell thee what thou art.*  
– Cervantes, *Don Quixote*

Human beings differ from other species in a number of important ways. They are, for example, a visually oriented species. They evaluate and interact with their environment primarily in terms of what they see rather than what they smell (as do canines), hear (as do bats), or touch (as do starfish). At birth, humans are among the most helpless creatures on earth because most of their brain development, unlike most other species, takes place *after* they are born. Without knowledge of this fact, it would be impossible to understand how humans develop in the first two decades of life.

Human beings are also highly *social* animals (unlike, say, bears or tortoises). They enjoy and even crave the company of their own kind, and prolonged separation from human contact (as occurred in the first prisons, for example) can lead to insanity and suicide.

The social nature of our species means that who we are and what we do at any particular moment depends in part on who we are with. We behave differently in the presence of a teacher than in the presence of our best friend or worst enemy. We are different people around a girlfriend or boyfriend than we are around a co-worker, minister, or police officer. This occurs not because we are deceitful creatures but because we have acquired role expectations from our culture that define how we are to behave around others (and they with us). We expect those we call “friends,” for example, to be loyal, honest, and intimate, and we are hurt or angry when they fall short. We expect our parents to put our interests above (or at least on par with) their own, and we can be crushed when they fail to do so.

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Our social nature also means that we attempt things when others are present that we would never attempt alone – things that may be dangerous, illegal, or morally reprehensible – and we are sometimes influenced by people even when they are not physically present with us at the moment (e.g., a parent).

The social side of human beings, while important, should not be exaggerated. Humans sometimes make decisions entirely on their own, and they learn some things in utter isolation. But that does not detract from the fact that much of what we do is dependent on the immediate social context in which we are doing it.

## SOCIAL INFLUENCE AND CRIMINAL BEHAVIOR

As the field of criminology evolved over the last century and a half, some scholars looked to the social nature of human beings in an effort to explain the origins of criminal conduct. Perhaps humans engage in violence in order to impress or acquire status in the eyes of other people, they speculated. Perhaps humans form gangs to protect themselves from dangerous people in their community or school. Edwin Sutherland, among the most sociological of all criminological theorists, insisted that humans learn to commit crimes *from other people* in exactly the same way that they learn to speak with an accent, obey street signs, or hail a cab. Crime is learned in the same way that virtually *all* human behavior is learned, he argued.

The case for a social explanation of crime is bolstered by two reliable characteristics of criminal behavior: (1) criminal behavior is primarily committed by young people, *and young people rarely commit crimes without companions*; and (2) the strongest predictor of delinquent behavior known to criminologists is the number of delinquent friends an individual has. Both of these statements are supported by decades of empirical research. What remains a matter of dispute today is not their veracity, but rather their meaning, as we shall see shortly. First, however, it is instructive to review evidence on the social nature of crime and delinquency.

## THE SOCIAL CHARACTER OF DELINQUENCY

Among the most consistently reported features of delinquent behavior is its group character. For nearly a century, investigators have remarked on the tendency of offenders to commit delinquent acts in the company of others. One of the best-known demonstrations of this phenomenon comes from Shaw and McKay (1931), who discovered that more than 80% of juveniles appearing before the Chicago Juvenile Court had accomplices. Similar findings drawn from official data were routinely reported by scholars from the 1920s through the 1960s (see Erickson, 1971; Klein, 1969; Reiss, 1986).

As self-report methods gained acceptance in criminology in the 1960s and 1970s, evidence for the group nature of delinquency strengthened. Gold (1970), for example, reported that 75% of the 2,490 chargeable delinquent offenses reported by his sample of Flint youth were committed in the company of others, and less than 20% of respondents in Shannon's (1991, p. 23) survey of Racine youth said that they had acted alone. Erickson (1971), Erickson and Jensen (1977), and Warr (1996) uncovered consistently high "group violation rates" (the proportion of offenses committed in groups) in self-report data from juveniles. Only one of the 18 offenses examined by



Erickson had a group violation rate below 50%, and the same was true of only 4 of 18 offenses in Erickson and Jensen's (1977) study, and only 2 of 12 in Warr's (1996). Some of the exceptions to the rule were acts that had some inherently solitary element to them (e.g., defying parents, running away; see Erickson & Jensen, 1977).

Evidence for the group nature of delinquency also comes from countries outside the United States (Reiss & Farrington, 1991; Sarnecki, 1986), including England, Sweden, and India. This suggests that the group nature of delinquency is not confined to the United States and perhaps is true wherever delinquency is found.

Although delinquent behavior is predominantly group behavior, some offenses are more likely to be committed in groups than others. There is consistent evidence that alcohol and marijuana are used by adolescents almost exclusively in group settings. Likewise, certain property and public order offenses (vandalism, burglary, trespassing) have rates of group offending nearly as high as those for drug offenses, with other property crimes (e.g., auto theft) not far behind. On the other side of the continuum, shoplifting and assault appear to be among the less "groupy" offenses (see Erickson, 1971; Erickson & Jensen, 1977; Gold, 1970; Reiss & Farrington, 1991; Warr, 1996).

Skeptics sometimes point to offenses with low group violation rates (like assault) as evidence that the group nature of delinquency is overstated. But offense-specific group violation rates are not necessarily indicative of the *total* group violation rate (i.e., the rate for all delinquent offenses, regardless of type), because some offenses are committed far more frequently than others. Gold (1970) found that the offenses most frequently committed by juveniles were precisely the ones most often committed in groups, from which he surmised that "youngsters more often commit those kinds of offenses which others will commit with them" (p. 83; see also Hindelang, 1976; Reiss, 1986).

In an extensive review of research on group delinquency two decades ago, Reiss (1986, p. 145, p. 152) concluded that "group offending is most characteristic of what we think of as juvenile delinquency, and characterizes juvenile careers . . . Solo offending is relatively uncommon at young ages and does not become the modal form of offending until the late teens or early twenties." These statements succinctly summarize the evidence on group delinquency, and it is important to note that the transition to lone offending mentioned by Reiss takes place at the very time that most offenders are aging out of crime. Adolescents ordinarily desist from crime by the time they reach their twenties, and although the small minority who persist appear to be predominantly lone offenders, it remains unclear whether they were *always* so, or were initially group offenders. Research by Reiss and Farrington (1991), however, suggests that diminished rates of co-offending among older offenders occur "primarily because individual offenders change and become less likely to offend with others," and not because of the "persistence of those who offend . . . alone" (p. 393).

### Features of Delinquent Groups

If delinquency is primarily a group phenomenon, what are the characteristic features of delinquent groups? How long do they last? Who, if anyone, is "in charge"? How many different groups do adolescents ordinarily belong to?

The most solidly established characteristic of offending groups is their size; nearly all studies show typical group sizes in the range of two to four members (Gold, 1970; Hood & Sparks,

1970; Reiss, 1986; Sarnecki, 1986; Shaw & McKay, 1931; Warr, 1996). It appears, furthermore, that group size diminishes with age; groups of four or more are not uncommon in late childhood and early adolescence, but gradually give way to triads and dyads in middle and late adolescence (Hood & Sparks, 1970; Reiss, 1986). Lone offending is most typical of adult offenders, presumably because, compared to the young, they are less apt to “require peer support” for criminal behavior (Reiss & Farrington, 1991, p. 376). Apart from their size, it is also well established that delinquent groups are predominantly unisexual, and they appear to be age homogeneous as well (Miller, 1974; Reiss & Farrington, 1991; Sarnecki, 1986; Stafford, 1984; Warr, 1996).

It appears that the small groups that commit most delinquent acts are often subsets of a larger group or clique (Klein & Crawford, 1967; Reiss, 1986; Sarnecki, 1986; Short & Stroudbeck, 1965), implying that delinquents commonly have a larger network of co-offenders than might be expected from the small size of offending groups.

Judging from the limited available evidence, delinquent groups are not highly stable, nor are they highly organized. Evidently, offenders do not ordinarily stay with the same accomplices over long periods of time, and they often belong to multiple offending groups or cliques at the same time (Reiss, 1986; Sarnecki, 1986; Warr, 1996). Within delinquent groups, role definitions and role assignments appear to be unclear and unstable (Klein & Crawford, 1967; Stafford, 1984; Yablonsky, 1959), and shifting membership makes such groups intrinsically unstable. Reiss (1986) has argued that the membership of delinquent groups is continually subject to change as a consequence of residential mobility, the incarceration of members, and shifts to conventional careers. The result is that “the membership of any group is volatile” and affiliations are “transitory” (Reiss, 1986, p. 130).

Although there is a tendency toward specialization, most offenders are not exclusively lone offenders or group offenders; rather, they have a history that includes instances of both solo and group offending (Reiss, 1986; Reiss & Farrington, 1991; Warr, 1996). Juveniles with high rates of offending typically have a larger pool or network of co-offenders than low-rate offenders, and high-rate offenders tend to affiliate with other high-rate offenders (Reiss, 1986; Sarnecki, 1986).

In an extensive study of group delinquency, Warr (1996) examined many of the aforementioned properties of delinquent groups using data from Martin Gold’s National Survey of Youth, a self-report survey of a national probability sample of persons aged 13–16. Special attention was devoted to three issues: the *longevity* of delinquent groups, the degree of offense *specialization* by groups, and the nature of *instigation* in delinquent groups. Warr’s rather lengthy list of findings was summarized in this way:

Most delinquent events are group events, and there is a strong tendency for offenders to exhibit a pattern as either a lone or group offender. Offenders typically commit offenses with only a small number of co-offenders, but they have substantially larger networks of accomplices, the size of which is proportional to the offender’s rate of offending. Offenders ordinarily belong to multiple delinquent groups over their careers and they change accomplices frequently; only rarely do delinquents commit more than a few offenses with the same accomplice. Members of offending groups are usually no more than one or two years apart in age and of the same sex, although females are more often found in mixed-sex groups than males. It is not unusual for offenders to repeat the same offense with the same group, but offenders are likely to change groups as they switch from one type of offense to another. Groups consequently exhibit greater offense specialization than do individuals.

Most delinquent groups contain an identifiable instigator, a person who is apt to be older (if only slightly), more experienced, and close to other members. Males almost always follow a male instigator, but although females are also likely to follow an instigator of the same sex, they are far more likely to follow males than *vice versa*. There is a fairly strong degree of role stability

within groups, but less so across groups. Most offenders have a history as both instigator and joiner, switching from one role to the other as they shift from one offense or group to another.

One the principal findings of Warr's study was the short life span of delinquent groups:

According to these data, delinquent groups are short-lived groups, so short-lived that it may make little sense to even speak of group organization. Indeed, if ordinary sociological criteria are brought to bear, it may make little sense to speak of delinquent *groups* at all, at least in any strict sense. The extreme instability of most delinquent groups means that offenders will normally have few opportunities to repeat their role in the same group and thereby develop a stable role structure. And the short life span of delinquent groups can scarcely be conducive to the establishment of group norms or a sense of group identity. Ultimately, the picture of delinquent groups that emerges from these data strongly resembles Yablonsky's (1959) famous characterization of delinquent gangs as "near groups," that is, social units that fall somewhere between organized groups and mobs or crowds. If a defining characteristic of a crowd is its impermanence or absence of history, then these data suggest that offending groups fall more toward the crowd end than the group end of the continuum.

Still another critical finding of the study was that persons who are instigators in one group are apt to be followers or joiners in another:

The fact that frequent delinquents behave as both instigators *and* joiners strongly suggests that instigation is not a consequence of some stable individual trait, but is instead a fundamentally situational phenomenon that arises from the interaction of group and individual characteristics. That is, adolescents evidently adopt the role that reflects their relative position in the group in which they are participating at the time. When Tom is with Randy and Mike, he is the oldest and most experienced of the three. In his other two male peer groups, he is the youngest. When Tom hangs out with his sister's friends, he is the only male. And so on.

If one were to briefly describe delinquent groups using this and other research, one might say that delinquent groups are small, shifting, short-lived, unorganized groups of young males. And according to Gold (1970) and others (Briar & Piliavin, 1965; Cairns & Cairns, 1994; Erez, 1987; Sarnecki, 1986), the delinquent behavior that takes place in such groups ordinarily shows little evidence of planning or forethought. This suggests that the motivation to engage in delinquency ordinarily arises *after* a group assembles and as a consequence of group interaction.

### The Importance of Groups

Few criminologists today would dispute the group nature of delinquency. The evidence for it is simply too strong to be dismissed. What some *would* dispute is the importance or meaning of this fact. To some criminologists, the group nature of delinquency is essential to understanding its etiology. The causal importance of peers, however, has been questioned by some scholars on the grounds that the companionship so evident in delinquency is true of most adolescent activities (see especially Kornhauser, 1978). Adolescents, they argue, are notoriously gregarious people; they do everything in groups, including breaking the law. Because the group character of delinquency does not distinguish delinquency from other, legal forms of adolescent behavior, it is argued, it remains unclear whether the group nature of delinquency has any causal significance at all.

The validity of this argument, however, is debatable. Even if most adolescent behavior – legal or otherwise – takes place in groups, it is not clear how that is a damning criticism of peer explanations of delinquency. Young people may be influenced by their peers in all categories of

behavior – music, speech, dress, sports, and *delinquency*. Indeed, recall that some major theories of delinquent peer influence (Akers, 1998; Sutherland, 1947) expressly argue that criminal behavior is learned from others in the same way that *all* human behavior is learned.

Causal questions about peer influence arise in another way, however. Proponents of peer influence commonly point to this fact: No characteristic of individuals known to criminologists is a better predictor of criminal behavior than the number of delinquent friends an individual has. The correlation between delinquent behavior and delinquent friends has been documented in scores of studies from the 1950s up to the present day (for reviews, see Matsueda, 1988; Matsueda & Anderson, 1998; Warr, 1996), using alternative kinds of criminological data (self-reports, official records, perceptual data) on subjects and friends, alternative research designs, and data on a wide variety of criminal offenses. Few, if any, empirical regularities in criminology have been documented as often or over as long a period as the association between delinquency and delinquent friends.

Those who doubt the importance of peer influence, however, do not question the correlation between delinquency and friends. Instead, they question its interpretation. Drawing on the venerable sociological principle of homophily (people make friends with people who are similar to themselves), they argue that the causal direction between delinquency and friends runs in the opposite direction from that implied by peer influence. People do not become delinquent because they acquire delinquent friends, in other words; they acquire delinquent friends after they themselves have become delinquent. The most acclaimed proponents of this position were the Glueck and Glueck (1950), who aptly and famously described their point of view with the aphorism “birds of a feather flock together.”

Today, however, a number of longitudinal studies support the causal direction favoring peer influence. For example, in a simple but telling investigation, Elliott and Menard (1996) examined the temporal priority between delinquent behavior and exposure to delinquent peers within cohorts of National Youth Survey respondents. They discovered that the acquisition of delinquent peers commonly precedes the onset of delinquency, supporting the notion of peer influence as a causal factor in delinquency.

Even if the acquisition of delinquent friends is necessary for the onset of delinquency, however, many criminologists reasonably maintain that the relation between delinquent behavior and delinquent peers *over time* is likely to be bidirectional or sequential. In other words, acquiring delinquent friends leads to delinquency, which increases the subsequent probability of acquiring still more delinquent friends. Thornberry (1987) posited such reciprocal effects in what he called his “interactional” theory of delinquency. In a test of that theory, he and his associates (Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994) concluded that “associating with delinquent peers leads to increases in delinquency via the reinforcing environment provided by the peer network. In turn, engaging in delinquency leads to increases in association with delinquent peers” (p. 74).

Similar evidence is provided by Matsueda and Anderson (1998), who offer a detailed and careful review of the issue. Still other evidence can be found in Meier, Burkett, and Hickman (1984); Burkett and Warren (1987); Paternoster (1988); Agnew (1991); Simons, Wu, Conger, and Lorenz (1994); Aseltine (1995); Fergusson and Horwood (1996); Kandel (1978); Krohn, Lizotte, Thornberry, Smith, and McDowall (1996); and Reed and Rountree (1997).

Some of the most compelling evidence on this matter comes from research by Cairns and Cairns (1994). In their longitudinal study of children in grades four through twelve, these

researchers examined socialization and selection effects with respect to a wide variety of characteristics. Summarizing their findings, they report that

There is strong support for the idea that selection and socialization cooperate over time, as far as our own observations are concerned. There is clearly a selection process, where children and adolescents affiliate on the basis of sex, race, and socioeconomic class. There is also a contagion effect, such that once the groups are formed, the "selected" behaviors are escalated for good or ill. The constraints on escalation typically operate from without, in the case of younger children and adolescents. Equally interesting, however, is the creation of novel behaviors within groups, and their transmission across members. This is a particular problem in the case of deviant groups (Cairns & Cairns, 1994, p. 117).

The Cairns characterize the social scientific literature on socialization and selection effects in this manner:

A systematic account of social clusters and friendships must take into account the powerful effects of reciprocal influence demonstrated in experimental studies and observational analyses. The message from these investigations is that reciprocal interactions lead to high levels of behavioral and attitudinal similarity, regardless of the initial status of the people involved. The evidence on adolescent group dynamics strongly points to the operation of both differential selection factors and reciprocal influences . . . Within the clusters of adolescence, strong reciprocal forces operate on all members toward conformity . . . Once in a group, there is conformity with respect to a broad spectrum of behaviors and attitudes, including shared linguistic and communication patterns, areas of worry and concern, and "lifestyle" characteristics. For many youth, the problem is to escape from synchrony with deviant or escalating values (Cairns & Cairns, 1994, pp. 128–129).

In a controversy similar to that over causal direction, some criminologists have asserted that the correlation between delinquent behavior and delinquent peers is simply a consequence of measurement errors or artifacts arising from self-report data. When asked to describe the delinquency of friends, they argue, individuals may impute their own behavior to their friends, for example, or impute friendship to people like themselves (see Gottfredson & Hirschi, 1990). Warr (1993) has raised a number of objections to these claims, however, Matsueda and Anderson (1998) have shown that the correlation persists even after accounting for measurement error. What many investigators also seem to overlook is that early studies demonstrating a correlation between delinquent behavior and delinquent peers relied on means other than imputational data (i.e., official records or self-reports obtained independently from respondents and friends – see Erickson & Empey, 1965; Hepburn, 1977; Reiss & Rhodes, 1964), as did a more recent study by Aseltine (1995). Consequently, it is difficult to ascribe the correlation to any alleged idiosyncrasies of self-report data. Whatever it may mean, the correlation between delinquency and delinquent friends seems robust with respect to method.

The persistence of causal questions about peer influence may reflect a larger issue in social science generally. Most social science is based on observational data rather than experimental evidence, making causal inference daunting and debatable. Ethical concerns, however, make it difficult to conduct truly experimental studies on peer influence. For example, one cannot simply place a group of college students in a maximum security prison and observe changes in those students, any more than one can place 50 state felons in a college dormitory and measure the outcome.

Two recent investigations, however, provide genuinely experimental evidence of peer influence. In one study (Gardner & Steinberg, 2005), adolescents and young adults participated in a video game on a laptop computer. In the game, subjects drove a car horizontally across the screen and had the option to either stop or proceed when they encountered a yellow light. Those who "ran" the yellow light risked losing their "life" and all of their accumulated game points. The investigators found that subjects were significantly more likely to run the yellow light when

peers were present than when they were alone. This peer effect was stronger among adolescents (those aged 13–16) and youth (18–22) than among adults (22 and older). Coincidentally, these findings may explain why the probability of a fatal accident in an automobile increases in direct proportion to the number of adolescents in the car (Chen, Baker, Braver, & Li, 2000).

In another study (Cohen & Prinstein, 2006), white male adolescent subjects were seated at a computer and were instructed to log onto an electronic computer chat room where they could interact with three other students from their high school. In reality, the three other peers were not logged onto the chat room; their presence was simulated by the experimenter. The investigators found that subjects were significantly more likely to endorse aggressive and risky behaviors when they were also endorsed by high-status peers (i.e., popular and accepted students) than by low-status peers. In fact, subjects attempted to distance their attitudes and behaviors from those of low-status peers in their school.

These two studies provide compelling evidence of peer influence using experimental methods in relatively naturalistic situations. They leave little room for doubt that peer influence is real, and that it can be very strong.

### Theories of Peer Influence

If peer influence is in fact real, exactly how does it operate? For example, do adolescents' adopt the attitudes and beliefs of their friends, or do they simply mimic their friends' behavior? Are adolescents most influenced by their current friends, or by those they had at younger ages? How long do peer effects last? Months? Years? Can adolescents be affected by peers they have never actually met (e.g., movie stars, pop figures, television actors)?

To many criminologists, the very idea of peer influence is synonymous with Edwin Sutherland and his famous theory of *Differential Association*. In 1939, the first explicit statement of this theory appeared in the third edition of *Principles of Criminology*, a popular textbook of the time. A revised and final version appeared in the fourth edition in 1947, three years before Sutherland's death. The latter statement of the theory took the form of nine propositions, each followed by brief elaborations or clarifications. The nine propositions were as follows:

1. Criminal behavior is learned.
2. Criminal behavior is learned in interaction with other persons in a process of communication.
3. The principal part of the learning of criminal behavior occurs within intimate personal groups.
4. When criminal behavior is learned, the learning includes (a) techniques of committing the crime, which are sometimes very complicated, sometimes very simple; (b) the specific direction of motives, drives, rationalizations, and attitudes.
5. The specific direction of motives and drives is learned from definitions of the legal codes as favorable or unfavorable.
6. A person becomes delinquent because of an excess of definitions favorable to violation of law over definitions unfavorable to violation of law.
7. Differential association may vary in frequency, duration, priority, and intensity.

8. The process of learning criminal behavior by association with criminal and anti-criminal patterns involves all of the mechanisms that are involved in any other learning.
9. While criminal behavior is an expression of general needs and values, it is not explained by those general needs and values since noncriminal behavior is an expression of the same needs and values.

The four words in proposition 1 (“Criminal behavior is learned”) are an explicit rejection of the dominant causal theories of crime in the late 19th and early 20th centuries, theories that primarily came to this country from Europe and that emphasized (especially in the work of Lombroso) physiological or hereditary factors in the etiology of crime (see Jones, 1986). Sutherland’s assertion that criminal behavior is learned rejected the inevitability that attaches to biological theories of crime and distanced criminology from the reactionary movements (eugenics, social Darwinism) that followed Darwin and that ultimately showed their worst excesses in Nazi Germany during Sutherland’s own lifetime.

The second proposition, which augments the first, asserts that learning is not a solitary process, but a *social* process. Persons come to crime not through purely personal or private experience, but through contacts with *others*. This bedrock tenet of Sutherland’s theory placed it squarely within the mainstream of sociological thought, where it remains today. The third proposition restricts the field of “others” to intimate associates. This qualification illustrates the strong emphasis placed on primary groups – families, friends, neighbors, co-workers – and face-to-face communication in sociological thought, and appears to reflect the impact of Charles Horton Cooley’s writings on Sutherland’s thinking (see Gaylord & Galliher, 1988).

In proposition 4, Sutherland asserts that the process of learning crime includes not only the acquisition of *motives* to commit crime but also knowledge about *methods* of committing crime. Some crimes, he noted, require little or no specialized training or techniques, while others require a considerable degree of sophistication. Sutherland’s (1937) attention to methods or techniques of crime evidently arose from his investigation of professional thieves, one that resulted in a classic work of criminology, *The Professional Thief*. The screenplay for the Robert Redford/Paul Newman movie *The Sting* relied on this book for details about confidence games (see Gaylord & Galliher, 1988).

Proposition 5 reveals the influence of Sutherland’s graduate studies with W. I. Thomas and George Herbert Mead. These influential scholars argued that human behavior is affected by the meanings or “definitions” (Mead’s term) that individuals place on objects, events, or acts, and they further asserted that these meanings are acquired through social interaction. In accordance with this view of human behavior, Sutherland proposed that it is the favorable or unfavorable meanings that individuals place on legal rules that constitute the critical content of learning when it comes to crime. In elaborating on this proposition, Sutherland (clearly influenced by Wirth) observed, “In some societies an individual is surrounded by persons who invariably define the legal codes as rules to be observed, while in others he is surrounded by persons whose definitions are favorable to the violation of the legal codes. In our American society these definitions are almost always mixed and consequently we have culture conflict in relation to the legal codes” (Sutherland, 1947, p. 6).

Proposition 6 is the heart of Sutherland’s theory and is sometimes referred to as the theory of differential association. The proposition sets forth the mechanism by which a person becomes delinquent: “A person becomes delinquent because of an excess of definitions favorable to violation of law over definitions unfavorable to violation of law.” Although it is usually taken literally,

it is not clear whether Sutherland actually meant the word “excess” to be understood in a mathematically literal way, as in a positive difference between two quantities. While at times he seemed to use the word in that fashion, such exactitude seems out of place for a theory described by its author as only “tentative” and from a man who was skilled in empirical research and statistical analysis (at least for the time) and was familiar with the inexactitude of much social scientific data. It may be that, in choosing his words, Sutherland was merely trying to draw attention to the balance between favorable and unfavorable beliefs about crime.

Proposition 7 attempts to identify the properties of relationships that are critical to differential association. By *priority* Sutherland meant the age at which associations occur, and he suggested that childhood associations are more influential than later ones. The meanings of *frequency* and *duration*, Sutherland (1947) stated succinctly, “are obvious and need no explanation” (p. 7). Yet it is not entirely clear what these terms mean in the context of his theory or how these concepts ought to be measured. For example, when exactly does an association end? Or begin? Unless questions like these can be answered precisely, the notion of duration has no clear meaning. *Intensity* was only vaguely defined by Sutherland as having to do with “such things as the prestige of the source of a criminal or anti-criminal pattern and with emotional reactions related to the associations” (p. 7). Apparently Sutherland had in mind the degree to which a person (i.e., the source of definitions) is liked and respected by his associates.

Sutherland (1947) believed that these properties of associations – priority, frequency, duration, and intensity – could ultimately be linked to behavior through a precise formula, although he admitted that “the development of such a formula would be extremely difficult” (p. 7). He himself offered no such formula, and he was silent when it came to some of the more obvious questions about these properties of relations. For example, which is more consequential for individuals, a short but extremely intense association, or a prolonged but less intense relationship?

In some ways, proposition 8 is the most philosophically profound of all the propositions in the theory of differential association. Evidently, Sutherland’s primary intention with this proposition was to answer critics’ charges that his theory was merely a restatement of Tarde’s theory of imitation (see Gaylord & Galliher, 1988) and, in fact, Sutherland (1947, p. 7) immediately followed this proposition with the statement that “the learning of criminal behavior is not restricted to the process of imitation.” Whatever its inspiration may have been, however, the proposition says something of great consequence: Criminal behavior is learned in the same way that *all* human behavior is learned.

In adopting this position, Sutherland rejected the tendency of many amateur criminologists (and even some professionals) to assume that criminals are an ontologically distinct category of human beings whose behavior requires separate or unique explanation from other forms of human behavior. Sutherland (1947) eschewed this point of view, even using as examples of his theory behavior that was not even remotely criminal (“a Southerner does not pronounce ‘r’ because other Southerners do not pronounce ‘r’” [p. 6]). More generally, he observed that “criminal behavior is part of human behavior. . . and must be explained within the same general framework as any other human behavior” (p. 4). So strong was Sutherland’s commitment to this point of view that he introduced the first published version of his theory with this statement:

The processes which result in systematic criminal behavior are fundamentally the same in form as the processes which result in systematic lawful behavior . . . Criminal behavior differs from lawful behavior in the standards by which it is judged but not in the principles of the genetic [causal] processes (Sutherland, 1939, p. 4).



Sutherland is not the only criminologist to insist on a general theory of human behavior to explain crime, but his stance was among the earliest and most forceful declarations of that position.

At first glance, the final proposition (number 9) seems almost to contradict the foregoing position because it maintains that the causes of criminal behavior cannot be the causes of noncriminal behavior. But there is no contradiction, for Sutherland's theory holds that it is the *mechanism* of learning – not the *content* of what is learned – that is the same for all forms of behavior. What differentiates criminal and lawful behavior is not how definitions are learned but *which* definitions are learned.

One general point about Sutherland's theory requires clarification because it is not stated in the propositions above. If individuals acquire definitions favorable to violation of law from others, where do those *other* individuals acquire those definitions? In other words, where do those definitions ultimately originate? Sutherland agreed with Wirth that the United States, a diverse land of immigrants, contains a variety of cultural traditions, some more favorable to or tolerant of crime than others. This mixture produces a state of *culture conflict*, or a society where different subgroups have different normative standards of behavior and where, as Sutherland (1939, p. 7) put it, "the criminal culture is as real as lawful culture and is much more prevalent than is usually believed." Viewed from the perspective of individuals, then, the proximate cause of criminal behavior is differential association. From a societal point of view, however, the ultimate cause of crime is culture conflict, for individuals are unlikely to adopt cultural standards that are not to be found in their society. In Sutherland's (1939) words,

Differential association is possible because society is composed of various groups with varied cultures. . . . It was possible to predict with almost complete certainty how a person reared in a Chinese village fifty years ago would behave because there was only one way for him to behave. The attempts to explain the behavior of a particular person in a modern city have been rather unproductive because the influences are in conflict and any particular influence may be very evanescent (pp. 7–8).

## Research on Differential Association

Warr (1993) examined the effects of priority and duration on self-reported delinquency at age 17 using data from the National Youth Survey. His preliminary analysis indicated that these two dimensions of friendships are not entirely independent. Why? Because adolescents who acquire delinquent friends are likely to retain them, and thus those who acquire such friends at younger ages (greater priority) will tend to have longer histories of delinquent friendships (greater duration). Hence the two elements cannot be regarded as entirely orthogonal components of differential association.

Further analysis indicated that duration has a substantial and statistically significant effect on delinquency. The effect of priority was also significant for three of the four offenses examined, but in all four cases the effect was *negative*, with recent rather than early exposure having the greatest effect on delinquency. This is exactly the opposite of Sutherland's prediction. Taken as a whole, Warr's findings can be summarized this way: The cumulative number of years in which an adolescent has delinquent friends has a positive effect on his or her current behavior. But among adolescents with the same duration of delinquent friendships, those who acquired delinquent friends *most recently* are those who are most prone to delinquency. Warr's findings regarding priority may surprise some, but it is consistent with modern social learning theory

(see below), with its emphasis on reinforcement, extinction, and modeling or imitation (e.g., Akers, 1985).

What is perhaps the single strongest piece of evidence in favor of differential association has already been mentioned: No characteristic of individuals known to criminologists is a better predictor of criminal behavior than the number of delinquent friends an individual has. The strong correlation between delinquency and delinquent friends has been documented in scores of studies dating from the 1950s up to the present day (for reviews, see Matsueda, 1988; Matsueda & Anderson, 1998; Warr, 1996), using alternative kinds of criminological data (self-reports, official records, perceptual data) on subjects and friends, alternative research designs, and data on a wide variety of criminal offenses. Few, if any, empirical regularities in criminology have been documented as often or for as long as the association between delinquency and delinquent friends.

Another point of evidence in favor of differential association has also been mentioned already. Adolescents (who commit a disproportionate share of all crimes) ordinarily commit offenses in groups, usually groups of the same sex that range in size from two to four individuals. The group nature of delinquency is one of the most solidly established features of delinquent behavior and has been repeatedly noted by criminological researchers since the 1930s (Reiss, 1986; Warr, 1996). The fact that most offenders commit offenses with companions rather than alone can be construed as evidence that individuals acquire the motivation and knowledge to engage in crime through interaction with others. There is nothing in Sutherland's theory that specifically *requires* delinquency to be group behavior, however. Although Sutherland stressed that delinquency is learned from others, at no point did he argue that others must be present during criminal events, and it is difficult to imagine that propinquity of that sort is absolutely essential to his theory. For example, who would argue that parents have an influence on their children only when they are physically together? Admittedly, the ability of parents to control their children is greatest when they are in their presence, but there is surely more to parental influence than mere physical control, and Sutherland clearly had more in mind than this kind of influence.

Perhaps the best that can be said about the group nature of delinquency at this point is that it is not inconsistent with differential association and that it is potentially important for the theory if it can be shown that learning methods or motivation for crimes ordinarily takes place within offending groups (for some evidence on this when it comes to smoking marijuana, see Becker, 1953). In the end, however, there is no denying that it would be easier to dismiss differential association as a theory *if* delinquent behavior were entirely the work of lone individuals.

Notwithstanding the evidence in favor of differential association, there is one aspect of Sutherland's theory that has consistently failed to receive support from research. Recall that Sutherland argued that individuals become delinquent because they acquire "definitions" (or attitudes) favorable to the violation of law through differential association. In essence, Sutherland was arguing that delinquency is the result of attitude transference, whereby the attitudes of one individual are adopted or absorbed by another. A number of studies over the last three decades, however, have consistently indicated that attitude transference is *not* the process by which differential association operates. For example, after noting that behavior and attitudes are not always consistent, Warr and Stafford (1991) report that the effect of friends' attitudes on adolescents is small in comparison to that of friends' *behavior*, and the effect of friends' behavior is largely direct, meaning that it does not operate through changing attitudes (see also Matsueda & Anderson, 1998). Consequently, it seems that adolescents are much more sensitive to the behavior of their friends than their attitudes.

If differential association is not a consequence of attitude transference, how then are people influenced by their associates? What precisely is the mechanism, if any, of differential association? Some possible answers come from modern social learning theory.

### Social Learning Theory

In 1966, Robert Burgess and Ronald Akers published an influential paper in which they restated Sutherland's theory of differential association in the terminology of operant conditioning, a rapidly developing branch of behavioral psychology associated with B. F. Skinner that emphasized the relation between behavior and reinforcement. In the intervening years, Akers has devoted his career to developing and testing a social learning approach to the explanation of crime, an approach that, like operant conditioning, emphasizes the role of reinforcement (both positive and negative) in criminal behavior:

Whether individuals will refrain from or initiate, continue committing, or desist from criminal and deviant acts depends on the relative frequency, amount, and probability of past, present, and anticipated rewards and punishments perceived to be attached to the behavior (Akers, 1998, p. 66).

Social learning theory benefits from and builds upon the enormous theoretical and empirical development that took place in behavioral psychology during the second half of the twentieth century. As its name implies, what most distinguishes social learning theory from other learning theories is its sensitivity to the *social* sources of reinforcement in everyday life. Capitalizing on the work of Albert Bandura, Akers, and others, social learning theory emphasizes interpersonal mechanisms of learning such as imitation (modeling or mimicking the behavior of others) and vicarious reinforcement (observing how other people's behavior is rewarded), as well as direct reinforcement, in the acquisition of behaviors. Thus, an adolescent may adopt the delinquent behavior of his friends (e.g., smoking, theft, drug sales) through imitation, because he observes the adult status it confers on them in the eyes of others his age (vicarious reinforcement), because it brings rewards like sexual attractiveness and money (direct reinforcement), and because participating in those activities gains him the admiration and respect of his friends (direct reinforcement). This example is an oversimplification, to be sure, because social learning theory focuses on the schedules, quantities, and probabilities of both reward and punishment (see Akers, 1998, pp. 47–89), but it serves to illustrate the broad features of the theory.

Much of the beauty and elegance of social learning theory lies in its generality. Like Sutherland's theory of differential association, it purports to explain legal as well as illegal conduct. And because it uses the same principles to explain all forms of crime, it does not entangle criminology in a thicket of narrow, offense-specific theories of crime.

The empirical evidence supporting social learning theory is extensive and impressive (see Akers, 1998). However, it is disproportionately concentrated on tobacco, alcohol, and other drug use, and on relatively minor forms of deviance (e.g., cheating). The evidence for the theory, consequently, can best be described as positive and promising, but somewhat limited in scope. Ultimately, it may prove to be the case that differential association can be wholly or partially subsumed under social learning theory. If so, it would not diminish the historical impact of Sutherland's work on criminology or sociology, and it would be consistent with Sutherland's search for a general theory of human behavior that would explain legal behavior as fully as illegal behavior.

## Companions in Crime

In a recent book entitled *Companions in Crime*, Warr (2002) identified a number of possible mechanisms of peer influence, some of which are quite consistent with social learning theory. What follows is a brief description of each of these mechanisms.

**FEAR OF RIDICULE.** Ridicule is a mechanism of social control in most human societies (Bierstedt, 1957). Although it is often expressed verbally, ridicule may also be conveyed through facial expressions, gestures, laughter, or writing. The very nature of ridicule is to express contempt or derision for the actions of another, and often, in so doing, to call into question his or her fitness for membership in a group (a family, a club, a gang, a clique of friends).

Savin-Williams (1980; see also Eder & Sanford, 1986) found ridicule to be the single most common “dominance” mechanism among the young males he observed, far exceeding threats, physical contact, commands, noncompliance, verbal battles, or other mechanisms. Beyth-Marom, Austin, Fischhoff, Palmgren, and Jacobs-Quadrel (1993) asked adult and adolescent subjects to list possible consequences of either accepting or declining to engage in risky behaviors (e.g., smoking marijuana, drinking, and driving). The reaction of peers was the most frequently cited consequence (mentioned by 80–100% of respondents across situations) of *rejecting* a risky behavior (e.g., “They’ll laugh at me”), but was much less salient as a reason for *performing* the behavior (“They’ll like me”). Avoiding ridicule, it seems, is a stronger motivation for deviance than a desire to ingratiate.

For adolescents, the sting of ridicule is heightened by the fear of rejection that plagues many youth, and the enormous importance that adolescents place on peer acceptance (Coleman, 1974, 1989). It is through peers that young persons first establish an identity independent of their family of origin, an identity whose very existence ultimately rests in the hands of *other* people. By risking ridicule, adolescents are in effect risking their very identity, a prospect that few would wish to entertain. If maintaining that identity entails an occasional foray onto the other side of the law to avoid peer rejection, it may seem a small price to pay to maintain such a valuable possession.

In the modern world, ridicule is often transmitted by adolescents via text messaging, e-mail, cell phones, and other electronic media, and these communications sometime have the added feature of being anonymous, hiding not only the source of the message(s) but the number of people transmitting them. Such messages can be particularly disturbing to recipients because they imply organized or widespread disapproval by others. The shift of peer relations onto the internet and other electronic media (e.g., massive online gaming) is part of what Warr (2002) has dubbed the “virtual peer group.”

**LOYALTY.** Loyalty is a virtue and an element of friendship that is readily appreciated by most individuals. To remain steadfast to a friend when there are pressures to defect is a cultural motif as old as the Last Supper.

There is reason to believe that loyalty plays a particularly important role in interpersonal relations among adolescents. Adolescent friendships are *formative* friendships. They are the first

tentative efforts to define an identity outside the family, an identity that may be of enormous importance to a youngster emerging into a new phase of life and a new social world, and an identity whose very newness makes it fragile. Among the most important elements of friendship identified by adolescents is loyalty:

In describing the nature of friendship, adolescents typically mention two features not commonly found in children's descriptions. First, friends must be *loyal* to one another; they should not "talk about you behind your back." Commitment and genuineness in attitudes, values, and interests are demanded. (Savin-Williams & Berndt, 1990, p. 278) [Author's note: the other essential element is *intimacy*.]

When it comes to delinquency, loyalty means more than simply not "ratting" on one's friends. It often means engaging in risky or illegal behavior in which one would not otherwise participate in order to preserve or solidify a friendship. Loyalty can be a potent means of demonstrating friendship, and sharing risky behavior provides an excellent opportunity to prove one's loyalty and seal a friendship (Schwartz, 1987). In a study using national survey data from young people, Warr (1993) found that adolescents were more likely than other age groups to say that they would lie to the police to protect their friends.

Loyalty also provides a form of *moral cover* for illegal conduct. It invokes a moral imperative that supersedes or nullifies the moral gravity of the criminal offense. Yes, I took part in the robbery, but I did so out of loyalty to Sonny, who would have done the same for me. As a universally recognized virtue, loyalty imparts legitimacy to otherwise illegitimate acts and confers honor on the dishonorable.

**STATUS.** The term "status" denotes prestige or respect within a group. A tendency to establish status hierarchies in groups seems to be a feature of all primate species, according to Savin-Williams (1980). He reports that young males randomly assigned to a summer camp cabin formed a stable dominance hierarchy within hours after meeting, and that contests over status declined rapidly once the hierarchy was formed. Other research corroborates the claim that status hierarchies form rapidly in human groups (see Levine & Moreland, 1990), and it appears that one of the primary objectives of people when participating in groups is to avoid status loss (Cohen & Silver, 1989; Troyer & Younts, 1997).

In one of the earliest and most influential efforts to understand gang delinquency, Short and Strodbeck (1965; see also Short, 1990, 1997) emphasized the role of "group process" in the gang, by which they primarily meant efforts to earn or maintain status in the gang. Using observational data on Chicago gangs, the authors provided numerous accounts of how gang members sought to acquire status or to fend off threats to their existing status. For example, a gang leader who had been away in detention for some time reestablished his status upon returning to the gang by intentionally provoking a fight with members of a rival gang. In another instance, an influential gang member, after losing a prestigious pool tournament to another clique of the gang, robbed and assaulted a stranger along with some of his team members. The offense seemed to defy any economic or other explanation at the time, but because robbery was a source of status within the gang, Short and Strodbeck (1965) concluded that "Gary's action was specifically

related to his need for status reaffirmation following the perceived loss in connection with the pool tournament” (p. 193).

The importance of status in explaining adolescent group behavior can only be appreciated by realizing how precious and fragile a commodity status is among adolescents. Industrial societies deny adult status and its perquisites to adolescents until long after physical maturation has occurred, creating a “maturity gap” (Moffitt, 1993) that persists for years. For many adolescents, the only potential source of status in their lives lies in the world of their age-peers, and the need for acceptance and validation in those relationships can be very strong.

If adolescence carries with it a general problem of status deficiency, imagine what it means to be an adolescent *and* a member of a minority group *and* to live in an economically depressed area. That is the social world described so eloquently and chillingly by Elijah Anderson (1994) in the *The Code of the Streets*, an essay on the social rules of the ghetto (see also Anderson, 1999). In the inner city world he recounts, where status is virtually the only possession that many young persons can claim, there is no greater offense than “dissing” (disrespecting) another, especially in front of others, and the penalty for doing so is often immediate injury, even death. The profound importance placed on respect means that “something extremely valuable is at stake in every interaction” (Anderson, 1994, p. 92), and consequently even subtle and unintended slights can provoke savage reactions.

Muuss (1980) has offered what may be the most trenchant and succinct description of status in adolescent groups:

The reward system of the peer group (social acceptance, status with the opposite sex, and prestige) appears to be more potent than that of parents and teachers and sometimes even the law. Hence, an individual may feel that the possibility of injury or legal sanctions or even death is preferable to not being accepted by one's peers (p. 175).

## Crime as Collective Behavior

One of the varieties of human behavior that attracts the attention of both sociologists and psychologists is known as *collective behavior*. This category of behavior encompasses the sometimes strange, occasionally violent, and seemingly spontaneous behavior of crowds (riots, panics, looting, mob action, stampedes) as well as other phenomena that involve large numbers of people (the spread of rumor, mass hysteria, financial panics).

Central to the notion of collective behavior is a simple but profound principle familiar to students of sociology and social psychology for more than a century, to wit, that people will commit acts when they are with others that they would never have committed *if they had been alone* (McPhail, 1991). Persons who could not imagine themselves engaged in looting, vandalism, or attacks upon the police may find themselves doing just such things in a crowd situation, only to return to “normal” behavior afterward. At a more quotidian level, someone who would not ordinarily curse or drink alcohol in everyday life may do so at a party or other social occasion.

One of the ways in which crowds appear to affect individuals is by diffusing the moral responsibility for illegal activities. Moral objections – whether internal, external, or both – ordinarily form a barrier or impediment to criminal behavior (e.g., Wilson & Herrnstein, 1985). According to both sociological and psychological accounts of crowd behavior, one of the primary mechanisms by which crowds remove restraints on behavior is by diffusing the moral responsibility for blameworthy acts. The ethical imperatives that would ordinarily require one to

refrain from taking another's property or intentionally damaging a vehicle (or, conversely, that would compel one to help an injured person) can lose their force in situations where the moral responsibility for the act is divided among multiple parties.

The diffusion argument seems especially pertinent for explaining criminal conduct because of the extraordinarily grave moral nature of many criminal acts. Much like physical objects, acts whose moral weight would be difficult for any one individual to bear can be borne much more easily by a group – even a small group. Having even a single co-offender, after all, allows one to shift a substantial portion of the blame, perhaps most of it, to another person. For those who cannot bear the moral weight of their own behavior, the group offers a relief from the burden.

There is another reason why the diffusion argument may be important when it comes to delinquent groups. In most delinquent events involving groups, there is an instigator or leader in the group – that is, one who suggests or promotes the offense – and that instigator is frequently older (and rarely younger) than others in the group (Warr, 1996; see also Emler & Reicher, 1995; Shannon, 1991). The age difference between instigators and joiners is often small, to be sure, but in the world of adolescents, where a single year can make the difference when it comes to driving a car, buying alcohol, or entering high school, small differences in age are often magnified greatly. To younger members of a group, having an older person present who proposes or encourages the offense may lift much of the moral responsibility from their shoulders while simultaneously granting “adult” legitimacy to their activities (see Moffitt, 1993). In the United States, where adolescent culture is highly age-graded and age-conscious, the greater privileges, experience, resources, and freedom that older adolescents enjoy make them potentially powerful targets of emulation and adulation by younger adolescents (Caspi, Lynam, Moffitt, & Silva, 1993).

### **The Group as Moral Universe**

The collective behavior approach to delinquency maintains that groups affect individuals by exempting them, if only momentarily, from the moral code that governs the larger society. There is another way, however, by which individuals may escape or counter the moral rules of their society. As social scientists have long realized, it is sometimes the case that groups *create* their own moral climate; they define what is acceptable behavior within their own self-contained social system. By creating their own ethical reality, they nullify the cultural definitions that exist outside the group and that may control the behavior of those very members in situations away from their companions.

Sociologists and anthropologists ordinarily attribute moral systems to large social units – societies, ethnic or regional subcultures, religious denominations, social movements, and the like. But moral codes emerge whenever two or more individuals enter into social collaboration: a marriage, a partnership, or a friendship. Under such circumstances, the moral “I” is subsumed into the moral “we,” and emerging rules of conduct become “our” rules. In joining and sharing their lot with others, individuals establish a new and exclusive moral pact.

The influence of peers on moral judgment may be particularly acute during adolescence because this period of life coincides with an important stage of moral development. As their store of social experience increases, young people ordinarily come to be aware of the inter-group relativism of moral codes (e.g., Kohlberg, 1964). They recognize that what is permissible in one group (with their cousins, classmates, church friends, or Saturday night friends) may not be

appropriate in another. The result is an expanding appreciation of the relativity of standards of conduct.

In a fascinating study of peer influence on moral development, Devereux (1970) found that “children who said they preferred peers to parents and groups to friends, as spare-time associates, and the children who reported actually spending a good deal of time with a gang of friends were much more likely to say they would yield to peer pressure in such situations,” (p. 109) and he concluded that such adolescents are “low on the ability to hold to internalized values when under peer pressure for deviance” (p. 106).

What makes the research described by Devereux (1970) so intriguing is not simply the apparent strength of peer influence, but the mechanism that seems to underlie it: “Our data indicated that gang [peer] association apparently functioned to *lower feelings of guilt*. . . Children with extensive gang experience . . . score consistently lower on our measure of guilt following transgression” (pp. 118–119, 130; emphasis added). Association with peers, it seems, relieves young people from the moral strictures of the adult world, at least in some spheres of behavior. Thus, it is not surprising when Devereux (1970) concludes that “all these findings might be interpreted to mean that peer-group experience constitutes a major roadblock for the moral development of children” (p. 137). And he laments that “as the child grows older . . . the hold of the peer group increases at the expense of the family” (p. 137).

The moral support (quite literally) that adolescents can often expect from their peers is evident in self-report data gathered by Lyle Shannon (1991) from two birth cohorts of young males in Racine, Wisconsin. When asked the question, “What did your friends think about the behavior that got you into trouble with the police?,” the most common response from these males was that their friends did not see anything wrong with it. For example, 58% of respondents in the combined cohorts whose friends knew of the behavior gave that response about the first reported offense. Another 30% said that their friends had no reaction to the behavior.

Even outside their circle of friends, young people are unlikely to face moral condemnation from their age-peers. Jensen and Erickson (1978) asked Arizona adolescents what would worry them most if they committed an offense and were “caught and taken to juvenile court.” Concerns about parental reactions and about college or job prospects were among the most frequently mentioned worries, whereas fear that “other teenagers might think badly of you” was among the least-cited concerns. One interpretation of this finding is that peer reactions do not mean much to adolescents, but in light of earlier evidence on the importance of peer evaluations at these ages, a more plausible interpretation is that adolescents simply do not anticipate negative reactions from their peers when they break the law.

### Mechanisms of Consensus

There appear to be social processes operating in adolescent groups that are likely to either (a) generate normative consensus in the group, (b) generate the appearance of normative consensus in the group, or (c) encourage behavioral compliance regardless of any normative (dis)agreement in the group.

What are these mechanisms? There is evidence from social psychology that people ordinarily equate *liking* and *agreement*. Citing the work of Heider (1958) and others, Kiesler and Kiesler (1970) maintain that there is a “tendency on the part of people to perceive that they should somehow agree with those they like and like those with whom they agree” (p. 67). One upshot of this



principle is that strong emotional attraction between two or more adolescents can induce genuine attitudinal change as individuals seek to reconcile their beliefs with their feelings for others. This means that even in peer groups where members initially hold disparate moral positions or conflicting stances on factual matters (e.g., the long-term risks of drug use), there is likely to be movement toward consensus in the group.

Another implication of the liking/agreement principle is that people may *feign* agreement with others in order to be liked, because “we apparently think that if we act somewhat like others, they will like us more” (Kiesler & Kiesler, 1970, pp. 42–43). In a fascinating book entitled *Ingratiation*, Jones (1964) employed Goffman’s (1959) dramaturgical approach to social interaction and offered experimental data to show how people often feign agreement or approval in order to secure attraction or other benefits. As Jones (1964) put it, “although the ingratiation’s own perspective differs from the target person’s, he gives signals indicating that he shares the latter’s definition of the situation” (p. 4).

In adolescent groups, whose members commonly share a compelling desire to *be* liked, outward agreement may be used to achieve acceptance by the group, even when there is no overt pressure to agree. Consequently, what appears to be genuine consensus to outsiders and to other members of the group may be merely pseudo-consensus, the illusion of unanimity. Nevertheless, pseudo-consensus of this kind may be as effective in promoting group behavior as genuine consensus, because its existence is known only to (and cannot be revealed by) those who dissent. Matza (1964) spoke of this situation when he described delinquency as a “shared misunderstanding” in which “each member believes himself to be an exception in the company of committed delinquents” (p. 52). The idea of a shared misunderstanding seems especially suitable for describing the kind of unifying but false consensus sometimes found in delinquent groups.

Another mechanism that can produce ostensible or actual normative consensus in a group (as well as behavioral compliance) is identified by Kiesler and Kiesler (1970). They maintain that members often fulfill the expectations of the group for the simple reason that “the continuation of the group will be ensured” (Kiesler & Kiesler, 1970, p. 33). The importance of peer relationships to adolescents means that they may be willing to feign or even adopt certain beliefs if that is necessary to perpetuate a group in which they find the acceptance they desire.

### Other Mechanisms of Peer Influence

In addition to the foregoing, Warr (2002) identified several other mechanisms of peer influence. These include the relief from *boredom* that peers often supply for adolescents, the role of *drugs* in encouraging youth to hang together and engage in deviance, and a reliance on peers for *protection* in environments that are dangerous (e.g., schools or neighborhoods where violence is ubiquitous).

## CONCLUSION

This chapter has argued that peers and peer influence are important causal elements in crime and delinquency. Not only are peers normally present during delinquent events, but peer relationships have their greatest impact during adolescence, the life-course phase in which deviant behavior is most prevalent.

To truly understand delinquent behavior, therefore, it is essential to understand the social context in which it takes place. Trying to understand delinquency without considering its social nature is a little like analyzing classical dance by studying one member of a dance troupe. It may occasionally make sense, but it ignores the most essential features of the undertaking.

Although the mass media often portray criminals as “loners” or social isolates, criminal behavior is for most participants quite the opposite. In our society, as in most, the lives of adolescents are densely intertwined, and criminological theories that fail to acknowledge or appreciate that fact are likely to prove deficient.

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## CHAPTER 20

# **The Many Ways of Knowing: Multi-Method, Comparative Research to Enhance Our Understanding of and Responses to Youth Street Gangs**

DANA PETERSON

What are the ways we know what we know? What are the various sources of information, how do we interpret them, and how do their sometimes disparate stories fit together? My goal in this chapter is to highlight what I see as needs in future youth gang research, in the areas of both the nature of youth gangs/gang members and our societal responses to them. While this is by no means meant to be an exhaustive account of the state of youth gang research, readers will get a sense of our current knowledge about these issues through the discussion.

This chapter is divided into two main sections, with the first reviewing selected examples from our knowledge about youth gangs and gang members in the United States to provide the background and foundation for where we should go next in expanding our knowledge base. The second section addresses the issue of responding to youth gangs and their members, using examples to demonstrate our state of knowledge about what works and how we should move forward. These sections are constructed on the foundation of the research with which I am most familiar: two national evaluations of the Gang Resistance Education and Training (G.R.E.A.T.) program, conducted by Finn Esbensen and his colleagues, including myself and the Eurogang

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Research Program, of which I am an active member. I use examples from this collaborative work to illustrate what is known and what can be learned from self-reported data from juveniles, how such information fits into the larger picture of youth gangs afforded when we examine the issues across various sources of data, and why multi-method, comparative research, including experimental evaluations, will enhance our knowledge of youth street gangs and how to respond to them. To set the stage, then, brief descriptions of these research endeavors are in order, with further detail found later in the chapter.

## EVALUATIONS OF G.R.E.A.T.

The National Evaluation of G.R.E.A.T. (hereafter “G.R.E.A.T. I”), conducted from 1995 to 2001, was funded by the National Institute of Justice (NIJ)<sup>1</sup> to study the effectiveness of a school-based gang prevention curriculum taught by law enforcement officers. Findings from this first evaluation (Esbensen & Osgood, 1999; Esbensen, Osgood, Taylor, Peterson, & Freng, 2001) contributed in part to a re-writing of the curriculum and a revised program that is currently undergoing another NIJ-funded longitudinal evaluation.<sup>2</sup> The second evaluation, the process and outcome evaluation of G.R.E.A.T. (hereafter “G.R.E.A.T. II”), began in 2006 and will continue until 2011 (see Esbensen, Melde, Taylor, & Peterson, 2008).

Both of these evaluations have multiple components. In G.R.E.A.T. I, a process evaluation included observations of G.R.E.A.T. officer training and classroom delivery of the G.R.E.A.T. program (Sellers, Taylor, & Esbensen, 1998); in a cross-sectional outcome study, almost 6,000 8th-grade public middle school students in 11 cities completed self-report questionnaires (Esbensen & Osgood, 1999); in a longitudinal panel study, over 2,000 public middle school students, 7th graders (6th in one site) at outset of the evaluation, in 6 cities completed pre- and post-tests and four annual follow-up surveys (Esbensen et al., 2001); finally, surveys were conducted with school personnel (Peterson & Esbensen, 2004), law enforcement officers (Taylor & Esbensen, 2002), and parents.

G.R.E.A.T. II has similar components. The process evaluation consists of numerous observations of G.R.E.A.T. officer training sessions, to learn how officers are taught to deliver the program, as well as over 500 classroom observations in both experimental and control classrooms, to observe whether the officers delivered the lessons as they were trained, and whether there were any differences between experimental and control classrooms that might affect results in the outcome evaluation (Leugoud, Brick, & Esbensen, 2008). The outcome evaluation, in which classrooms within schools were randomly assigned to experimental and control conditions, is a longitudinal panel study of approximately 3,800 students in 31 public middle schools in seven diverse cities across the United States. Self-report data are being collected annually over a 5-year period to determine short- and long-term program effects. We have also conducted anonymous

<sup>1</sup> Award #94-IJ-CX-0058, National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view expressed in this chapter are those of the author and do not necessarily represent the official position of the U.S. Department of Justice.

<sup>2</sup> Award #2006-JV-FX-0011, National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view expressed in this chapter are those of the author and do not necessarily represent the official position of the U.S. Department of Justice.

self-report surveys of middle school personnel and G.R.E.A.T.-trained officers in the seven cities, as well as interviews with the study schools' G.R.E.A.T. officers and their supervisors (Carson, Taylor, & Peterson, 2008). A few key methodological aspects differentiate the two evaluations: first, G.R.E.A.T. I utilized a quasi-experimental design because random assignment to treatment and control conditions was possible for only 15 of the 22 schools, while G.R.E.A.T. II adheres to a randomized experimental design. Second, the active consent rate in G.R.E.A.T. I was 57% (with 33% of parents neglecting to return a form at all), while in G.R.E.A.T. II, our procedures yielded a quite pleasing 79%<sup>3</sup> active consent rate (Esbensen et al., 2008), which means greater representation of students in these schools.

Data collected from students in the cross-sectional and longitudinal G.R.E.A.T. I studies have allowed many analyses that increase our knowledge about youth gang members and the effectiveness of the program itself. Broad-based studies such as these that are based on individual-level data have much to contribute,<sup>4</sup> but it is also the case that they provide just one piece of the picture. Data collected in other ways from other sources supply additional pieces, and combining this knowledge gained from multiple methods and sources enhances our understanding of youth street gangs and their members so that we can better address them. This is where Eurogang comes in.

## EUROGANG RESEARCH NETWORK

The Eurogang Research Network (also called the Eurogang Research Program or the Eurogang Network) is comprised of scholars and some practitioners mostly from Western Europe and the United States, but including Canada, Australia, Russia, and others, who have developed a common research framework with standardized instruments to be used in comparative, multi-method research on street gangs. We have three primary objectives in mind:

- (1) to build a foundation of knowledge regarding the European socio-economic conditions and institutional processes that foster or curtail the emergence and persistence/dissolution of youth gangs and problematic groups;
- (2) to construct an infrastructure for comparative, multi-method, cross-national research on youth violence in group contexts; and
- (3) to disseminate and effectively utilize knowledge to inform the development of effective local, national, and international responses to emerging youth crime and violence issues (<http://www.umsl.edu/~ccj/eurogang/euroganghome.htm>).

Although the Eurogang Network has not yet obtained funding to implement the full complement of research instruments in multiple sites, individual Eurogang members have engaged in collaborative efforts, including conference presentations (e.g., Winfree et al., 2007),

<sup>3</sup> The addition of two schools after the publication of this article resulted in a 78% consent rate overall.

<sup>4</sup> Some gang scholars would not agree and are, in fact, dismissive of such quantitative endeavors. My view is that there is a place for scientifically sound research of a variety of types because each has its own merits and limits and because only by considering street gang issues from all of these methods and from different perspectives can we truly grasp the nature of the phenomenon.

publications comparing various sites using similar methods (e.g., Esbensen & Weerman, 2005; Huizinga & Schumann, 2001; van Gemert & Fleisher, 2005; Weerman & Esbensen, 2005), and three edited collections of research by network participants: *The Eurogang Paradox* (Klein, Kerner, Maxson, & Weitekamp, 2001), *European Street Gangs and Troublesome Youth Groups* (Decker & Weerman, 2005), and *Street Gangs, Migration, and Ethnicity* (van Gemert, Peterson, & Lien, 2008). In addition, the core Eurogang Youth Survey items have been incorporated into the International Self-Report Delinquency Project 2, meaning widespread implementation that will facilitate many cross-national comparisons. The next step for Eurogang scholars is the implementation of all of the instruments in multiple, cross-national sites (Klein, 2008), and it is hoped that this chapter can help stimulate that effort. With these basic introductions in mind, we turn now to discussion of youth street gangs,<sup>5</sup> their members, and responses to them.

## YOUTH GANGS AND YOUTH GANG MEMBERS

We have amassed in the United States over a century of research in both qualitative and quantitative traditions, providing us with depth and breadth of knowledge, all pieces of the puzzle. Many of these pieces, however, are isolated and do not fit neatly into a coherent picture. This is due not (necessarily) to the quality of the research, but rather, as others have also noted, to differences in research methods, measures, samples, locations, and, potentially, time periods. In his most recent book, Sudhir Venkatesh (2007) notes the oft-described “divide” between two sociological (or criminological) “camps,” quantitative and qualitative. It is no secret that there is disrespect by some members of both sides for each others’ work, but my position is that we are all better off for each others’ perspectives and approaches, and I would like to see more collaboration between the traditions. Case studies of one gang (or more) in one city or extensive interviews with selected gang members provide us with a depth of understanding about such important matters as group dynamics and processes, but have perhaps limited generalizability. Quantitative studies provide us with breadth of knowledge, allowing, for example, comparisons of gang to non-gang youths and sometimes comparisons across cities or other contexts, but they do not allow for in-depth exploration of these differences. Further, because they often use different samples (age, race/ethnicity, gender, high-risk vs. general; school based vs. community based, etc.) and different measures (including what is a gang/gang member), the results are not necessarily or easily comparable across studies.<sup>6</sup> Despite these limitations, we have built quite a body of knowledge about youth gangs and gang members in America.

<sup>5</sup> In this chapter, the terms “youth gang,” “youth street gang,” and “street gang” are used interchangeably. Although the studies described in this chapter utilize varying definitions of “gang,” my conceptual focus is on groups that meet the Eurogang definition: “A gang (or troublesome youth group) is any durable, street-oriented youth group whose involvement in illegal activity is part of their group identity.”

<sup>6</sup> Exceptions include the Rochester Youth Development Study, the Pittsburgh Youth Study, and the Denver Youth Survey, which were developed with some comparative analyses in mind; thus, the research instruments contained some common measures. There were, however, differences in sample selection: while they all sampled in high-risk neighborhoods, RYDS oversampled males and PYS sampled only males. The G.R.E.A.T. evaluations adopted some measures from the DYS, but methods and samples differed across the studies, limiting comparability of findings.



This section is not intended to provide a thorough overview of that knowledge;<sup>7</sup> instead, key findings from the research will be highlighted to illustrate the usefulness of and need for multi-method, comparative gang research to move us forward in our understanding of the youth gang phenomenon. I am certainly not the first, nor the most influential, gang scholar to argue for this. Rather, I take the perspective that the more voices we have arguing for it, the better the chance that our collective voices will be heard, not only by other researchers but also by those who fund programs and research.

There are numerous myths and misconceptions (or “conventional wisdoms,” as Klein & Maxson, 2006, p. 90 refer to them) about youth gangs and gang members, perpetuated in large part by various sources of public information about gangs and their members (see, e.g., Esbensen & Tusinski, 2007; Tovares, 2002).<sup>8</sup> Media—through news clips, films, and music videos, for example—often portray gangs as highly organized, violent, drug-trafficking groups located in inner cities; gang members are minority males who display wealth and power through violence and material possessions such as jewelry, cars, and guns, as well as by the number of attractive females with whom they associate. Tovares’ (2002) study of news portrayals, however, concludes, “The Mexican American youth gang as it appears on local television news is a myth” (p. 163). Myth or not, these images of Hispanic and African-American street gangs have been exported by global media and communications, perpetuating stereotypes and misconceptions. To what extent do these media images represent “the youth gang problem”?

Information from law enforcement and qualitative studies of specific gangs or cities often feed these portrayals, not because they intend to stereotype but because of the nature of their data and samples. Law enforcement data often include a greater proportion of older than younger adolescents, minority than non-minority youths, and male than female youths. This is due in large part to law enforcement focus on more serious criminal offending and more crime-prone areas. In addition, researchers seeking in-depth studies of youth gangs and gang members logically select locations in which gangs or gang members are likely to be found (e.g., inner cities, with high proportions of Hispanic or African-American residents) or they select specific gangs themselves as units of study (Esbensen & Peterson Lynskey, 2001). Of course, the organized, violent and/or drug-peddling gangs and wealthy gang members that are described in media sources and some of these rich qualitative studies do exist, but are they the norm?

A different, complementary picture of youth gangs and their members is found in our G.R.E.A.T. evaluation research on youths’ self-reported attitudes and behaviors (e.g., Esbensen & Deschenes, 1998; Esbensen & Winfree, 1998; Freng & Esbensen, 2007; Freng & Winfree, 2004; Peterson, Miller, & Esbensen, 2001; Peterson, Taylor, & Esbensen, 2004; Taylor, Freng, Esbensen, & Peterson, 2008; Taylor, Peterson, Esbensen, & Freng, 2007) and in the Denver Youth Survey (e.g., Esbensen & Huizinga, 1993; Esbensen, Huizinga, & Weiher, 1993), the Rochester Youth Development Study (e.g., Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003), the Seattle Social Development Study (e.g., Battin, Hill, Abbott, Catalano, & Hawkins, 1998; Hill, Howell, Hawkins, & Battin-Pearson, 1999), and others. Compared to ethnographic and other qualitative research, these studies use more general samples of youth drawn from schools

<sup>7</sup> Readers can find fairly comprehensive overviews in a number of publications, including Franzese, Covey, and Menard (2006); Howell (1998); Klein (1995); Klein and Maxson (2006); Spergel (1995).

<sup>8</sup> Readers are also referred to Howell (2007), who effectively refutes a number of additional commonly held misperceptions about American youth gangs and gang members.

or neighborhoods, resulting (as a whole) in greater geographic, gender, and racial/ethnic diversity and in a younger age range. This affords the opportunity to explore prevalence, patterns, and nature of gang membership. Illuminating the range of youth gangs and gang members is important to combat public stereotypes, both in the United States and beyond, as well as to develop appropriate policies and programs in response. What does self-report research tell us about young gang members, and how would a multi-method and comparative approach extend that knowledge? Below, we examine these questions by looking at gang member demographics, reasons for joining, violence and victimization, and “global” issues.

### **Youth Gang Members Reflect Their Communities**

Law enforcement agency surveys estimate that African-Americans (nearly 50%) and Hispanics (approximately 35%) comprise the greatest proportion of gang members, while Whites make up just about 10% (National Youth Gang Center (NYGC), 2007, Race/ethnicity of Gang Members section). By contrast, analyses of the G.R.E.A.T. I cross-sectional data indicate that, while African-American (31%) and Hispanic (25%) youths were still over-represented, White youths were 25% of the gang member sample (Esbensen & Winfree, 1998).<sup>9</sup> Additionally, cross-site comparisons of these youth gang members in 11 U.S. cities reveals that, contrary to many media portrayals and public perceptions, gang members are not solely inner-city, minority males, but rather reflect the demographic make-up of the communities in which they live (Esbensen & Peterson Lynskey, 2001). In Kansas City, Milwaukee, and Philadelphia, for example, the majority of gang members were African-American; in Las Cruces, New Mexico and Phoenix, Arizona, Hispanics made up the largest proportion of gang members; but in Will County, Illinois and Pocatello, Idaho, the majority of gang members were White (69 and 65%, respectively). Without being able to compare across cities, using the same sampling methods and measures, we would not be able to adequately describe this range in gang member demographics.

Some might argue that putting more focus on white youths as gang members takes attention away from those who need it most, that it “dilutes” the negative experiences of those most disadvantaged in our society. These are valid points. It is also often the case, however, that the needs of those most disadvantaged are ignored unless and until those who hold much of a community’s resources are affected. When it is “their kids” or “their neighborhoods,” it is “their problem.” When it affects white youths or youths of middle- or upper-class, then all of a sudden, it is an essential “our problem” upon which we must act immediately. Ron Huff (1990) describes just this process, using Columbus, Ohio as an example. Community members and local politicians ignored or denied the growing presence of gangs until the mayor’s son was victimized by gang violence. Suddenly, the “gang infestation” was a major social issue. It is thus essential to recognize that gang membership does occur in many demographic strata so as to act rationally rather than reacting in a moral panic.

<sup>9</sup> This study used a “restrictive definition” of gang membership, in which youths self-identified as ever having been involved in a gang, as well as indicated their gangs were involved in at least one of four types of criminal behaviors.

## Females Are Gang Members

**FEMALE ARE A LARGE PROPORTION OF YOUTH GANG MEMBERS.** Young females are gang members, and they are not just girlfriends, gun/drug-holders, groupies, or gays. Estimates vary by information source, but the proportion of gang members who are female is anywhere from less than 10% (law enforcement statistics reported by the NYGC, 2007, Female Membership in Gangs section) to 40% (youth self-report surveys reported by Esbensen & Peterson Lynskey, 2001). In the Spring 1995 G.R.E.A.T. I cross-sectional study, for example, 37% of those reporting that they were “now in a gang” were female, representing 6.3% of 8th-grade girls (12% of boys).<sup>10</sup> Similarly, when the G.R.E.A.T. I longitudinal sample was in 8th grade in Fall 1996, 31% of current gang members were female, although a smaller proportion of youths reported being gang-involved<sup>11</sup> (2.4% of girls and 6.2% of boys).

Using the same single-item measure (“are you now in a gang?”) from the current G.R.E.A.T. evaluation, we find that about two-fifths (41.4%) of gang members are female.<sup>12</sup> This represents 4.3% of girls and 6.2% of boys in the sample who self-reported being gang members in the 2007–2008 school year, when most of the sample was in 7th grade (Esbensen, Taylor, et al., 2008). These are slightly above the percentages from Fall 1995, when the G.R.E.A.T. I longitudinal sample was in 7th grade (6th in one site): females made up 35% of gang members, representing 2% of girls in the total sample. Although this may suggest that the proportion of females in gangs, as well as gang membership prevalence, has increased over the past decade or so, a few caveats are in order: first, different sites and schools were included in the two evaluations, and second, the current G.R.E.A.T. evaluation sample is slightly older than the G.R.E.A.T. I longitudinal sample because in some study schools, the program was offered in 7th rather than in 6th grade; thus, while most of the sample was in 7th grade during the 2007–2008 school year, some respondents were in 8th grade.<sup>13</sup>

<sup>10</sup> Esbensen and Winfree (1998) previously analyzed the G.R.E.A.T. cross-sectional data using a restrictive definition of gang membership in which the respondents were classified as gang members if they self-identified as ever having been a gang member and also indicated that their gang was involved in one of four criminal activities. Using this restrictive definition, 8% of all girls and 14% of all boys were gang members; 38% of all gang members were female.

<sup>11</sup> Site and sample differences likely account for differences in findings; recall that the cross-sectional study was conducted with 5,935 students in 11 different cities, while the longitudinal evaluation was conducted with 2,045 students in 6 different cities. Restricting analyses to only the four cities (Omaha, NE; Las Cruces, NM; Phoenix, AZ; Philadelphia, PA) that were included in both the cross-sectional and longitudinal studies still reveal significant differences in 8th-grade gang member prevalence: 7.3% of girls and 14.6% of boys in the cross-sectional study and 2.6% of girls and 6.5% of boys in the longitudinal study. The proportion of gang members who were female was similar, at 35.4 and 32.6%, respectively. Differences thus appear to be due to sample, rather than site, differences.

<sup>12</sup> Using the more restrictive Eurogang definition, females are 40.6% of gang members (Esbensen et al., 2008). These similarities illustrate the robustness of the single-item measure, as argued previously by Esbensen, Winfree, He, and Taylor (2001).

<sup>13</sup> Restricting the analyses to Philadelphia, which was included in both the G.R.E.A.T. I and the G.R.E.A.T. II longitudinal evaluations, still produces differences in 7th-grade gang member prevalence rates (all students in both studies were in 7th grade): 2.3% of girls and 10.3% of boys were current gang members in G.R.E.A.T. I, compared to 5.5% of girls and 13.1% of boys in G.R.E.A.T. II. Further, the proportion of gang members who were

As with race/ethnicity, the proportion of gang members that is female varies by location. We found that females made up 25% of gang members in Philadelphia, but over 40% of gang members in Las Cruces, Orlando, Phoenix, Pocatello, and Will County, and they comprised nearly 50% of gang members in Torrance, California (Esbensen & Peterson Lynskey, 2001). Thus, researchers in different cities might claim different prevalence rates, and all would be correct. What would be interesting would be to determine *why* girls have greater or lesser gang presence across cities. Drawing on qualitative methods as well as incorporating analyses of context can lend insight, especially if cities or smaller aggregations are compared using the same methods.

Here, if we did not complement law enforcement statistics and much of the earlier qualitative research, which mostly ignored females as gang members, we would not learn of the range in gender composition of gang members. Again, some might argue that calling attention to females as gang members might have two unintended negative consequences: first, it could take away from those who “need services the most” (indeed, Laura Bush’s “Helping America’s Youth” initiative is explicitly targeted at helping young men), and second, it could draw undesirable attention to females in the form of increased punishments rather than assistance. Again, these are valid arguments, but again, it is hoped that by recognizing that young females are experiencing negative life events that lead them to gang involvement, we can begin to ameliorate these influences and/or their effects rather than ignore them.

**GANG GIRLS’ DELINQUENCY VARIES.** An excellent example of how qualitative and quantitative research can complement each other is found in work that looks at gender composition of gangs and the experiences of gang girls and boys. Jody Miller’s interviews in St. Louis, Missouri and Columbus, Ohio showed that girls in mixed-sex gangs have very different experiences than do girls in majority-male or in majority- or all-female gangs and that gender differences vary by gang composition (Miller, 2001; Miller & Brunson, 2000). Building on that qualitative work, we used data from the G.R.E.A.T. I cross-sectional study to determine the extent to which these patterns were upheld in a more general sample of youth, who were on average younger than Miller’s sample. From our quantitative surveys with students in 11 cities, we learned that 13% of gang girls report being in majority- or all-female gangs (“majority” defined as 2/3 or more of the gang), 16% of boys are in all-male gangs, 30% of gang girls and 45% of gang boys are in majority-male gangs, and 64% of girls and 38% of boys are in sex-balanced (neither sex comprised over 2/3) gangs.

These girls in gangs are involved in a fair amount of delinquency, including violence. While they report lower prevalence and frequency of offending than do their male gang member counterparts, a greater proportion of gang girls than non-gang boys are delinquent and violent, and they offend at greater frequency than do non-gang boys (Esbensen, Deschenes, & Winfree, 1999; Esbensen & Winfree, 1998). As in Miller’s research, though, we see that the gender composition of the gang matters: among girls, those in majority-male gangs are most delinquent (even more delinquent than boys in all-male gangs), followed by girls in sex-balanced gangs, and then girls

female was lower in the first study: 20% compared to 34.4% in the current study. Again, these differences could represent actual increases in gang member prevalence and female presence in gangs in the intervening decade or they could simply be an artifact of different samples.

in majority-female gangs (Peterson et al., 2001). This pattern is true also among the males, with those in all-male gangs reporting lesser delinquent involvement than males in sex-balanced or majority-male gangs. These quantitative data replicate the findings of Miller's qualitative interviews, giving credence to the generalizability of the findings regarding sex composition and gang members' experiences across locations and age groups. The qualitative interviews give more concrete, in-depth understanding of *why* these relationships exist. Females in sex-balanced gangs, for example, are often excluded by males from criminal activities that are "status-enhancing" or because males believe they will pose additional risk; conversely, females may also use their gender status to exclude themselves from certain criminal activities (Miller, 2001; Miller & Brunson, 2000). Meanwhile, females in majority-male gangs, because of their fewer numbers, are seen not as a threat to male power structure, but rather as "one of the guys," allowed to more fully participate in the gang's criminal endeavors. Thus, reasons for girls' lesser involvement in delinquency in mixed-sex gangs are complex, and this complexity comes out when they are able to discuss their experiences and perspectives, something that is not possible in the surveys. These two research endeavors, while complementary, were not undertaken at the outset with such comparative analyses in mind. Had in-depth qualitative interviews been conducted in the 11 G.R.E.A.T. evaluation cities or had a school-based survey been conducted in St. Louis and Columbus, we might be better situated to conclude that such patterns are representative and generalizable.

### **Why Do Gangs Form, and Why Do Youths Join Them?**

Understanding these questions requires different methods, levels of explanation, and units of analysis. At the city or neighborhood level, we might ask why gangs exist in some cities/neighborhoods and not others (see but one example in Tita, Cohen, & Engberg's 2005 analysis of gang "set space")? At the group level, one question that might be asked is why gangs form among some cultural groups but not others? In the Netherlands, for example, although migrant groups from Turkey and Morocco occupy very similar positions in Amsterdam, gang membership among Turkish youth is rare, while Moroccan youth make up almost 60% of gang members (van Gemert, 2005). At the individual level, we can ask why some youths join gangs while others do not (even those who live in the same neighborhoods or belong to the same cultural groups)? Since my expertise is with such individual-level data and questions, we will go further down this particular avenue of research. Individual-level research has tested theoretical perspectives, identified risk factors, and explored youths' stated reasons to understand gang joining. Of these different questions, I will focus on one, youths' reasons for joining, as an example of how different research methods and comparative approaches can be combined to provide fuller understanding.

There are some consistencies across various studies in youths' reasons for joining gangs, but also inconsistencies. The top four reasons cited by both girls and boys from the G.R.E.A.T. evaluation studies (a cross-sectional sample of 8th graders in 11 cities in Spring 1995; a longitudinal panel sample of 7th graders in Fall 1995; and a longitudinal panel sample of mostly 6th graders in Fall 2006) were for protection, for fun, to get respect, and because a friend was in the gang, with "for money" also garnering a large proportion of responses (Esbensen & Peterson Lynskey, 2001; Freng & Winfree, 2004; Peterson et al., 2004; author's own analyses). In the cross-sectional sample, reasons differed by site (Esbensen & Peterson Lynskey, 2001) and by race (Freng & Winfree, 2004) (which may be confounded, given race composition differences by

site), but not much by sex (Esbensen et al., 1999). Racial/ethnic differences were found for five (protection, friend in, sibling in, for respect, for money) of six reasons ("for fun" was excluded from the analyses), with a greater proportion of White than African-American or Hispanic youths citing all but having a sibling in the gang (Freng & Winfree, 2004). By contrast, the only significant sex difference was in joining for money (47% of boys and 38% of girls) (Esbensen et al., 1999). Similarly, in the RYDS high-risk interview sample, no sex differences were found in the major reasons for gang joining: family or friends were members (54%), protection (19%), and fun/action (15%) (Thornberry et al., 2003); but race/ethnic differences did emerge, although not in the same pattern as in the G.R.E.A.T. data reported by Freng and Winfree. Maxson and Whitlock (2002) conducted interviews with African-American youths in two gang-active San Diego neighborhoods. This sample and method produced different results, with girls citing family/friend involvement and getting a reputation, and boys noting excitement, protection/territory, and belonging. To get a better handle on this issue than these disparate findings offer, it would be quite valuable to implement a large-scale effort in multiple sites using the same methods, sampling, and measurement.

While it is useful to determine the distribution in reasons, that is, the proportion of youths who join for different reasons (this may help in developing broad prevention strategies and prevention program content, for example) and to understand patterned differences in these reasons (to potentially target different prevention strategies to different youths), it would also be useful to delve deeper into these reasons, as qualitative researchers have done. Doing so may allow for prevention strategies to be adapted or tailored, within set parameters, to specific communities or groups.

From our quantitative surveys, we know that approximately half of gang youths say they joined their gang for protection (Esbensen et al., 1999; Esbensen & Peterson Lynskey, 2001; Peterson et al., 2004). But, protection from what, or from whom? Fifty-four percent of girls and 48% of boys give "protection" as a reason, but do girls mean the same thing by "protection" as do the boys, for example? Qualitative research suggests they do not. In-depth interviews such as those conducted by Jody Miller (2001) and ethnographic methods allow for probing on this question. Mark Fleisher's (1998) field research illuminated the violence lived by many of the gang girls in their own homes, abuse that drove them to seek a safer haven with peers. This joining for protection from an abusive parent would call for quite a different preventive response than would joining for protection from bullies at school or in the neighborhood.

## **Gang Membership, Violence, and Victimization**

**DELINQUENCY, VIOLENCE, AND GANG MEMBERSHIP.** Law enforcement data, case studies, in-depth interviews, and surveys all show high rates of delinquency, violence, and victimization in gangs. This is demonstrated in sometimes graphic detail in qualitative studies, but quantitative studies allow us to compare delinquency and victimization rates to other youths, even delinquency-involved youths. From this, we can determine the proportion of crime and violence for which gang members are responsible. In RYDS, for example, gang members comprised 31% of the sample, but committed approximately 69% of all violent offenses and 82% of the more serious violent crimes of aggravated assault, robbery, and sexual assault (Thornberry et al., 2003). Similarly, only about 15% of the Denver Youth Survey sample was

gang-involved, but those youths committed approximately 79% of all serious violent offenses (Huizinga, 1997); and in Seattle, gang members accounted for 85% of all robberies, although they comprised only 15% of the sample (Battin et al., 1998). In our first G.R.E.A.T. evaluation, gang members comprised a smaller proportion (9%) of the sample and committed 54% of the violent offenses (Esbensen, Peterson, Taylor, & Freng, forthcoming). It seems clear, then, that empirical research upholds commonplace perceptions of the relationship between gangs and crime, but among the questions that remain is whether the gang context encourages this greater delinquency or whether already-delinquent youths join gangs?

**GANGS ENHANCE DELINQUENCY.** Co-occurrence of drug use, drug sales, violence, and gang membership has been widely documented. Less well documented is the temporal sequencing of these behaviors, an important issue for theory testing and development, for confirming or dispelling public notions about whether gangs facilitate delinquency, and for appropriate prevention and intervention efforts. Analyses of the G.R.E.A.T. I longitudinal data revealed no conclusive evidence that joining a gang “caused” drug use, drug selling, or violence or that youths already involved in these behaviors joined gangs (either through self-selection or through selected recruitment); rather, consistent with prior research, an enhancement model best fit the patterns: delinquent youth were attracted to gangs and gangs facilitated delinquency (Esbensen, Peterson, Freng, & Taylor, 2002). But, since surveys of youth are given only at specified time intervals (e.g., 3 months, 6 months, 12 months), it is possible that sequencing does occur but is missed because surveys are not administered often enough to capture the temporal order. Field research efforts might be able to fill in these holes, but only if focused on community youth rather than solely on gang youth in order to capture pre-gang criminal activity.

**GANG MEMBERS ARE VICTIMS.** We have also found the enhancement model to be applicable to gang membership and victimization experiences. Using an approach similar to Thornberry and his colleagues (Thornberry, Krohn, Lizotte, & Chard-Wierschem, 1993; Thornberry et al., 2003), we demonstrated that compared to youths who are never gang members, youths who report gang membership at some point during the 5-year G.R.E.A.T. evaluation period have higher levels of victimization before, during, and after their membership; and, they experience the highest levels of victimization during their membership in gangs (Peterson et al., 2004). This supports an enhancement effect of gang membership on violent victimization, similar to that found for the relationship between gang membership and delinquency (Bendixen, Endresen, & Olweus, 2006; Esbensen & Huizinga, 1993; Gatti, Tremblay, Vitaro, & McDuff, 2005; Gordon et al., 2004; Thornberry et al., 1993, 2003). Furthermore, despite the fact that about half of gang youths reported joining their gangs for protection, there were no differences in victimization levels for youths who cited this as a reason compared to youths who joined for other reasons. That is, gang membership offers no additional protection, either compared to non-gang youths or compared to other gang youths. Gang membership also remains a salient predictor of victimization when other risk factors are controlled (Taylor et al., 2007), but this appears to be tied to gang members’ lifestyles or routine activities (Taylor et al., 2008).

From quantitative surveys, we thus know that an enhancement model (or, in some studies, a facilitation model) seems to best fit the relationship between gang membership and both offending and victimization, but what is the process by which these are facilitated? Field research allows for the observation of recruitment, joining, and learning processes that take place on a day-to-day basis to create higher levels of crime and victimization among gang youths. Papachristos (in press), for example, recently combined his observations of gang members with law enforcement homicide data to better understand whether and how extra-gang murders are reciprocated. Short (1998) has argued for more research on situational and interactional levels, along the lines of that conducted by Fagan and Wilkinson (1998). To this end, Hughes and Short (2005) contribute to the rich body of early social process research (e.g., Gannon, 1967; Klein & Crawford, 1967; Sherif & Sherif, 1967; Short & Strodtbeck, 1963, 1974; Thrasher, 1927/1963; see also later work by Decker, 1996 and Vigil, 1988) with their re-examination of field notes collected in the 1960s to describe some of these micro-processes that produce violence in gangs. A next step forward is to better understand whether and how these processes differ in both gang and non-gang groups. Importantly, field research also tells us that crime and violence, while certainly greater among gang than non-gang youths, comprise a relatively small proportion of gang members' lives, with the majority of time spent in activities common to most adolescents (hanging out, cruising, listening to music, playing video games, etc.). In fact, Malcolm Klein (1995) has stated that "It's a boring life; the only thing that is equally boring is being a researcher watching gang members" (p. 11).

### **Gang Is Not (Necessarily) Forever**

Desistance processes have been relatively under-examined in the gang literature, and "gang myths" abound. It is commonly assumed, for example, that it is very difficult for youths to leave gangs; that if they do so, they must engage in some dire act such as crime commission or submit to a beating; and that there are negative consequences such as harm to self or family. A National Geographic Channel (2006) program on Mara Salvatrucha (MS-13) depicted gang members stating that once you are in, you are in for life; one young girl, for example, explained three tenets: "God, mom, your gang: You live for God, you live for your mom, you die for your gang." Yet, the majority of gang members (69%) in our G.R.E.A.T. I longitudinal sample reported being gang-affiliated for just 1 year or less (Peterson et al., 2004). The next most consistent pattern was gang membership for 2 consecutive years (22%). Very few youths (7%) were gang members for more than 2 consecutive years, and only one (a female) reported gang membership in all 5 years of the study. These patterns held for both girls and boys, although a larger proportion of 1-year members were female (77%, compared to 67% for males). Results with males in the high-risk RYDS sample were similar: half were members for 1-year only; 28% were 2-year members; 14% were members for 3 years; and only 7% were members for 4 consecutive years (Thornberry et al., 2003, p. 39). Some accounts do document individuals remaining in the gang for longer periods (see e.g., Decker & Van Winkle, 1996; Hagedorn, 1988; Moore, 1991); for many, though, gang is not forever. But, why do youths leave the gang, how, and with what consequences? In the current evaluation of the G.R.E.A.T. program, we include measures that allow for investigation of these important questions. Analyses, yet to be conducted, will provide empirical evidence to potentially counter the gang myths and allow for essential comparisons by site, sex, and race/ethnicity.



Some existing research provides insight into reasons for desistance. According to ex-gang members in St. Louis, for example, violence was an important push to leave the gang (Decker & Lauritsen, 1996). Two-thirds of the ex-gang members voiced that personal victimization by violence, victimization of family members, or threats of violence to self or family were key reasons for them to make the move out of the gang. Others left their gangs because they had moved or due to family reasons. Importantly, all of the gang members in Decker and Lauritsen's study were males; females may have different reasons for exiting the gang. One reason commonly espoused is motherhood (Fleisher & Krienert, 2004); it is thought that many young women do not want their children involved in the gang lifestyle and having a child can provide a "pass" out of the gang. The extent to which this reason is common, however, is in question (e.g., Campbell, 1987; Fishman, 1999; Varriale, 2008). Research by Hagedorn and Devitt (1999) indicates that motherhood was reported by just 16% of females in their Milwaukee study as the way they left their gang; more often (44%), they "just stopped," and 32% indicated that their families had moved to get them away from the gang. "Just stopping" or "just walking away" was also reported by the majority of St. Louis gang members as the method by which they left the gang; just a few indicated that they had to engage in an exit ritual such as a "beat out" (Decker & Lauritsen, 1996). Studies using the same methods in different places, such as the G.R.E.A.T. II evaluation, can help determine whether St. Louis is unique in this aspect or whether the "exit ritual" is more talk than true. In addition, use of qualitative methods allows for examination of leaving the gang as a process (see e.g., Vigil, 1988), just as the process of change in any peer group. That is, gang members may not just suddenly quit their gangs; rather, their decision to leave may be solidified over time and experiences, both within and outside of the gang. Qualitative research also tells us that clear distinctions cannot always be made between "gang members" and "ex-gang members" (see Decker & Lauritsen, 1996, for a discussion). Even after relinquishing their gang member status, individuals may still associate with members of the gang; these are their friends, neighbors, and family members, after all. Reasons and rituals are likely to vary across both individuals and gangs, and these are worthy of further examination, using comparative and multiple methods, to debunk myths and develop responses that may facilitate desistance processes.

## Global Issues

**NOT JUST AN AMERICAN PHENOMENON.** "We don't have 'gangs' here; that's an American thing." Statements such as this were voiced by several participants in our early Eurogang meetings (Klein, 2001). Disputing this requires an understanding of what "the American thing" is, and it requires an understanding of the reality of youths' groups in other countries. Comparing the two to determine whether they are the same or different requires consensus on working definitions of key concepts, like "gang." A few Eurogang Network members have conducted analyses to compare the American and European gang situations, finding comparable rates of gang involvement: 14% in Denver, Colorado compared to 13% in Bremen, Germany (Huizinga & Schumann, 2001) and 8% in 11 U.S. cities vs. 6% in the Netherlands (Esbensen & Weerman, 2005; Weerman & Esbensen, 2005). Gang members were responsible for a substantially disproportionate share of each sample's delinquent offenses, but Denver gang members exhibited a greater prevalence and frequency than did Bremen gang members (Huizinga & Schumann, 2001). The United States and Netherlands samples, by contrast, were comparable in

terms of delinquency, as well as risk factors; American youths, however, described their gangs as having more organizational characteristics than did Netherlands youth (Esbensen & Weerman, 2005; Weerman & Esbensen, 2005). It should be noted that all of these studies occurred prior to the adoption of the consensus Eurogang definition and that comparisons were made post hoc; that is, none of these studies was undertaken with the purpose of comparative analyses, and methods and measures differed. Although enough similar measures existed to facilitate comparisons, implementation of the Eurogang definition, methods, and instruments would allow true cross-national comparisons. What these existing studies do offer, though, is evidence that gangs do, in fact, exist in some European cities.

**GANG MIGRATION?** For a variety of reasons, population migration has increased to countries and cities that have been largely homogenous in terms of ethnicity and culture (van Gemert & Decker, 2008). This increases the need for collaborative cross-national research on a host of related issues. In the gang arena, such collaborations can determine, for example, whether “gang migration” is a myth or the extent to which gang or gang member migration accounts for gang emergence and proliferation in new locales and the extent to which nations’ policies and actions affect gang issues in other nations. Maxson’s (1998) research, based on a national survey of U.S. law enforcement agencies and upheld in later analyses by the NYGC (2007, Gang Migration section), reveals that it is more commonly the case that gangs are home-grown rather than “imported.” In instances of “gang migration,” it is most often due to individual gang members moving for social reasons such as family relocation, although a not-insignificant proportion of gang migration is due, according to law enforcement sources, to gang members moving to expand drug markets.

Issues of transnational gang migration are a hot topic right now and deserve more research attention. National Geographic’s (2006) television show “World’s Most Dangerous Gang” shows the spread of MS-13 not only across the United States but to other countries as well, notably to El Salvador, from which many current MS-13 gang members have moved to the United States to flee civil war (see Decesare, 2003; Elkus, 2007; Vaquera & Bailey, 2004). The appearance and proliferation of MS-13 in Mexico and in Central American cities such as San Salvador are linked to U.S. immigration policies that have resulted in deportation of gang members (among others), who then recreate the social support and protection systems that sustained them in the United States (Corbiscello, 2008; Elkus, 2007; Papachristos, 2005; Vaquera & Bailey, 2004). Although there is little thus far by way of academic research on this issue, this apparent process of gang migration through deportation differs from the oft-told story of gangs “franchising” with the express purpose of expanding their influence, drug, or crime markets, even if the end result is often the same: gangs and gang members with cross-national ties facilitating criminal activities and enterprises.

In many other instances, however, the emergence and spread of gangs in other countries is due instead to the transmission of youth culture, mostly through media outlets (see discussion in Shashkin, 2008; van Gemert, 2001, 2007). When gangs are portrayed in the media, it is often as extensive networks for highly organized criminal activity (Esbensen & Tusinski, 2007). This is not to say that such gangs do not exist, for they do. But, it gives a mistaken impression about the range of groups that may be considered street gangs. “Dangers” here include (1) falsely attributing imitation to gang migration, (2) assuming that such gangs are of the same nature and

type as the gangs they are imitating, and (3) assuming that the gangs they are imitating are “the” American street gang. A British newspaper article entitled “Crips and Bloods: How Britain’s Mobs are Imitating US Gangs” demonstrates a number of these issues (Midgley, 2008). While the article describes how youths are wearing and fighting over colors and tagging walls, in the style of U.S. gangs, it is refreshing to read the journalist’s admonition that “It is important, of course, not to overstate the problem” (para. 8). Additionally, the article includes a quote from the head of the Metropolitan Police Violent Crime Directorate, who said, “There have always been territorial gangs in London” (Midgley, 2008, para. 9), illustrating that while media has had an influence, local gangs cannot be blamed solely on U.S. “exports.” Adequately assessing the scope and nature of youth gangs and being able to compare such groups across contexts is important in avoiding stigmatization of many kinds, especially as increases in migration and acknowledgement of gang presence often co-occur.

### Where Should We Go from Here?

We have come a long way and have gained much knowledge. As argued throughout, a next key step would be multi-method, multi-source, multi-site research using common research instruments and a common sampling frame. Klein (2005) makes the case very persuasively for this kind of comparative research, and Hughes (2005) is among those who argue for this integration of qualitative and quantitative approaches in the gang research arena. The Eurogang Research Network aims to do just this.

At the second Eurogang workshop, held in 1999 in Oslo, Norway, we created workgroups to facilitate the various aspects of the research program. To date, there is an Expert Survey group, a Youth Survey group, an Ethnography group, and a City-Level Description group. In addition, a Conceptualization group was charged with working out issues of definition, and a Prevention/Intervention group has developed an inventory instrument to catalog local efforts as groundwork for later studies or evaluations. We intend that additional working groups, such as an Archival Data group, will be created as time and interest dictate. The Conceptualization group undertook a laborious, but fascinating process of creating conceptual and operational definitions that (1) all Eurogang researchers would accept, (2) made sense across cultural settings, and (3) we would consider core to any Eurogang Program research.

To be able to make adequate comparisons, researchers in the Eurogang Network have agreed to the following definition of “street gang”: “A gang (or troublesome youth group<sup>14</sup>) is any durable, street-oriented youth group whose involvement in illegal activity is part of their group identity.” It is important to note that this definition is not one that would be universally accepted among gang researchers. The Eurogang definition includes criminal involvement, which differentiates it from some other definitions of youth or street gangs, most notably those of scholars who argue that criminal activity should not be part of the definition, but rather should be a factor

<sup>14</sup> Use of the term “gang” is objectionable to some Eurogang scholars; it is argued that it can incite moral panic or stigmatize certain groups or individuals; in some locales, use of the term is even taboo (see Peterson, Lien, & van Gemert, 2008 or van Gemert, Lien, & Peterson, 2008, for a discussion). Thus, the Network has agreed that the term “troublesome youth group” may be substituted if the group meets the definitional criteria.

on which youths' groups are "allowed" to vary (see e.g., Short, 1998).<sup>15</sup> That is, crime by the group or group's members should be but one variable under study, rather than a defining criterion. There is no right or wrong answer in this "debate." Rather, both perspectives have merit, depending upon the goal of the research or researcher, and both are necessary for greater understanding. To achieve the goals of the Eurogang Network, for example, the Eurogang definition allows scholars in different locations to determine whether the *same kinds* of groups or their members vary on other characteristics (including criminal activity) or under what conditions such groups exist. Using the same definition ensures that different researchers are talking about the same phenomenon, and conducting research in different locales allows us to build a body of knowledge about patterns of a particular kind of group.

By using a "crime-free" definition, researchers can study such important questions as what makes youths' groups transform into crime-involved groups? What are the processes through which some youths' groups, but not others, come to coalesce around a group identity oriented toward delinquency and particularly violence? This would be particularly important as cities and their social and economic circumstances change. Comparative methods would add to our knowledge by allowing us to examine whether general patterns exist in influences on transformation of groups. Thus, we need to move forward on both (or multiple) definitional fronts.

The existing Eurogang instruments do not tap every method/source and are but one way of doing multi-method, multi-site research. Mark Fleisher (2005), for example, argues that combining methods such as fieldwork and network analysis can aid in cross-site comparisons. Network analysis is increasingly applied in gang research, as work by Fleisher, Jean McGloin (2007), and George Tita and his colleagues (Tita et al., 2005) demonstrate.

Young scholars such as Lorine Hughes, Andrew Papachristos, and to some extent George Tita and Jean McGloin, appear to be taking on some of the challenges set forth by Malcolm Klein (2005) and Jim Short (1998), using a combination of methods and contributing to a new generation of social process research. We need to go further, however, in truly taking on the tasks encouraged by Klein (2005). To advance this effort, the Eurogang Program, through the support of the University of Southern California (and additional funds through the University of Missouri-St. Louis and Arizona State University-West) sponsored a 3-day research workshop in May 2008 for young scholars interested in comparative, collaborative street gang research. Eurogang steering committee members and workgroup facilitators provided background and training in use of the Eurogang research instruments and discussed definitional and methodological issues and challenges. It is hoped that these young trainees will be among those to take advantage of opportunities to collaborate with other youth/street gang researchers across the globe. Eurogang research instruments are available to any and all for use, and the Network asks only that they be used in the manner intended and that the steering committee is notified so that we can track use of the instruments, build a base of knowledge, and connect researchers to each other.

In sum, studies that use multiple methods, combining quantitative and qualitative traditions, and a comparative approach will better the quality and depth of our information on a number

<sup>15</sup> See Ball and Curry (1995), Decker and Kempf-Leonard (1991), Esbensen, Winfree, He, and Taylor (2001), Klein (1995), and Winfree, Fuller, Vigil, and Mays (1992) for more on the definitional debate.

of key issues. Among the issues that I would like to see garner more research attention mirror those in the sections above: (1) The roles of race/ethnicity, culture, and migration status, especially as migration makes these issues more salient in increasingly heterogeneous communities. It would also be important here for U.S. researchers to begin to reach beyond racial categories to examination of ethnicity and/or culture. (2) The experiences of females in gangs and the relationships between males and females in gangs, including differences between gangs of differing sex composition. We still have a lack of knowledge, yet there is much media attention to perceived increases in girls' aggression, violence, and gang involvement. Margaret Zahn and her colleagues (Zahn et al., 2008) and Chesney-Lind and Irwin (2008) are among those who have contributed sound information to the arena of girls' violence in general. Further empirical examination of female gang involvement is necessary because now is the time for rational policy, which requires an accurate assessment of the issues, so as not to overreact. (3) Gang evolution and desistance processes, at both individual and group levels. We need more research using different methods in different locales to determine the prevalence of different gang types (Maxson & Klein, 1995) and whether, how and why these groups evolve over time, extending the research by, for example, Hagedorn (1988) and Weisel (2002). At the individual level, what are the processes of leaving gangs, and do these differ from leaving other kinds of youth peer groups (e.g., is it just maturation and change, perhaps changing interests and needs, or do other factors contribute)? (4) Gangs in the global arena, including the nature and scope of gangs and gang members outside of the United States with attention to important contextual influences, individual/gang migration, migration and gang formation/joining. While there is scholarly work on these issues (see Covey, 2003 and the edited volumes by Duffy & Gillig, 2004; Grennan, Britz, Rush, & Barker, 2000; Hagedorn, 2007; Hazlehurst & Hazlehurst, 1998; and van Gemert, Peterson, & Lien, 2008), systematic comparisons are noticeably absent.

These are not isolated research issues; they intertwine with each other to create a complex, multi-faceted phenomenon that is best explored with multiple methods in multiple locales. Why is all of this important? Is it just to satisfy our driving curiosity about and fascination with youth street gangs and their members? On the contrary, understanding of these issues is the essential foundation on which to build appropriate responses in the form of prevention, intervention, and suppression.

## RESPONDING TO YOUTH GANGS AND YOUTH GANG MEMBERS

What works to prevent gangs from forming and youths from joining, and what can we do to intervene with youths already gang-involved and to reduce levels of gang violence and other gang-related criminal activity? While we have some good ideas, we are still in the unfortunate position to state that we do not truly know for sure. Why? This section overviews three key reasons: poor or no underlying theorizing, poor implementation, and lack of evaluations or poor evaluation designs.

As in the previous section on youth gangs and gang members, I will not in this section comprehensively review responses to youth gangs.<sup>16</sup> Rather, my goal is, again, to call attention to

<sup>16</sup> The reader is referred to excellent overviews of existing gang programs and strategies that include Spergel's (1995) *The Youth Gang Problem*, Howell's (2000) *Youth Gang Programs and Strategies*, Howell's (2008)

areas I believe should be advanced to move us forward in our responses to youth gangs. These areas include tying program content to known causes of gang formation and involvement; attention to program implementation and process evaluation of program fidelity; use of experimental research designs; greater collaboration and cooperation between researchers and practitioners; and adequate funding for evaluation.

In 1990, Walter Miller wrote about “Why the US has failed to solve its youth gang problem” when many gangs actually have “good potential” for reduction (Miller, 1990). He identified several key reasons for our lack of progress, including poor gang control efforts (e.g., continued reliance on unproven methods, lack of creativity, and/or rationale) and no national strategy to address gang issues. To remedy this situation, Miller made a number of recommendations: (1) create a federal office to oversee; (2) select sites that have gang problems; (3) elaborate a theoretical model for gangs’ existence in these sites; (4) develop a response to those problems that is logically tied to the theoretical model; (5) implement and evaluate those programs; (6) develop “model” programs that can be adapted to local needs. How have we done in achieving Miller’s recommendations? First, the National Youth Gang Center (NYGC) was created and funded by the Office of Juvenile Justice and Delinquency Prevention (OJJDP) in 1994 to conduct annual surveys of a representative sample of law enforcement agencies to estimate, among other information, the number of gangs and gang members in the United States and to track these numbers over time. The NYGC also serves as a central resource, as Miller recommended, for communities to get information about youth gangs (e.g., publication lists, FAQs, news articles, resources). Second, there have been a number of federally funded efforts to develop and test model approaches, among them the Gang Violence Reduction Project (also known as the “Little Village Project”) in Chicago; the Comprehensive Community-Wide Approach to Gang Prevention, Intervention, and Suppression (also known as the “Comprehensive Gang Model”), implemented and evaluated in five sites; and the Gang Reduction Program, currently being implemented and evaluated in four sites. The NYGC and OJJDP have released a guide for communities to implement the Comprehensive Gang Model (NYGC, 2008), and the NYGC has on their website assessment tools and guides for communities to use in implementing the Model. These are all steps in a positive direction, but our efforts continue to suffer in a number of ways. Many programs still lack theoretical foundations, and they are often not implemented with fidelity. Of the myriad gang programs implemented over the past century, many have not been independently evaluated; of the evaluations that have been conducted, many were either not impartial or were poorly designed and executed, giving us little confidence in their results, however, positive.<sup>17</sup> Let us look at two recent evaluation examples to demonstrate the usefulness of paying attention to each of these.

*Preventing and Reducing Juvenile Delinquency, Second Edition*, Gottfredson and Gottfredson’s (2001) *Gang Problems and Gang Programs in a National Sample of Schools*, and Klein and Maxson’s (2006) *Street Gang Patterns and Policies*.

<sup>17</sup> One can browse program rating guides available on-line to discover gang programs rated at various levels of effectiveness using specified criteria. Care should be taken, however, in accepting these ratings at face value without an understanding and appreciation of the criteria; and, they are no substitute for reading the text of the evaluation publications themselves. The OJJDP Model Programs Guide, for example, classifies the original G.R.E.A.T. curriculum as “effective.”

## Comprehensive Gang Model Evaluations

The first example is a series of evaluations of the Comprehensive Gang Model.<sup>18</sup> This model is a set of theoretically and empirically based strategies (opportunities provision, social intervention, organizational development and change, community organization, and suppression) developed in part from research described in Spergel and Curry (1990). In 1994, OJJDP funded demonstration projects for the Comprehensive Gang Model to be implemented and evaluated in five sites, after an initial project in Chicago (the Gang Violence Reduction or “Little Village,” Project).

These evaluations conducted by Spergel and his colleagues determined that the approach was effective in reaching several (though not all) of the intended outcomes three of the six sites, Chicago (Spergel, 2007; Spergel & Grossman, 1997), Mesa, Arizona (Spergel, Wa, & Sosa, 2002), and Riverside, California (Spergel, Wa, & Sosa, 2003). Outcomes varied by site, but included the following: decreases in individual program youth violence arrests compared to comparison youth, decreases in area violence arrests compared to comparison areas, and decreases in program youth gang membership (Chicago only), with no changes in area gang membership in any of the three sites. No appreciable effects were found in Bloomington-Normal, Indiana (Spergel, Wa, & Sosa, 2001), San Antonio, Texas (Spergel, Wa, & Sosa, 2005), or Tucson, Arizona (Spergel, Wa, & Sosa, 2004). Although none of the sites achieved full implementation, the three sites that demonstrated greater effectiveness were characterized by a strong lead agency, multiple agencies’ commitment and coordination, a multi-pronged approach, and inclusion of an interagency street team (Spergel, Wa, & Sosa, 2006, p. 217). Key reasons for lack of effectiveness in the other sites were poor commitment, especially by the lead agency, a lack of coordination between partners, and failure to implement key aspects of the model, resulting in lack of balance between the key components.

In this example, then, we see that the approach was theoretically based and that when the approach was implemented more closely to what was intended (not that implementation was perfect or always as planned), more of the expected positive results were found. When there was implementation failure, few positive results were found. Implementation, therefore, appears to be the key: when the theoretically based approach is implemented with fidelity, the approach “works.”

## National Evaluation of G.R.E.A.T.

The second example is the first National Evaluation of G.R.E.A.T., described briefly at the outset of this chapter. G.R.E.A.T. is a general gang prevention program taught by law enforcement officers in middle schools. The original program was developed in a short time frame by Phoenix-area police officers who had experience with the Drug Abuse Resistance Education (DARE) program (Winfree, Peterson Lynskey, & Maupin, 1999); lessons, therefore, were

<sup>18</sup> This is an over-simplification of the model, its implementation, and the evaluations to illustrate a point. There is much complexity to these that obfuscates the simple picture I describe, and readers are referred to the original documents for more detail, to Klein and Maxson (2006) for a less favorable critique of this approach, and Howell (2008) for a contrasting view.

loosely modeled after DARE, but were without empirical or theoretical bases. Although the program was not theoretically based, the evaluation team examined the curriculum and tied the lesson content to existing criminological theories or risk factors to provide a framework for the evaluation (Winfree, Esbensen, & Osgood, 1996). A process evaluation determined that the program was implemented by officers with fidelity (Sellers et al., 1998). Results from the outcome evaluation, however, indicated that while there were a few differences between students who had participated in the G.R.E.A.T. program and students who had not, these differences were mostly attitudinal in nature, and none of the program's intended behavioral goals were achieved; that is, there were no differences between G.R.E.A.T. and non-G.R.E.A.T. students in levels of delinquency, violence, or gang membership (Esbensen et al., 2001). In order to give the program the best chance to succeed, separate analyses were conducted with sites in which program implementation was deemed best; even in high fidelity sites, program effects on key outcomes were not found (Esbensen, Freng, Taylor, Peterson, & Osgood, 2002). In this example, then, the program was implemented as intended, but the anticipated beneficial outcomes were not realized. This may be due to the original lack of theoretical foundation.

In their critique of the original G.R.E.A.T. curriculum, Klein and Maxson (2006, p. 101) noted that any modification should attend to gang-specific knowledge, as well as coordinate with intervention and suppression activities. A critical review of the G.R.E.A.T. curriculum was undertaken as a result of the national evaluation, and numerous suggestions for revision were made to bring the curriculum more closely in line with known effective teaching methods, school-based prevention approaches, and gang prevention strategies. The G.R.E.A.T. program was re-written and adheres to a skills-building, strengths-based approach, with lessons more tightly connected and based on some known risk factors for gang involvement. In addition, the new program is intended to be used as part of a more comprehensive school, family, and community approach; law enforcement agencies are encouraged to partner with other community organizations, such as Boys and Girls Clubs and to implement the other G.R.E.A.T. components (elementary school curriculum, summer program, and G.R.E.A.T. Families).<sup>19</sup> The current evaluation (described in more detail in Esbensen et al., 2008) will provide evidence as to whether these changes will produce the desired effects.

These examples highlight several important issues to consider in responding to youth gangs or any social problem. To have the best chance at affecting the problem, programs or approaches should be based on theoretical, logical ideas about what causes gangs to form and/or youths to join them; they should be implemented the way in which they are intended, including targeted at the "right" individuals, groups, or neighborhoods; and, they should be evaluated using rigorous scientific methods that include both process and outcome components. Organizations and researchers that fail to account for level of fidelity do not give the approach/program the chance to succeed. Were we not to have examined level of fidelity in the G.R.E.A.T. evaluation, we would not know whether lack of program effect was due to program failure or to implementation failure; similarly, were Spergel and his colleagues to have conducted only an outcome evaluation, they may not have been able to determine that the lack of effect found in three sites was due to problems in implementation rather than an ineffective anti-gang strategy.

<sup>19</sup> See the G.R.E.A.T. program website at [www.great-online.org](http://www.great-online.org) for more information.



## Where Should We Go from Here?

The answer to this question ties back to some of the key reasons for gaps in our knowledge about effective gang programming and strategies. First, we should base program goals, objectives, and activities on what is known about why gangs form and why youths join them. That we have failed to do this is starkly evident in Klein and Maxson's (2006) recent book. In addition to a striking lack of attention to community context, gang structures, and group process in gang control efforts, they note the limitations in current research regarding individual-level risk factors. The following are consistently or mostly supported: negative life events (including serious illness, school suspension, and intimate social relationship disruption), nondelinquent problem behaviors (externalizing behaviors including reactivity, aggression, and impulsivity, p. 148), delinquent beliefs, parental supervision, characteristics of peer networks, and affective dimensions of peer networks (pp. 144–146). This is not a long list, which does not necessarily mean these are all of the risk factors; rather, this reflects the current state of risk factor research. (In even poorer state, as they point out, is protective factor research.) In fact, the entire fourth chapter of their book demonstrates the difficulty in building a generalizable body of knowledge from the numerous individual-level studies because these have used different methods, samples, and measures, although the authors have taken care to select studies as comparable as possible for their review. This makes it quite difficult, then, to create and evaluate potentially useful gang prevention and intervention programs or, as Klein and Maxson (2006, p. 161) appropriately advocate, to identify those factors that allow for effective targeting of youths for programs.

Second, we should ensure that these theoretically based programs are implemented the way they are intended (see Carson et al., 2008 and Leugoud et al., 2008 for our methods of doing this in G.R.E.A.T. II). If we assume that most program implementers desire to have positive effects, why would they fail to adhere to programs as intended? Let us look at a more personalized example: Most of us know what we need to do for good health: for example, get enough rest, eat healthy foods, exercise, avoid excess in food and drink, and take steps to lower stress. How many of us do *all* of these things, as often as we should? We may do one or a few, or every once in awhile, but without all of them, we cannot expect to obtain or maintain optimal health, and we should not blame our diet or exercise program for “not working.” If we want to be healthy, why do we not do all of these things? We may lack the time to do everything as often as we should; we may get discouraged or lose interest due to seeming lack of progress; we may lack resources or access. We know *what* to do, but yet we do not do it, for a variety of reasons. The same is true for many of our social problems. By observing and documenting program implementation, we will be better able to interpret our outcome analyses (e.g., conducting analyses separately by level of implementation fidelity to determine whether program outcomes vary by how well the program was delivered; see Esbensen et al., 2002 for such analyses in G.R.E.A.T. I), as well as to learn about “real-world” constraints that program deliverers (in the G.R.E.A.T. program case, law enforcement officers) face in attempting to remain faithful to the intended program (e.g., needing to shorten or skip lessons because of fire drills, assemblies, field trips, standardized testing and the like) (Carson et al., 2008; Leugoud et al., 2008).

Third, we should use sound research designs that give a fair and accurate test of the program, ideally experimental designs. Although experimental designs are encouraged (see e.g., Short, Zahn, & Farrington, 2000), they are often difficult to execute in social science research. In our G.R.E.A.T. evaluations, for example, some school principals (and several teachers, including those who teach science) voiced objections to the random assignment of classrooms to treatment

and control conditions. Their rationale was that it was unethical to withhold a “beneficial program” from half of the students in the grade level. A response to an open-ended question in our anonymous G.R.E.A.T. II School Personnel Survey illustrates this perspective in unambiguous terms: “Having a control group that did not receive the GREAT training was a very, very bad idea and was very unfair to the students in that group.” Our response is that it is unethical in the current educational climate to give instruction time for a program that has not yet been empirically demonstrated to have any beneficial effects for students. To justify the time given, it is necessary to evaluate the program using the best possible research design to give us the most confidence that the findings are accurate; this means experimental designs, in which groups are randomly assigned to receive or not receive treatment, utilizing dedicated personnel and adequate resources. There is a place here as well for the multiple-method approach I have advocated throughout this chapter, as the Comprehensive Gang Model and G.R.E.A.T. evaluations illustrate. Sherman and Strang (2004), for example, argue that combining experimental and ethnographic methods can exponentially increase our knowledge not only of what works, but why; and, such a combination can increase the acceptability or credibility of research findings among those who (we hope) use them, the practitioners in the field.

So that the efforts described above can succeed more readily, two additional recommendations are in order: greater collaboration between researchers and practitioners and better program and evaluation funding. Again, two examples from the G.R.E.A.T. evaluations illustrate, beginning with researcher–practitioner cooperation. In a publication about the history and development of G.R.E.A.T., we describe the public and political pressures that influenced the hurried design and implementation of a primary prevention program intended for local use, and how politicians and policy-makers desperate to find ways to address gangs and appease constituents adopted and widely disseminated the program so that it is now taught in all 50 states and numerous foreign countries (Winfree et al., 1999). As is often the case, evaluation of the program’s effectiveness came after this extensive adoption. In part so that reports could be made to Congress, we were asked to provide interim findings from post-test, first year, and second year follow-up results (Esbensen et al., 2002). Although results from the cross-sectional evaluation suggested positive program impact (Esbensen & Osgood, 1999), the preliminary longitudinal study results did not replicate those findings (Esbensen et al., 2001). Based on our contradictory findings of positive program effects in the cross-sectional evaluation and of no program impact at the 2-year follow-up, the G.R.E.A.T. National Policy Board and the Bureau of Alcohol, Tobacco, and Firearms made a relatively rare decision that included neither of the following common responses to research: (1) ignoring the findings and continuing forward or (2) eliminating the program outright because of its apparent ineffectiveness. Instead, they brought together a group of school-based prevention program experts, youth gang experts, G.R.E.A.T. officers, and National Evaluation researchers to review the curriculum and propose changes for improvement based on extant knowledge (Esbensen et al., 2002). Suggested changes were then used by curriculum writers to create the current G.R.E.A.T. curriculum that is presently undergoing independent evaluation. Collaboration between researchers and the G.R.E.A.T. National Policy Board, the regional training centers, local law enforcement agencies, G.R.E.A.T.-trained officers, school districts, school administrators, and teachers made the evaluation possible, and a collective effort in which all parties were responsive and cooperative made the curriculum review, revision, and new curriculum dissemination and adoption possible.

It is a responsibility of researchers to make their research accessible, comprehensible, useful, and usable. Los Angeles Police Department Chief Bratton emphasizes that “. . . researchers need to understand practitioners’ needs and should consider the potential impact of their study

on the audience. Otherwise, we might just end up having academics writing to impress each other with no long-term lasting effect on what is actually happening in the field" (Ritter, 2007, p. 28). Practitioners also need to be open to evaluation of their efforts. Fear of program evaluation, despite the potential for identifying implementation or program failures, has no place if our collective goal is to assist youths and communities and effectively respond to youth street gangs.

We turn now, and finally, to funding. Although evaluations are increasingly important in this age of performance-based contracts and calls for "evidence-based practice," funding for evaluation has lagged behind. Agencies, organizations, and individuals who control funding and contribute to making funding decisions need to recognize the value of such efforts and fund them adequately, which includes funding beyond just 1 or 2 years, as this short time frame has potential to miss lagged effects. In the first G.R.E.A.T. evaluation, for example, it was not until 4 years after G.R.E.A.T. program delivery that significant differences began to emerge between students who had the program and students who did not (Esbensen et al., 2001); other longitudinal evaluations show similar long-term or lagged results (see e.g., Berrueta-Clement, Schweinhart, Barnett, Epstein, & Weikart, 1984 regarding the Perry Pre-School Program; Olds et al., 1998 regarding nurse home visitation; and Tremblay et al., 1992 regarding the Montreal Preventive Treatment Program).

## CONCLUDING REMARKS

A number of scholars have dedicated much of their lives to studying gangs and evaluating programmatic responses, and younger scholars are working to build on that terrific work. We have gained much knowledge from this century of gang research, but youth street gangs are still problematic in the United States and elsewhere. Next steps forward should include multi-method, comparative research. It is unfortunate that, as yet, such potentially valuable research endeavors as the Eurogang Program have not been funded. To repeat, a combination of qualitative and quantitative methods can prove useful to understanding the nature of youth street gangs as well as what works to prevent and intervene with youth gangs and gang members. Understanding, for example, whether there are gender or race/ethnic differences will let us know whether we need gender- or race/ethnic-specific programs; understanding cultural or contextual differences will give us clues as to whether programs that work for one group or in one place will work with another. It is important to identify the larger patterns, as well as the deviations from those patterns, so that we can create effective strategies for response.

What we need are researchers willing to work together on these collaborative, multi-method, comparative efforts, organizations willing to fund those efforts, practitioners open to proper implementation and to evaluation, and evaluators willing to work with practitioners and make their research accessible. There is no one way to look at the issue, and no one way to respond to the issue. Thus, it is best to work together without empirical imperialism and without agency competition and territoriality.

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## CHAPTER 21

# Developmental Sequences and Comorbidity of Substance Use and Violence

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Throughout the world, violence is among the leading causes of death for people age 15–44 years (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). Uniformly, alcohol and drug use are risk factors that are associated with violence within this age group. In fact, alcohol use is implicated in about half the incidents of violent crime (Murdoch, Pihl, & Ross, 1990). In addition, alcohol and drug users are generally more violent than nonusers and violent individuals are generally heavier drinkers and drugs users than nonviolent individuals (IAS, 2004; Leonard, 2008; Swanson, Holzer, Ganju, & Jono, 1990). However, statistical associations do not necessarily indicate causation. This chapter focuses on the co-occurrence of substance use and violent crime using a developmental framework. First, we briefly review the empirical evidence for the substance use–violence association and present alternative models to explain the connection. We then present results from new analyses of the Pittsburgh Youth Study data (Loeber, Farrington, Stouthamer-Loeber, & White, 2008) jointly modeling trajectories of alcohol use and violence from adolescence into emerging adulthood to elucidate their developmental sequences and the extent of their comorbidity.

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## ASSOCIATION BETWEEN ALCOHOL AND DRUG USE AND VIOLENCE

In trying to understand the nature of the association between substance use and violence, one has to keep in mind that this association varies across individuals, locations, historical periods, types of drugs, and types of violent offenses. It is beyond the scope of this chapter to be able to address all of these individual and contextual differences, although some differences will be pointed out throughout the chapter. Below we first describe acute (proximal) associations and then chronic associations. Acute associations focus on whether “individual instances of acute intoxication are associated with the occurrence of a violent event”; chronic associations focus on “whether drinkers displaying certain long-term patterns of alcohol consumption are more likely to engage in violent behavior” (Leonard, 2008, p. 33). We also distinguish between alcohol-related and drug-related violence.

### Acute Alcohol-Related Violence

The empirical evidence supporting an acute association between alcohol use and violence is strong. While the rates of alcohol use by offenders at the time of an offense vary greatly across studies and across countries, in general they indicate that about 40–50% of all homicides and assaults are committed when the offender, victim, or both have been drinking (Collins & Messerschmidt, 1993; Giesbrecht et al., 1989; Haggård-Grann, Hallqvist, Långström, & Möller, 2006; Karberg & James, 2005; Murdoch et al., 1990; Roizen, 1993). Similarly high rates have been reported for Canada and Australia, as well as countries in Europe, South American, and Central America, although absolute rates of violence vary substantially across countries (Keys Young, 1994; Murdoch et al., 1990; Norström, 1998; Room & Rossow, 2001). Alcohol is also involved in about 25–50% of all incidents of intimate partner violence (Home Office, 2004a; Leonard, 2000, 2008; Sanmartin, Molina, & Garcia, 2003), one half of all sexual assaults (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2001; Home Office, 2004b; Marshall, Serran, & Fernandez, 2001; Ullman, Karabastos, & Koss, 1999), and a significant proportion of suicides (Giesbrecht et al., 1989; Hawton, Fagg, & McKeown, 1991), although, in this chapter, we focus primarily on violent predatory offenses (e.g., armed robbery, assault and aggravated assault, homicide).

Self-reports of intoxication while offending could be inflated to justify the violent behavior. Nevertheless, surveys of victims also provide empirical support for the fact that the perpetrator had been under the influence of alcohol at the time of the offense (Greenfeld & Henneberg, 2001; Pernanen, 1991). In addition, victims are often using alcohol or drugs and actually may be the impetus for the violent encounter. In fact, it is often difficult to separate the victim from the perpetrator in violent incidents (National Institute of Justice, 2002) and victims often throw the first punch in a fight (Home Office, 2004c; Murdoch et al., 1990). Furthermore, within-individual analyses have shown that individuals are violent more often on days when they are drinking than when they are not (Chermack & Blow, 2002; Felson, Teasdale, & Burchfield, 2008; Mulvey et al., 2006).

In addition to individual-level analyses, rates of homicide and other forms of violence have been related to alcohol availability and per capita consumption at the societal and community level (Cook & Moore, 1993; Parker & Rebhun, 1995; Room & Rossow, 2001). For example, studies conducted in Scandinavia have found reductions in interpersonal violence when alcohol

availability and consumption have been reduced (Makela, Osterberg, & Sulkunen, 1981; Room & Rossow, 2001). Several studies using city-level data in the United States have also demonstrated an association between alcohol availability and various forms of violence even after controlling for confounding factors (e.g., Gruenewald, Freisthler, Remer, LaScala, & Treno, 2006; Parker & Rebhun, 1995; Scribner, MacKinnon, & Dwyer, 1995).

Studies have also focused on the context of alcohol-related violence. Men are most likely to experience severe violence in a bar, whereas women are most likely to experience it at home (Quigley & Leonard, 2004/2005). Leonard, Collins, and Quigley (2003) found that level of intoxication was not related to experiencing violence in a bar, but was related to the severity of the injury. Overall the research on acute incidents of alcohol-related violence indicates that individual personality factors and situational factors play a major role, but that intoxication serves to exacerbate conflict situations.

In a meta-analysis of studies examining all types of alcohol–violence relationships, Lipsey, Wilson, Cohen, and Derzon (1997) reported significant, although very modest, effect sizes for both acute (weighted mean correlation = 0.10) and chronic (weighted mean correlation = 0.15) associations. Furthermore, when studies controlled for confounding variables (including demographic characteristics, other drug use, and risk factors for violence, such as childhood abuse, childhood aggression, and criminal status), the alcohol–violence correlation was reduced substantially. Correlations were higher in samples of youth (under age 21) than in samples of adults. Lipsey et al. (1997) argued that the existing studies do not establish a causal relationship. In contrast, Room and Rossow (2001) argued that there is enough empirical evidence to support a causal relationship between alcohol use and violence. They suggested that the relationship is neither necessary nor sufficient, but rather is conditional. In other words, drinking in combination with other factors causes violent behavior. In sum, while there is a strong association between alcohol use and violence, it is probable that the association is conditional on individual and environmental factors (see below). Furthermore, the strong support for an acute relationship may only indicate that offenders use alcohol often, rather than that their use caused them to commit the violent act. In fact, studies indicate that violent offenders have much higher rates of daily drinking, heavy drinking, and alcohol abuse than the general population (Greenfeld & Henneberg, 2001; Swanson et al., 1990; White & Gorman, 2000). This chronic association is discussed later in the chapter, although Leonard (2008) has suggested that this chronic association may simply reflect the acute influence of alcohol. That is, chronic heavy drinkers “may simply be at risk for violence because each occasion of intoxication may facilitate the occurrence of violence” (Leonard, 2008, p. 38).

### **Acute Drug-Related Violence**

Drug use is also proximally associated with violence. Data from the U.S. Arrestee Drug Abuse Monitoring Program (ADAM) indicated that, in 2003, about two-thirds of adult male and female arrestees in the United States tested urine positive for illegal drugs (i.e., marijuana, crack or powder cocaine, opiates, methamphetamine, or PCP) at the time of their arrest (Zhang, 2003). Marijuana and cocaine were the drugs most often identified; rates were slightly higher for marijuana than cocaine among men, but higher for cocaine than marijuana among women. For juvenile arrestees, marijuana was found to be the most commonly used drug with cocaine a distant second (U.S. Department of Justice, 2000).

Rates based on drug-testing results do not necessarily shed light on a causal relationship because such rates reflect drug use at the time of the arrest, not necessarily the offense. Drug use is also associated with being a victim of a violent crime. A study in the United States in the early 1990s found that about half of all victims of homicide had drugs (usually cocaine) in their system (Bureau of Justice Statistics, 1992).

Using the ADAM data, White and Gorman (2000) examined trends in drug use in relation to trends in crime across 17 cities in the United States from 1989 to 1998. Their findings indicated that there was no uniform association between any type of drug use and any type of crime. However, after conducting similar analyses, Martin, Maxwell, White, and Zhang (2004) found a much stronger association between alcohol and violent crime than alcohol and property crime, although they found no consistent association between either type of crime and cocaine use. Likewise, data from adult arrestees and prisoners in the United States and abroad indicate a weaker association of drug use than alcohol use to violence; alcohol use appears to be more strongly associated with violent crime, whereas drug use is more strongly associated with property crime (Dorsey, Zawitz, & Middleton, 2002; EMCDDA, 2004; Karberg & James, 2005; Martin & Bryant, 2001; Valdez, Yin, & Kaplan, 1997). Nevertheless, several within-subject analyses have shown that individuals commit more crimes during periods in their lives when they are using more alcohol and drugs (e.g., Horney, Osgood, & Marshall, 1995; Welte, Barnes, Hoffman, Wieczorek, & Zhang, 2005).

The high rates of drug use among offenders at the time of their arrest may simply indicate that many criminal offenders are also drug users. In fact, criminal justice statistics indicates that offenders are heavier drug users than the rest of the population (Dorsey et al., 2002; EMCDDA, 2004; Karberg & James, 2005) and this finding holds for adult men and women (Graham & Wish, 1994), as well as for adolescents (Dembo et al., 1990). (For detail on differences in the associations between substance use and violence across gender and race/ethnicity, see Collins & Messerschmidt, 1993; Greenfeld & Henneberg, 2001; Nunes-Dinis & Weisner, 1997; Ousey & Lee, 2004; Roizon, 1981; Swahn & Donovan, 2006; Valdez et al., 1997; Wieczorek, Welte, & Abel, 1990.) Furthermore, a large majority of violent offenders in the United States and abroad have a history of substance abuse (Boles & Miotto, 2003; EMCDDA, 2004; Swanson et al., 1990). Below we discuss more about the chronic associations between alcohol and drug use and violence.

### **Chronic Associations Between Substance Use and Violence**

In addition to an acute relationship, longitudinal data provide evidence for developmental associations between substance use and violence over time. Several studies have found that individuals, especially males, who were aggressive in childhood or adolescence were more likely to be heavier drinkers in adolescence and adulthood (Farrington, 1995; White, Brick, & Hansell, 1993; White & Hansell, 1996). Studies have also found that heavy drinking in adolescence is related to violent offending in later adolescence and adulthood (Fergusson & Horwood, 2000; Friedman, Kramer, Kreisher, & Granick, 1996; Komro et al., 1999; Menard & Mihalic, 2001; Orlando, Tucker, Ellickson, & Klein, 2005; Swahn & Donovan, 2004, 2006; Zhang, Wieczorek, & Welte, 1997). Finally some studies have shown that each behavior predicts the other over time within the same sample (Huang, White, Kosterman, Catalano, & Hawkins, 2001; White, Loeber, Stouthamer-Loeber, & Farrington, 1999).

Research on drug use is less consistent. White and Hansell (1998) examined the long-term associations between alcohol, marijuana, and cocaine use and aggression from early adolescence into adulthood. Overall, their results suggested that the long-term relationships between aggression and drug use varied by drug type and stage of the life cycle. Adolescent alcohol use was not significantly related to later aggressive behavior at any age, whereas both marijuana and cocaine use in middle to late adolescence were significantly related to increased aggression in young adulthood. In complement, Kaplan and Damphousse (1995) found that drug use in adolescence predicted increased aggression in adulthood, although the predictive utility was weak (see also Kandel, Simcha-Fagan, & Davies, 1986; Menard, Mihalic, & Huizinga, 2001). White, Loeber, Stouthamer-Loeber, and Farrington (1999) found that the association between both alcohol and marijuana use and violence was reciprocal from age 13 to age 18 (see also Weisner, Kim, & Capaldi, 2005). When they controlled for common risk factors (temperament, family, and neighborhood variables) and violence at age 13, alcohol and marijuana use at age 13 remained strong predictors of violent offending in later adolescence. Wei, Loeber, and White (2004) replicated these analyses with another cohort studied from ages 11 to 20. Frequent marijuana use was more strongly related to later violence than was frequent alcohol use. In addition, they found that the relationship between frequent marijuana use and violence (and vice versa) was spurious; the relationship was no longer significant when common risk factors, specifically race/ethnicity and hard drug use, were controlled.

In sum, longitudinal studies that have examined the developmental associations between substance use and violence report mixed findings. Most studies have found that early aggression and delinquency predict later alcohol problems, yet the findings are equivocal as to whether early alcohol use predicts later aggression. Many studies have found that early drug use predicts later aggression and crime. Further, longitudinal research indicates that initiation into delinquency precedes drug use; however, changes in drug use affect changes in criminal behavior (Elliott, Huizinga, & Menard, 1989). Although the data indicate that, for most people, aggressive behavior precedes initiation into drug use, it does not mean that acute or chronic use of drugs does not lead to subsequent violent behavior. Overall, the existing research points to a reciprocal and complex relationship between substance use and violence over the life course. Several researchers have highlighted the possible causal nature of the relationship between substance use and violence, whereas others support a common cause explanation for the comorbidity of substance use and violence. Below we briefly examine these conflicting viewpoints (for greater detail see Boles & Miotto, 2003; Chaiken & Chaiken, 1990; Chermack & Giancola, 1997; Fagan, 1990; Graham, Wells, & West, 1997; Harrison, 1992; Leonard, 2008; MacCoun, Kilmer, & Reuter, 2002; McBride, VanderWaal, & Terry-McElrath, 2002; Miczek et al., 1994; Moore & Stuart, 2004; Osgood, 1994; Parker & Auerhahn, 1998; White, 1997a, 1997b; White & Gorman, 2000).

## A CAUSAL OR SPURIOUS RELATIONSHIP?

### Causal Models

Prior research has addressed the extent to which substance use causes violence. The tripartite model postulates three ways in which drug use could cause violence: (1) through both acute and chronic psychopharmacological effects of drugs on the individual, (2) by generating predatory crime to get money to pay for drugs, and (3) because of systemic violence involved in the illegal

drug market (Goldstein, 1985). Although this model has been criticized (e.g., MacCoun et al., 2002; Parker & Auerhahn, 1998), there is reasonable support, which is briefly summarized below.

The *psychopharmacological model* proposes that the effects of intoxication cause violent behavior. Acute use of alcohol impairs cognitive processes that affect perceptions of and attention to cues, interpersonal communication, awareness of consequences, behavioral inhibition, and judgment, and this impairment increases the risks for violence (for greater detail see Fagan, 1990; Ito, Miller, & Pollock, 1996; Miczek et al., 1994; Parker & Auerhahn, 1998; Pihl, Peterson, & Lau, 1993; White, 1997a). In addition, chronic intoxication may contribute to subsequent aggression due to factors such as withdrawal, sleep deprivation, nutritional deficits, impairment of neuropsychological functioning, or enhancement of psychopathologic personality disorders (Pihl & Ross, 1987; Virkkunen & Linnoila, 1993). Furthermore, the effect of alcohol on aggression may be mediated through its effect on neurotransmitter systems, such as GABA, serotonin, dopamine, and norepinephrine, although the mechanisms of action are not fully clarified (see Boles & Miotto, 2003; Pihl et al., 1993 for greater detail). It has also been suggested that expectancies that alcohol use causes violence may actually account for some of the observed relationship between alcohol use and aggressive behavior (Pihl & Ross, 1987; Zhang, Welte, & Wieczorek, 2002).

Controlled laboratory studies have consistently found that acute intoxication by alcohol (below sedating levels) is related to aggression when the subject is provoked (Bushman, 1997). However, it has also been demonstrated that alcohol's impact on aggressive behavior is moderated by subject characteristics, experimental design conditions, and beverage characteristics (Chermack & Giancola, 1997; Gustafson, 1993; Ito et al., 1996; Pihl et al., 1993). There is much stronger support of a pharmacological model for alcohol and other anxiolytic drugs (e.g., barbiturates) than for more common street drugs, such as marijuana, heroin, and cocaine, although the effects of specific drugs on violence often depend on dosage (Haggård-Grann et al., 2006). (For a review of specific drug effects on aggression see Anthony & Forman, 2002; Boles & Miotto, 2003; Miczek et al., 1994; Moore & Stuart, 2004; Parker & Auerhahn, 1998). In addition, the interaction among certain drugs (e.g., alcohol and cocaine) may increase risks for violence (Chermack & Blow, 2002). Nevertheless, the effects of substance use on aggression depend on individual and environmental factors rather than solely on the pharmacological properties of alcohol. Situational factors that have been found to increase aggression in experimental studies include: aggressive cues, provocation, frustration, pain and discomfort, and incentives (Leonard, 2008). Some individual characteristics increase aggressive responding (e.g., anger proneness, irritability, and aggressive norms; poor executive cognitive functioning), whereas others may mitigate against aggression (e.g., empathy and self-control) (Leonard, 2008). Furthermore, the laboratory studies using a placebo condition generally indicate that the pharmacological effects of alcohol are much stronger than the expectancy effects (Leonard, 2008).

Besides laboratory studies, some studies have tested the pharmacological model using self-report data about substance use directly prior to offending. Menard and Mihalic (2001) found support for a pharmacological effect of alcohol use, but not drug use, on violent index offending during adolescence and young adulthood. Alcohol use was also related to minor assault in young adulthood but not in adolescence, whereas drug use was not related to minor assault at either age period. White, Tice, Loeber, and Stouthamer-Loeber (2002) examined self-reported proximal associations between alcohol and drug use and illegal activities for young men from age 16 to 19. The findings indicated that violent, compared to property, offenses were committed more often under the influence of alcohol and drugs (the question did not separate substances). They also

found that more adolescents reported an association of alcohol than marijuana to fighting behavior (see also White & Hansell, 1998). A study of incarcerated youth in New South Wales found that the most frequently used drug prior to committing a violent offense was alcohol followed by cocaine (Lennings, Copeland, & Howard, 2003). Using individual-level analyses, Felson and colleagues (Felson et al., 2008) found support for a causal effect of alcohol intoxication on violence among adolescents; however, the results indicated that alcohol had a greater effect on individuals with violent tendencies than those without. In sum, there is relatively strong support from both laboratory and survey research for a pharmacological association between acute alcohol use and violence.

The *economic motivation model* assumes that drug users need to generate illicit income to support their drug habit. Thus, they engage in predatory crimes, such as robbery, to get drugs or the money to buy drugs. Support for the economic motivation model comes primarily from literature on heroin addicts, which indicates that lowering the frequency of substance use among addicts lowers their frequency of crime, especially property crime (e.g., Anglin & Perrochet, 1998; Chaiken & Chaiken, 1990; Nurco, Shaffer, Ball, & Kinlock, 1984). However, for the most part, reductions in criminality only occur for those individuals with previously low levels of criminal activity (Lipton & Johnson, 1998; Nurco, 1998). Harm reduction strategies, such as programs that provide legal heroin or substitute medications (e.g., methadone), have been shown to reduce drug-related, income-generating crime (Anglin & Perrochet, 1998; Nadelmann, 1998).

When offenders have been questioned about economic motivations for drug use, the findings have been mixed. In 1999, about 13% of U.S. jail inmates reported having committed a crime in order to get money for drugs, and more property than violent crimes were committed to get money for drugs (Dorsey et al., 2002). Similarly, in studies of intensive drug users and highly delinquent youth in the United States, most did not report committing crimes to raise money for drugs (Altschuler & Brounstein, 1991; Carpenter, Glassner, Johnson, & Loughlin, 1988; Johnson, Wish, Schmeidler, & Huizinga, 1986). Based on self-report data of a nationally representative sample, Menard and Mihalic (2001) concluded that the economic motivation model is only applicable to a small number of drug-using adolescents and young adults (about 2%). In fact, Harrison (1992) argued that much of the research dispels the assumption of economically motivated violent crime, once drug dealing is excluded, at least in the United States.

In contrast, studies in Great Britain and Australia have found that economic motivation accounts for a substantial amount of criminal activity. A large majority (approximately 60–80%) of drug-using offenders report that there is a connection between their offending and their drug use (Bennett & Holloway, 2006). Among those who report a connection, the most common explanations are economic and psychopharmacological (Bennett & Holloway, 2006). Bennett and Holloway (2006) suggested that the reasons cited for the connection between substance use and crime depend on the type of substance use (see also Manzoni, Fischer, & Rehm, 2007). Those criminals using heroin and cocaine generally claim an economic connection, whereas alcohol, barbiturates, stimulants, and PCP are most often associated with crime due to the pharmacological properties of these substances. Inconsistencies in findings regarding the relative strength of the economic model reflect differences in the age composition of the samples, the stage and type of drug use in the sample, and historical, geographical, and social policy factors.

The *systemic model* posits that the system of drug distribution and use is inherently connected with violent crime (Goldstein, 1985). In the United States, systemic types of crimes surrounding drug distribution include fights over organizational and territorial issues, enforcement of rules, punishments of and efforts to protect buyers and sellers, and transaction-related crimes

(Miczek et al., 1994). In addition, there is often third party violence, such as bystander shootings or assaults on prostitutes who sell drugs. Obviously, this type of drug-related violence is not universal and depends on national policies regarding drug control (White & Gorman, 2000).

The systemic model probably accounts for most of the violence related to illicit drug use in the United States in the last two to three decades, especially drug-related homicides, which increased significantly with the appearance of crack in 1985 (although they have recently declined) (Blumstein, 1995; Fagan & Chin, 1990; Goldstein, Brownstein, Ryan, & Bellucci, 1989). However, MacCoun et al. (2002) argued that at the low end of the market (in which selling is being done by users who are high on crack or cocaine), it might be difficult to distinguish systemic from pharmacological violence. MacCoun et al. (2002) suggested that the crack market was particularly violent compared to other drug markets because more youth participated in it, crack was very valuable and used frequently, and the intensity of enforcement raised the adverse consequences. Selective incarceration, the aging of participants, and deaths of the most violent individuals in conjunction with stabilization of the market may account for the decline in violence in the United States. (Goldstein, 1998; MacCoun et al., 2002). Overall, the systemic model may be too simplistic because the associations between the drug market and lethal violence have been found to depend on individual, structural, cultural, and contextual factors (Ousey & Lee, 2004). For example, Ousey and Lee (2004) found that the association was stronger for blacks than for whites and that moderators differed by race.

In a national study, Menard and Mihalic (2001) found strong support for systemic effects of drug dealing on violent offending. Involvement in dealing in adolescence (rather than drug use) was a strong predictor of violent offending in young adulthood. Nevertheless, the literature suggests that violent individuals are attracted to drug selling rather than that drug selling causes individuals to become violent (for greater detail see Fagan & Chin, 1990; Inciardi & Pottieger, 1991; Johnson, Natarajan, Dunlap, & Elmoghazy, 1994; Johnson, Williams, Dei, & Sanabria, 1990; Van Kammen & Loeber, 1994). These results lend support a common cause model (see below).

Rather than substance use “causing” violence, it is also possible that violence and aggression may lead to increased alcohol and drug use (Hagan & Foster, 2003; Welte et al., 2005). Longitudinal studies consistently find that aggressive behavior developmentally precedes alcohol and drug use and often find that early aggressive behavior is a predictor of later alcohol and drug use and abuse (Farrington, 1995; Robins, 1970; White et al., 1993). In fact, between 3 and 26% of drug users in European prisons first started using drugs in prison (EMCDDA, 2004). Furthermore, violent individuals often choose peer groups and lifestyles that promote alcohol and drug use (Collins & Messerschmidt, 1993). Also, violent individuals may use drugs to self-medicate (Khantzian, 1985) or to give themselves an excuse to commit a violent act (Collins, 1993; Zhang et al., 2002). Using drugs to celebrate a successful crime is also a common explanation for the link between substance use and crime (Bennett & Holloway, 2006).

### **The Common Cause Model**

In addition to the “causal” models described above, the common cause (or spurious) model has received a lot of support, especially in the adolescent literature (White, 1997a, 1997b). The common cause model postulates that substance use and violence are related because they share common causes. Jessor and Jessor (1977) have argued that cigarette use, precocious sexual behavior,



problem drinking, use of marijuana and other drugs, stealing, and aggression clustered together in adolescence as part of a “problem behavior syndrome” predicted by an underlying set of risk factors. This theory stands up to replication using different samples (Donovan & Jessor, 1985; Donovan, Jessor, & Costa, 1988) and long-term follow-up (Donovan, Jessor, & Costa, 1999). In addition, behavior-genetic work supports a common externalizing dimension that underlies substance dependence, antisocial behaviors, and a disinhibited personality (Krueger, Hicks, & Patrick, 2002; Krueger, Markon, Patrick, & Iacono, 2005; Zucker et al., 2006).

The World Health Organization (Krug et al., 2002) identified several predictors of violence, including individual factors (e.g., hyperactivity, impulsiveness, poor behavioral control, attention problems, and low educational achievement), family factors (e.g., poor supervision, parental conflict, harsh discipline), peer factors (e.g., association with deviant peers), and cultural factors (e.g., availability of guns and drugs, community disorganization and lack of cohesion, economic disadvantage, or inequality) (see also Loeber et al., 2005; Reiss & Roth, 1993). Many of these same variables have been shown to predict adolescent heavy drinking and drug use in studies conducted in the United States and Europe (EMCDDA, 2004; Hawkins, Catalano, & Miller, 1992; White et al., 1993). In addition, subcultural norms may reinforce both violent behavior and substance use (Fagan, 1990).

Besides individual- and interpersonal-level influences, drug use and violence may share common environmental and situational causes. For example, in the United States, rates of violent crime are high in neighborhoods that are poor, are densely populated, are racially/ethnically segregated, and have a transient population (Bursik, 1988; Sampson, Raudenbush, & Earls, 1997). Drug exposure opportunities and sustained use are also more common among residents of disadvantaged and disorganized neighborhoods, probably because the illicit drug market concentrates in such communities in the United States (Ensminger, Anthony, & McCord, 1997). Studies in Europe have also found a link between drug use and social and economic conditions (EMCDDA, 2004).

Room and Rossow (2001) suggested that alcohol may increase violence because of its role as a “social attractor” (i.e., it bring people together in certain places). In other words, some environments encourage both heavy drinking and violence. For example, certain characteristics of bars (e.g., noise, inconvenient access routes, poor ventilation, overcrowding, permissive social environments, and aggressive staff) make them more conducive for fighting and aggression than others (Graham, Schmidt, & Gillis, 1995; Home Office, 2004c). Thus, situational factors, such as location, access, and type of clientele, can contribute to a spurious relationship between alcohol use and violence (see Boles & Miotto, 2003; Fagan, 1993; Wells, Graham, Speechley, & Koval, 2005). In the United Kingdom, violence occurs most often around pubs and clubs on weekend nights and rates of violence are especially high around pub closing times as crowds of intoxicated strangers (mostly young males) converge on the street at the same time (Home Office, 2004c; see also Brower & Carroll, 2007). Drinking contexts may contribute to aggression directly in terms of the types of activities that occur (e.g., competitive games) and exposure to situations that trigger aggression (e.g., drunkenness in others), as well as, indirectly by affecting the amount of alcohol that is consumed (e.g., bars differ in their norms regarding appropriate drinking levels) (Wells et al., 2005). Overall, the research suggests that alcohol-related aggression is most likely to occur at settings away from home where excessive drinking is normative, where fewer social guardians are available, and where there are fewer proscriptive norms about socially appropriate behavior (Wells et al., 2005), although findings differ somewhat for men and women (Quigley & Leonard, 2004/2005).

Other researchers, however, have argued that problem behaviors constitute several distinct factors rather than a single construct (for a review see White & Labouvie, 1994). These studies have identified unique predictors of substance use and violence (Brook, Whiteman, & Cohen, 1995; McCord & Ensminger, 1997; White, 1991; White, Johnson, & Garrison, 1985; White & Labouvie, 1994; White, Pandina, & LaGrange, 1987). In a review, White and Labouvie (1994) argued that, overall, the literature on the relationship among behavior problems in nonclinical samples of adolescents would seem to argue against the generality of deviance hypothesis because of the generally low correlations among behavior problems, the fact that various behavior problems follow different developmental paths (as described below), the fact that behavior problems do not cluster together for all adolescents, and the fact that there are several distinct influences on each behavior.

Furthermore, there has even been controversy over whether different forms of substance use share common causes. On the one hand, several researchers have suggested that individuals use multiple drugs (including alcohol, marijuana, tobacco, and other drug use) because of a common vulnerability to substance use (e.g., Lynskey, Fergusson, & Horwood, 1998; McGue & Iacono, 2005; McGue, Iacono, & Krueger, 2006; Stein, Newcomb, & Bentler, 1987). Vanyukov et al. (2003) showed that a substantial proportion of the variance in liability to use substances is shared between substances; other work suggests that this liability may be genetic in nature (Fu et al., 2002; Kendler, Prescott, Myers, & Neale, 2003; Krueger et al., 2002).

On the other hand, use of different types of substances may be better represented by separate (but correlated) factors. Several studies have demonstrated that alcohol use loads on its own factor (Flay, Petraitis, & Hu, 1995; Welte, Barnes, & Hoffman, 2004; Zhang et al., 2002). In addition, Kandel's (2002) Gateway Model of drug use suggests that there is temporal sequencing of substance use whereby use of alcohol and/or tobacco products leads to marijuana use, which leads to other illicit drug use; this theory stands in contrast to models suggesting a common cause underlying substance use (see also White, Jarrett, Valencia, Loeber, & Wei, 2007). Finally, although there is evidence for common correlates across substances, some risk factors clearly differ in salience across substances (e.g., Flory, Lynam, Milich, Leukefeld, & Clayton, 2002; Nation & Heflinger, 2006), with differential associations perhaps falling along a licit-illicit distinction or as a function of context of use (Flory et al., 2002).

Recent research in the substance use field has applied trajectory analysis techniques to examine the development of behavior. Some work has specifically addressed comorbidity, with a focus on conjoint use of multiple substances (primarily use of alcohol, tobacco, and marijuana). In this chapter we apply this approach to understanding the comorbidity between alcohol use and violence. First, we briefly summarize research using trajectory analysis to study the development of violence and the development of substance use.

## DEVELOPMENTAL SEQUENCES OF SUBSTANCE USE AND VIOLENCE

Substance use and violence, on average, follow different developmental patterns from adolescence into adulthood. Heavy drinking and most forms of illicit drug use peak in the early twenties (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Chen & Kandel, 1995; Schulenberg & Maggs, 2002), whereas violent offending peaks in mid-to-late adolescence (Elliott, 1994). Most youth mature out of heavy drinking and drug use as they enter young adulthood and negotiate developmental transitions associated with career and family (Bachman et al.,

1997; Sher & Gotham, 1999; Weingardt et al., 1998; White, Labouvie, & Papadaratsakis, 2005). Nevertheless, there remains a subset of individuals who continue to increase their substance use and related problems over time (O'Neill, Parra, & Sher, 2001), which can have long-term effects on physical and psychological well-being (Schulenberg, Maggs, & O'Malley, 2003).

### **Trajectories of Substance Use**

Against the backdrop of normative change in substance use, there exist specific pathways, or trajectories, of use involvement (Maggs & Schulenberg, 2004/2005). A multiple-trajectory approach to the study of change permits classification of inter-individual differences in intra-individual change. Trajectories may share common risk and protective factors but also may have unique predictors, requiring different theoretical explanations and approaches to prevention and health promotion (Maggs & Schulenberg, 2004/2005).

Most studies have concentrated on trajectories of specific substances, and most frequently alcohol use. Over the past decade, numerous characterizations of course of alcohol involvement from adolescence to young adulthood have emerged from the literature (e.g., Casswell, Pledger, & Pratap, 2002; Chassin, Pitts, & Prost, 2002; Colder, Campbell, Ruel, Richardson, & Flay, 2002; Hill, White, Chung, Hawkins, & Catalano, 2000; Li, Duncan, & Hops, 2001; Oesterle et al., 2004; Schulenberg, O'Malley, Bachman, Wadsworth, & Johnston, 1996; Toumbourou, Williams, Snow, & White, 2003; Tucker, Orlando, & Ellickson, 2003; Warner, White, & Johnson, 2007; White, Johnson, & Buyske, 2000; Windle, Mun, & Windle, 2005). This literature has been consistent in identifying groups that are marked by stable low use, chronic high use (early onset and continued heavy use), increasing (escalating) use, and decreasing use, although course shape and group prevalence rates tend to vary depending on the measure of alcohol involvement (e.g., Casswell et al., 2002; Jackson & Sher, 2005) and developmental period under investigation. For example, studies using adolescent samples frequently identify two groups of escalators that differ in age of onset (Chassin et al., 2002; Colder et al., 2002; Hill et al., 2000; Oesterle et al., 2004). In contrast, some studies using young adult samples identify a decreasing course corresponding to the tendency to mature out of risky drinking patterns (Jackson & Sher, 2005; Schulenberg et al., 1996). A time-delimited trajectory that shows elevated drinking rates during the early twenties (consistent with epidemiological data) has also been identified by some studies drawing on samples that span both adolescence and young adulthood (Schulenberg et al., 1996; Tucker et al., 2003; White et al., 2000; Windle et al., 2005).

Far fewer studies have attempted to identify courses of marijuana use (e.g., Brown, Flory, Lynam, Leukefeld, & Clayton, 2004; Ellickson, Martino, & Collins, 2004; Kandel & Chen, 2000; Schulenberg et al., 2005; Windle & Wiesner, 2004). Although the most prevalent course tends to be non-use, most studies have identified a chronic high group that begins in early-to-mid adolescence and continues through emerging adulthood, as well as a relatively early onset group that stabilizes or remits in adulthood and a group characterized by later-onset.

### **Trajectories of Violence**

Whereas few studies have looked specifically at developmental trajectories of violence (e.g., Barker et al., 2007; Chung, Hawkins, Gilchrist, Hill, & Nagin, 2002; Lacourse, Dupéré, & Loeber, 2008), several have examined developmental trajectories of delinquency during

adolescence or from adolescence into adulthood (e.g., Bushway, Thornberry, & Krohn, 2003; D'Unger, Land, McCall, & Nagin, 1998; Nagin, Farrington, & Moffitt, 1995; Weisner & Capaldi, 2003; White, Bates, & Buyske, 2001). Some of the studies have used self-report data, whereas others have been based on official convictions. In general, these studies examining general offending have identified three to five delinquency trajectory groups, in addition to nondelinquents (or low or rare): chronic high, chronic low, high adolescence limited, low adolescence limited, and/or late onsetters. As with the substance use trajectories, the number of trajectories identified depends on the age range of the sample, type of dependent measure, and the nature of the sample studied. With extended follow-ups, even the chronic groups show declines in adulthood (Laub & Sampson, 2003). (For greater detail, see Chapter 4.)

Several studies have also examined trajectories of physical aggression from childhood to adolescence and typically identify three or four trajectories for boys and two to four for girls that are similar to those trajectories charting the course of delinquency (e.g., Brame, Nagin, & Tremblay, 2001; Broidy et al., 2003; Tremblay et al., 2004). Generally, these trajectories of aggression have been found to predict later adolescent or young adult violent and nonviolent offending for males, but not necessarily for females (but see Hirachi et al., 2006). When Nagin, Pagani, Tremblay, and Vitaro (2003) examined trajectories of violence in adolescence, a five-group model best fit the data. Using a high-risk sample of young men and examining serious violence, Lacourse et al. (2008) found that a three-group model fit best for their younger cohort from ages 10 to 19 and a four-group model fit best for their older cohort ages 13–25. The three-group model for the younger cohort included a no/low violence, minor stable violence, and a high declining violent group, whereas the four-group model for the older cohort included a no/low group, a late onset group, a moderate declining group, and a high declining group. In contrast, in a community sample, Barker et al. (2007) identified only two trajectories of physical violence from age 12 to 24 (high and low).

### **Using Trajectory Analyses to Examine the Association Among Problem Behaviors**

In recent years, researchers have begun exploring the association between courses of problem behaviors. The majority of this literature has focused on co-occurring use of different substances (although this is still a very small and evolving field) or the co-occurrence of aggression or delinquency with other forms of psychopathology, such as attention deficit-hyperactivity disorder. Of the studies that have considered multiple substances simultaneously, one set has extracted trajectories of use based on multiple substances (i.e., the simultaneous model). These studies have identified trajectories based on alcohol and drug use and dependence (Chassin, Flora, & King, 2004) as well as trajectories reflecting both alcohol and tobacco use (Jackson, Sher, & Schulenberg, 2005; Jackson, Sher, & Wood, 2000). Of relevance to the present study, the studies by Jackson and colleagues indicated that although courses tracked each other, there was a pattern in which alcohol involvement decreased over emerging adulthood, whereas smoking increased over this time span, indicating some specificity to drug use in the emerging adulthood years. Given that the normative courses of drinking and smoking differ (with a “maturing out” phenomenon that is characteristic of drinking but not smoking), it is reasonable to expect that other risk behaviors such as violence may show some specificity as well as concordance with alcohol use.

Other researchers have identified trajectories of different substances separately and then modeled conjoint use by estimating concordance between each substance-based trajectory

(Nagin & Tremblay, 2005) to identify courses that tend to “travel together.” This joint approach (sometimes called dual group-based modeling; Nagin, 2005) includes studies cross-classifying alcohol and marijuana use (Flory, Lynam, Milich, Leukefeld, & Clayton, 2004) and alcohol, tobacco, and marijuana use (Jackson, Sher, & Schulenberg, 2008; Tucker, Ellickson, Orlando, Martino, & Klein, 2005). This approach has also been used to examine comorbidity of various forms of problem behaviors (e.g., aggression and hyperactivity in adolescence; violence and number of sexual partners in adolescence) and heterotypic continuity of behaviors (e.g., opposition in childhood and delinquency in adolescence; physical aggression in childhood and violence in adolescence) (for greater detail, see Nagin, 2005; Nagin & Tremblay, 2001; and below, as well as Chapter 4).

In traditional research designs, comorbidity is represented by a single summary statistic (e.g., a correlation coefficient or an odds ratio) that measures the degree of overlap of the two behaviors at a given period of time. In contrast, the trajectory approach provides probabilities linking membership in trajectory groups across behaviors (e.g., alcohol use and violence). It has several advantages over the traditional cross-sectional variable-centered approach to studying comorbidity because it takes advantage of the longitudinal nature of the data and captures the dynamic dimension of overlap between the behaviors (Nagin, 2005, pp. 144–146). Thus, it links the entire developmental course of the two behaviors rather than relating a single measurement of each behavior at a single time period (Nagin & Tremblay, 2001, p. 31). Furthermore, it summarizes the linkages across trajectory groups in the form of an array of probabilities and thus provides a basis for describing average tendencies and also deviations from average tendencies (Nagin, 2005, p. 146). In addition, the traditional approach assumes that the magnitude of the summary statistic applies equally to all individuals in the population, even though for some there is a strong association and for others it is weak (Nagin & Tremblay, 2001). The model provides information on the probability of membership in each of the alcohol trajectories contingent on membership in each of the violence trajectories, as well as the probability of membership in each of the violence trajectories contingent on membership in each of the alcohol trajectories. It can also provide the joint probability of membership in a specific violence trajectory and a specific alcohol trajectory.

More researchers have applied a joint trajectory approach rather than a simultaneous trajectory approach to study co-occurring substance use (Jackson, Sher, Rose, & Kaprio, *in press*). The simultaneous trajectory approach and the joint trajectory approach each have advantages over the other. The simultaneous approach, explicitly models comorbidity and can reveal the extent to which comorbidity changes over time. In contrast, the joint approach requires assigning individuals to a group before comorbidity is investigated and is less parsimonious than the simultaneous approach, but it provides estimates of comorbidity that are similar to more traditional cross-sectional approaches (e.g., likelihood-based measures of concordance) (for greater detail comparing the two approaches, see Jackson *et al.*, *in press*). For this reason, we use the joint approach to characterize the association between alcohol use and violence in this chapter.

### **Associations Between Substance Use and Delinquency Using Trajectory Analysis**

Studies identifying course of alcohol and other substance use have demonstrated that trajectories characterized by high use and early onset are associated with problem behaviors such as delinquency, conduct disorder, attention deficit disorder, deviance, externalizing, risk tak-

ing, and disinhibition (Bennett, McCrady, Johnson, & Pandina, 1999; Chassin et al., 2002; Colden et al., 2002; Flory et al., 2004; Hill et al., 2000; Schulenberg, Wadsworth, O'Malley, Bachman, & Johnston, 1996; Tucker et al., 2003). In addition, there has been support for delinquency/impulsivity as a common factor underlying (explaining) the association between various substances (Chassin et al., 2004; Jackson et al., 2008). Welte and colleagues (Welte et al., 2005) found that alcohol use and dependence were strongly related to an increasing trajectory of delinquency, whereas drug use was inversely related to a declining trajectory of delinquency.

Similarly, studies have found that trajectories of offending predict later alcohol and drug use. For example, Hill, Chung, Herrenkohl, and Hawkins (2000) found that adolescent chronic property offenders, compared to nonoffenders, were more likely to exhibit drug, but not alcohol, dependence in emerging adulthood (age 21), whereas chronic violent offenders, compared to nonoffenders, were more likely to exhibit later alcohol dependence. Weisner et al. (2005) also found that offending trajectories from ages 12 to 24 predicted drug, but not alcohol, dependence at age 25–26. Nevertheless, no studies to our knowledge have examined trajectories of alcohol use in relation to trajectories of violence.

## CURRENT STUDY

### Purpose

The purpose of this study was to examine the comorbidity of alcohol use and violence by examining trajectories of each behavior from adolescence through emerging adulthood. Emerging adulthood is defined as the stage of the life cycle that begins following high school and ends with the adoption of adult roles, including marriage, parenthood, and career; it spans from approximately ages 18 to 25 (Arnett, 2000). During emerging adulthood, there are noted increases in rates of substance use and abuse (Arnett, 2005; Schulenberg & Maggs, 2002) and rates of heavy drinking are higher than any other period in the life span (White & Jackson, 2004/2005). We note here that the goal of the study is to illustrate an application of the trajectory analysis to the study of the co-occurring developmental associations of alcohol use and violence. Hence, the example given in this chapter addresses the chronic association between drinking and violence but not the acute association. In addition, although it is certainly of interest to identify risk factors that predict course of alcohol use, course of violence, and the comorbidity between the two, it is beyond the scope of the chapter.

### Design and Sample

We used data from the Pittsburgh Youth Study (PYS; Loeber et al., 2008). The PYS is a longitudinal study of youth recruited from the Pittsburgh public schools, which over-sampled high-risk boys and followed the younger cohort from age 7 to 20 ( $N=503$ ) and the older cohort from age 13 to 25 ( $N=506$ ) at least annually with very high retention rates.<sup>1</sup> The sample is 58%

<sup>1</sup> A middle cohort was followed from approximately age 9 to 13, but follow-ups were discontinued until a recent follow-up at age 21.

African-American, with the remainder almost all White. In addition, about one-third of the boys' families received public assistance or food stamps. For these analyses, we focus only on the oldest cohort who ranged in age from 13 to 25 over the course of the study (for greater detail on the design and sample, see Loeber et al., 2008).

## Measures

*Violence* at each age was based on self-report data from the participant, his primary caretaker (through approximately age 17), and his teacher (through approximately age 17). Violence includes gang fighting, forcible theft, attacking with intent to injure, sexual coercion, and rape. For these analyses we dichotomized violence at each age into any violence (reported by any informant) versus no violence. Prevalence of (any) violent behavior ranged from 2% at age 23 to 11% at age 19.

*Alcohol use* was based on self-report data from the participant. At each age, the participant reported the number of times that they had drank beer, wine, and hard liquor in the last year. (Early 6-month assessments were combined to create yearly data.) For these analyses, we coded frequency of alcohol consumption by summing across the three beverage types<sup>2</sup> and dividing by 365 to get a daily value (e.g., a value of 1.0 indicated drinking every day during the prior year; a value of 0.5 indicated drinking approximately 182 days per year). Mean frequency of alcohol use ranged from  $M=0.01$  ( $SD=0.05$ ) at age 13 to  $M=0.22$  ( $SD=0.28$ ) at age 22.

## Analytic Method

We identified trajectories of alcohol use and violence using a mixture modeling approach (Jones, Nagin, & Roeder, 2001; Muthén, 2001; Muthén & Muthén, 2000; Nagin, 1999), which is based on a latent growth curve model. However, whereas growth curve models represent individual variability in growth via a parameter corresponding to variability around the growth factor means (including intercept, or where the individual began, and slope factors, which represent growth over time), mixture models capture variability with an unobserved nominal class variable. This variable corresponds to homogeneous classes of individuals who have similar patterns of responses on a given outcome (e.g., patterns of alcohol use over time). They allow for heterogeneity in the level of a behavior at a given time, as well in the development of the behavior over time (Nagin & Tremblay, 1999). We conducted a joint/dual trajectory analysis in which we separately identified trajectories of alcohol use and violence over time and then examined the joint occurrence of various trajectory groups. This approach allowed us to examine the dynamic unfolding of alcohol use and violence from ages 13 to 25 and to capture population differences in the strength and form of the comorbidity (Nagin & Tremblay, 2001, p. 20).

The underlying latent growth model for violence included an intercept and two slope factors (representing linear and quadratic growth). The underlying model for frequency of alcohol

<sup>2</sup> Creating a summative measure assumes that the different beverages were consumed on different days, which may not be the case.

consumption also included an intercept and two slope factors.<sup>3</sup> Models were estimated in Mplus 4.21 (Muthén & Muthén, 1998–2006). Models were estimated using direct (full-information) maximum likelihood, which employs all available data for parameter estimation, under the assumption that data are missing at random. Frequency of alcohol consumption was modeled as a censored variable and the binary violence items were treated as categorical variables. For both models, no variation across individuals within a class was assumed (Nagin, 1999; Roeder, Lynch, & Nagin, 1999). Although this might seem like an unnecessary restriction, permitting variation around the group mean results in a far more complex model (Nagin & Tremblay, 2005) and relaxing this assumption frequently results in greater likelihood of encountering convergence problems.

We relied on several criteria to determine the number of classes. As recommended by Muthén (2004), model fit was evaluated using a likelihood ratio test for relative improvement in fit, the Vuong–Lo–Mendell–Rubin test (VLMR; Lo, Mendell, & Rubin, 2001; Muthén et al., 2002) as well as the Bayesian Information Criterion index (BIC; Schwartz, 1978). We also considered class interpretability (the extent to which an additional class provided unique information) and class size (e.g., rejecting models that had classes containing 1% or less of the sample) when determining number of classes.

## Results

**TRAJECTORY GROUPS.** We estimated one- through five-class models for both violence and frequency of alcohol consumption. Table 21.1 presents model fit, including the VLMR test for improvement in model fit as well as BIC. We also present entropy for each model, which indicates precision of classification based on posterior probability values; an entropy value close to 1.0 indicates clear classification with little overlap among trajectories.

We selected three-class models for trajectories of both drinking and violence from age 13 to age 25. The VLMR test indicated two classes for drinking whereas BIC indicated four classes. The fourth drinking class, however, contained only 4% of the sample and was characterized by a peak at age 17, which is not consistent with the literature on developmental course of alcohol involvement. For violence, both VLMR and BIC suggested three classes.<sup>4</sup> As shown in Figure 21.1, drinking courses included a low-drinking course (29%); a steady increasing course with moderate drinking (58%); and a heavy drinking course that peaked around age 22 and then declined (13%). The three violence courses included a course marked by very little or no violence (60%); an adolescence-limited course that peaked around age 17 and showed moderate endorsement of violence (34%); and a high violence course that peaked around age 19 and then

<sup>3</sup> The intercept was centered at Time 1 (by means of a zero loading on growth factors at Time 1), and slope factor loadings were set according to the interval between assessments (i.e., 1 year).

<sup>4</sup> Our findings differ from those of Lacourse et al. (2008), who found that a four-class model fit the data best for the older PYS cohort from ages 13 to 25. There are several possible reasons for the difference in these findings: (1) Lacourse et al. used a combined measure of self and other reports with official conviction reports; (2) Lacourse et al. focused only on serious violence (i.e., they omitted gang fighting); and (3) Lacourse et al. used Proc Traj to conduct the analyses, whereas we used Mplus. These differences highlight the importance of considering sample and measures when evaluating the results of trajectory analyses.



TABLE 21.1. Fit Indices, Likelihood Ratio Tests for Relative Improvement in Fit, and Entropy for Frequency of Alcohol Consumption and Endorsement of Violent Acts, for the Full Sample Age Range (Age 13–25), Adolescence (Age 13–18), and Emerging Adulthood (Age 18–25)

Number of classes	Test of model fit	ALC FREQ Age 13–25	ALC FREQ Age 13–18	ALC FREQ Age 18–25	VIOLENCE Age 13–25	VIOLENCE Age 13–18	VIOLENCE Age 18–25
1 class	BIC	2812.35	463.44	2634.72	2694.44	1566.35	1446.65
	VLMR LR	N/A	N/A	N/A	N/A	N/A	N/A
2 classes	Entropy	N/A	N/A	N/A	N/A	N/A	N/A
	BIC	1918.07	38.93	1829.74	2433.42	<b>1451.59</b>	<b>1288.84</b>
3 classes	VLMR LR	p < 0.001	p = 0.34	p < 0.001	p < 0.001	<b>p &lt; 0.001</b>	<b>p &lt; 0.001</b>
	Entropy	0.85	0.95	0.89	0.76	<b>0.76</b>	<b>0.84</b>
3 classes	BIC	<b>1685.38</b>	<b>-193.10</b>	<b>1596.12</b>	<b>2422.15</b>	1470.31 <sup>a</sup>	1297.98 <sup>a</sup>
	VLMR LR	<b>p = 0.22</b>	<b>p = 0.19</b>	<b>p = 0.21</b>	<b>p = 0.01</b>	p = 0.05	p = 0.03
4 classes	Entropy	<b>0.78</b>	<b>0.95</b>	<b>0.78</b>	<b>0.68</b>	0.82	0.86
	BIC	1460.83	-310.62 <sup>a</sup>	1489.06	2422.26	1489.97 <sup>a</sup>	1313.33 <sup>a</sup>
5 classes	VLMR LR	p = 0.05	p < 0.05	p < 0.05	p = 0.43	p = 1.00	p = 0.14
	Entropy	0.83	0.92	0.81	0.68	0.78	0.82
5 classes	BIC	(forgot to run)	-368.16 <sup>ab</sup>	1372.62	2434.31	1512.82 <sup>a</sup>	1332.92 <sup>a</sup>
	VLMR LR	(still running)	p = 0.69	p = 0.23	p = 0.15	p = 1.00	p = 0.38
	Entropy	(is very slow)	0.94	0.86	0.69	0.80	0.87

NOTE. N=506. VLMR LR = Vuong–Lo–Mendell–Rubin Likelihood Ratio Test for  $k$  versus  $k+1$  Classes.

Final models are highlighted in bold font.

<sup>a</sup>Solution includes a class with prevalence <1%.

<sup>b</sup>Model encountered convergence problems.

declined (6%). Figure 21.1 also portrays the average trends. Note that none of the violence trajectory classes look like the average trend, although the moderate drinking group tracks the average drinking trend.

**CO-OCCURRENCE OF ALCOHOL USE AND VIOLENCE.** To examine co-occurrence of frequency of alcohol use and violent behavior, we assigned group membership based on posterior probabilities<sup>5</sup> and examined a cross-tabulation of group membership for drinking and violence using a  $3 \times 3$  contingency table (see Table 21.2). Drinking and violence were not very strongly associated, although the association was significant,  $\chi^2(4, N = 506) = 13.35$ ,  $p < .01$ ;  $\Phi = .16$ ; Cramer's  $V = .11$ . Examining violence contingent on drinking (based on expected versus observed cell frequencies), only one cell was more likely to occur more frequently than chance. Those who were heavy drinkers were more likely than other drinkers to be in the adolescence-limited violence class. Of the 66 individuals in the high-drinking group, 43.9% were in the adolescence-limited violence group (versus 23.9% in the moderate drinking group and 26.7% in the low-drinking group). Alternatively, examining drinking contingent on violence, of the 138 young men in the adolescence-limited violence group, 21.0% were likely to be in the high-drinking group (versus 18.5% in the high violence group and 9.4% in the low violence group).

**LIFE STAGE ANALYSES.** Because of the weak association between alcohol and violence from age 13 to 25 and the importance of examining substance use and violence as developmental processes (Menard & Mihalic, 2001), we conducted additional analyses separating the sample into two age periods representing adolescence (ages 13–18) and the phase of life labeled “emerging adulthood” (Arnett, 2000) (ages 18–25).

*Trajectory Groups.* Given the expected shape of trajectories based on population trends, the underlying latent growth models for violence at both age periods included an intercept and two slope factors (representing linear and quadratic growth). The underlying models for frequency of alcohol consumption included an intercept and linear slope only for ages 13–18 and an intercept and two slope factors for ages 18–25.

<sup>5</sup> We also hand-calculated estimates of concordance that were weighted by probability of group membership. Findings were similar in magnitude but were lower when using weighted estimates. For Table 21.2,  $\chi^2(4, N=506) = 12.26$ ,  $p < .01$  with weighted estimates versus  $\chi^2(4, N=506) = 13.35$ ,  $p < .01$  using posterior probabilities. For Table 21.3 (concordance in adolescence),  $\chi^2(2, N=506) = 34.81$ ,  $p < .001$  with weighted estimates versus  $\chi^2(2, N=506) = 43.63$ ,  $p < .001$  with using posterior probabilities. For Table 21.3 (concordance in young adulthood),  $\chi^2(2, N=486) = 2.91$ , *ns*, with weighted estimates versus  $\chi^2(2, N=486) = 5.86$ , *ns* with using posterior probabilities. For Table 21.4 (concordance of violence in adolescence and drinking in young adulthood)  $\chi^2(2, N=486) = 0.11$ , *ns* with weighted estimates versus  $\chi^2(2, N=486) = 0.11$ , *ns* using posterior probabilities. For Table 21.4 (concordance of violence in young adulthood and drinking in young adulthood),  $\chi^2(2, N=486) = .04$ , *ns* with weighted estimates versus  $\chi^2(2, N=486) = 2.66$ , *ns*;  $\Phi = 0.07$  using posterior probabilities. In addition, significant cell chi-squares showed a very similar pattern, with the exception that those with high violence were significantly less likely to belong to the high-drinking group (Table 21.2) using the weighted estimates.

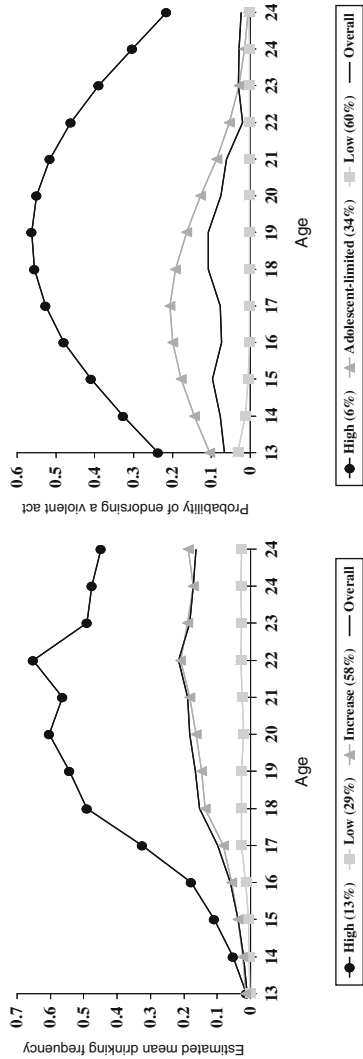


FIGURE 21.1. Trajectories of frequency of alcohol consumption (*left panel*) and violence (*right panel*) for the full sample age range (age 13–25).

TABLE 21.2. Cross-Tabulations of Frequency (Cell Percentage, Row Percentage, and Column Percentage) of Group Membership for Violence and Drinking for the Full Age Range (Age 13–25)

Frequency of alcohol consumption, age 13–25				
Violence, age 13–25	Low	Moderate	High	Marginals
Low	94 (18.6%) (27.6%) (69.6%)	215 (42.5%) (63.0%) (70.5%)	32 (6.3%) (9.4%) (48.5%)	341 (67.4%)
Adolescence-limited	36 (7.1%) (26.1%) (26.7%)	73 (14.4%) (52.9%) (23.9%)	29 ↑ (5.7%) (21.0%) (43.9%)	138 (27.3%)
High	5 (1.0%) (18.5%) (3.7%)	17 (3.4%) (63.0%) (5.6%)	5 (1.0%) (18.5%) (7.6%)	27 (5.3%)
Marginals	135 (26.7%)	305 (60.3%)	66 (13.0%)	506

NOTE.  $\chi^2$  (4, N=506) = 13.35,  $p < .01$ ;  $\Phi = .16$ ; Cramer's V = .11.  
Cells showing corresponding courses are highlighted in gray. Numbers with up arrows (↑) indicate values that are significantly ( $p < .05$ , based on a cell chi-square value of 3.84 with 1 degree of freedom) greater than what would be expected by chance ("types") and numbers with down arrows (↓) indicate values that are significantly ( $p < .05$ ) less than what would be expected by chance ("antitypes").

For drinking at ages 13–18, we selected a three-class model. As shown in Table 21.1, the VLMR test was not informative, and although BIC preferred a model with more than three classes, this model included a class with less than 1% of the sample. The three-class solution included a large low-drinking course (85%) and two steadily increasing courses, one with moderate drinking frequency (12%) and one with high-drinking frequency (3%). For age 18–25 drinking, three courses were also selected, based on BIC and the fact that the four-class solution did not offer a substantively meaningful additional class. Again, a low-drinking class was observed, but with much lower prevalence in this age group than in adolescence (35%). Moderate (54%) and high (11%) drinking courses were also observed; whereas the moderate course was relatively stable, the high course peaked around ages 21–22 and then dropped off. Figure 21.2 (left panel) presents drinking frequency for the different courses for both age groups as well as the average trend.

Based on BIC and class prevalence (excluding models with classes comprised of < 1% of the sample), two-class models were selected for violence at ages 13–18 and at ages 18–25. Each included a course characterized by no or low violence (85 and 89%, respectively), and a high course that slowly increased over time for ages 13–18 (15%) and a high course that rapidly decreased over time for ages 18–25 (11%). Figure 21.2 (right panel) presents endorsement of violence for the different courses and the average trend for both age groups.

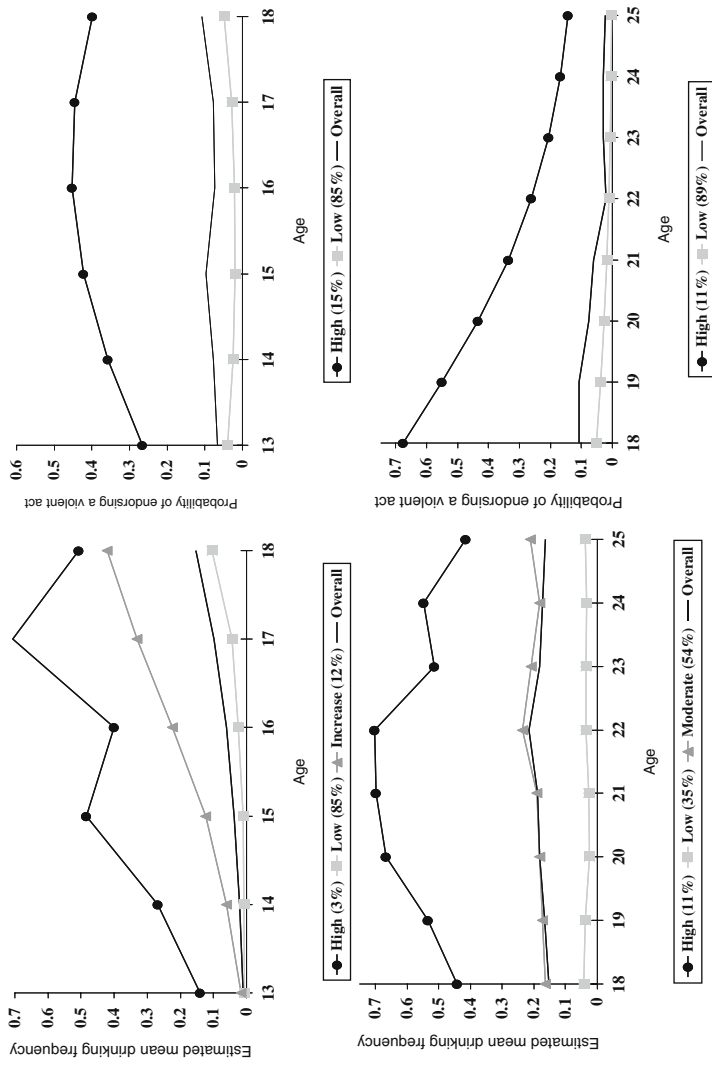


FIGURE 21.2. Trajectories of frequency of alcohol consumption in adolescence (age 13–18; *top left panel*) and in emerging adulthood (age 18–25; *bottom left panel*) and trajectories of violence in adolescence (age 13–18; *top right panel*) and in emerging adulthood (age 18–25; *bottom right panel*).

*Co-occurrence of Alcohol Use and Violence.* Next, we examined co-occurring drinking and violence during the two developmental periods (see Table 21.3). Drinking and violence in adolescence (age 13–18) were moderately associated,  $\chi^2 (2, N=506) = 43.63$ ,  $p < .001$ ;  $\Phi = .29$ ; Cramer's  $V = .29$ . Members of the high-violence trajectory were significantly more likely than chance to belong to the moderate and high-drinking groups and less likely to belong to the low-drinking group. In terms of drinking contingent on violence, of the 61 young men in the high-violence group, 27.9% were likely to be in the moderate drinking group and 11.5% were likely to be in the high-drinking group, versus only 9.0 and 1.4%, respectively, in the low-violence group. In terms of violence contingent on alcohol use, of the 13 young men in the high-drinking group, 53.8% were in the high-violence group (versus 29.8% in the moderate drinking group and 8.5% in the low-drinking group). In contrast, drinking and violence during emerging adulthood (age 18–25) were not significantly associated,  $\chi^2 (2, N=486) = 5.86$ ,  $ns$ ;  $\Phi = .11$ ; Cramer's  $V = .11$ , and there were no cells that were significantly more or less likely to occur at a frequency greater than chance.

*Life Span Associations.* We also wanted to examine comorbidity across the two developmental periods. That is, we predicted emerging adulthood drinking trajectories from adolescent violence trajectories and we predicted emerging adulthood violence trajectories from adolescent drinking trajectories (see Table 21.4). The cross-behavior/cross-time associations were small and non-significant,  $\chi^2 (2, N=486) = 0.11$ ,  $ns$ ;  $\Phi = .02$ ; Cramer's  $V = .02$  and  $\chi^2 (2, N=486) = 2.66$ ,  $ns$ ;  $\Phi = .07$ ; Cramer's  $V = .07$ , respectively. No cells were significantly more or less likely to occur at a frequency greater than chance.<sup>6</sup>

## Discussion

The findings from these trajectory analyses suggest that alcohol and violence patterns are not strongly associated over the life course from adolescence into emerging adulthood. Nevertheless, we found moderately significant comorbidity during adolescence. Our findings support other research indicating the need to examine the association between substance use and crime within a developmental perspective (Menard & Mihlaic, 2001). In adolescence, alcohol use is illegal and may reflect a willingness to break the law as well as parental rules. Thus, it is strongly linked with other deviant behavior, including violence. This association most likely reflects a common cause model or a problem behavior syndrome (Jessor & Jessor, 1977). In a longitudinal study of male juvenile offenders, Temple and Ladouceur (1986) also found that the association between alcohol and crime was stronger in adolescence than at any other time in the life course into adulthood, as did Lipsey et al. (1997) in their meta-analysis of chronic associations.

<sup>6</sup> We also considered using two other measures of alcohol involvement, volume (frequency \* quantity), and heavy episodic drinking (which was operationalized as 6+ drinks/occasion in these data). However, the zero-order associations between violence and alcohol involvement were stronger for drinking frequency than for the other measures of use (data not shown). Jackson and Sher (2005) found that there was similarity in trajectory shape across different indices of alcohol involvement, although, not unexpectedly, group prevalence rates varied across measures.

**TABLE 21.3. Cross-Tabulations of Frequency (Cell Percentage, Row Percentage, and Column Percentage) of Group Membership for Violence and Drinking, at Ages 13–18 (Top Panel) and Ages 18–25 (Bottom Panel)**

Frequency of alcohol consumption, age 13–18				
Violence, age 13–18	Low	Moderate	High	<i>Marginals</i>
Low	399 (78.8%) (89.7%) (91.5%)	40 (7.9%) (9.0%) (70.2%)	6 (1.2%) (1.4%) (46.2%)	445 (87.9%)
High	37 ↓ (7.3%) (60.7%) (8.5%)	17 ↑ (3.4%) (27.9%) (29.8%)	7 ↑ (1.4%) (11.5%) (53.8%)	61 (12.1%)
<i>Marginals</i>	436 (86.2%)	57 (11.3%)	13 (2.6%)	506
Frequency of alcohol consumption, age 18–25				
Violence, age 18–25	Low	Moderate	High	<i>Marginals</i>
Low	157 (32.3%) (35.8%) (94.0%)	237 (48.8%) (54.0%) (89.4%)	45 (9.3%) (10.2%) (83.3%)	439 (90.3%)
High	10 (2.1%) (21.3%) (6.0%)	28 (5.8%) (59.6%) (10.6%)	9 (1.8%) (19.2%) (16.7%)	47 (9.7%)
<i>Marginals</i>	167 (34.4%)	265 (54.5%)	54 (11.1%)	486

NOTE.  $\chi^2$  (2, N=506) = 43.63,  $p < .001$ ;  $\Phi = .29$ ; Cramer's V = .29 (top panel, age 13–18);  $\chi^2$  (2, N=486) = 5.86,  $ns$ ;  $\Phi = .11$ ; Cramer's V = .11 (bottom panel, age 18–25).

Cells showing corresponding courses are highlighted in gray.

Numbers with up arrows (↑) indicate values that are significantly ( $p < .05$ , based on a cell chi-square value of 3.84 with 1 degree of freedom) greater than what would be expected by chance ("types") and numbers with down arrows (↓) indicate values that are significantly ( $p < .05$ ) less than what would be expected by chance ("antitypes").

Osgood, Johnston, O'Malley, and Bachman (1988) proposed that associations between various deviant behaviors during adolescence can be attributed to general deviance at a point during which these behaviors, such as substance use and sexual activity, are much less normative; however, as youth age, some "deviant" behaviors become more acceptable and show greater specificity. In adulthood, alcohol use is legal and, therefore, may not be linked to other deviant behavior. Furthermore, in emerging adulthood, frequent drinking is normative, whereas violent offending is not. Thus, these stage-of-the-life cycle differences in legal and social norms may account for the lack of comorbidity in emerging adulthood. In contrast, drug use, rather than alcohol

TABLE 21.4. Cross-Tabulations of Frequency (Cell Percentage, Row Percentage, and Column Percentage) of Group Membership for Violence at Age 13–18 and Drinking at Age 18–25 (Top Panel) and for Drinking at Age 13–18 and Violence at Age 18–25 (Bottom Panel)

Frequency of alcohol consumption, age 18–25				
Violence, age 13–18	Low	Moderate	High	Marginals
Low	146 (30.0%) (34.1%) (87.4%)	234 (48.2%) (54.7%) (88.3%)	48 (9.9%) (11.2%) (88.9%)	428 (88.1%)
High	21 (4.3%) (36.2%) (12.6%)	17 (6.4%) (53.4%) (11.7%)	7 (1.2%) (10.3%) (11.1%)	58 (11.9%)
Marginals	167 (34.4%)	265 (54.5%)	54 (11.1%)	486
Violence, age 18–25				
Frequency of alcohol consumption, age 13–18	Low	High	Marginals	
Low	383 (78.8%) (91.2%) (87.2%)	37 (7.6%) (8.8%) (78.7%)	420 (86.4%)	
Moderate	46 (9.5%) (85.2%) (10.5%)	8 (1.6%) (14.8%) (17.0%)	54 (11.1%)	
High	10 (2.1%) (83.3%) (2.3%)	2 (0.4%) (16.7%) (4.3%)	12 (2.5%)	
Marginals	439 (90.3%)	47 (9.7%)	486	

NOTE.  $\chi^2$  (2, N=486) = 0.11, *ns*;  $\Phi$  = .02; Cramer's V = .02 (top panel);  $\chi^2$  (2, N=486) = 2.66, *ns*;  $\Phi$  = .07; Cramer's V = .07 (bottom panel).

use, in adulthood may be more strongly associated with violence. That is, adult use of marijuana and hard drugs may reflect a rejection of legal and social norms and individuals who use drugs in adulthood may also be more likely to break other laws and commit violent crimes (Menard & Mihalic, 2001; White & Hansell, 1998). Guilamo-Ramos, Litardo, and Jaccard (2005) also



observed a tendency for pairwise correlations among problem behaviors such as substance use, general deviant behavior, and sexual activity to be weaker in older adolescence than middle adolescence. They suggested that the reduction in correlations among problem behaviors in late adolescence may occur because older adolescents “are further along in the transition to adulthood and are beginning to leave behind the more rebellious periods of early and middle adolescence” (Guilamo-Ramos et al., 2005, p. 85). Replication of these analyses for other drugs will help clarify our findings.

Our examining of associations over the life span indicated that adolescent violence was not predictive of young adult drinking and vice versa. Again, we must consider the extent to which the trajectories of the two behaviors are normative. Although we might not expect adolescent trajectories of violent behavior (non-normative in adolescence) to predict young adult alcohol use (normative in young adulthood), it is somewhat surprising that alcohol use in adolescence (which is non-normative) failed to predict young adult violent behavior (also non-normative). This later finding, however, is consistent with the finding by White and Hansell (1998) that adolescent alcohol use was not significantly related to later aggressive behavior at any age, although inconsistent with other research (e.g., Fergusson & Horwood, 2000; Orlando et al., 2005; Swahn & Donovan, 2004, 2006; Zhang et al., 1997).

In addition to stage in the life cycle, the nature of the relationship between substance use and violence depends on stage of drug use. Faupel and Klockars (1987) suggested that during the initial user stage, the association is spurious, during the more intense user stage, drug use is facilitated by criminal behavior, and finally during the street addict career stage, drug use directly causes crime. If drug patterns are associated with crime in different ways and drug use varies throughout the life course, then the relationship between drugs and crime may also vary over time for the same individual (Keene, 2005).

One limitation of this study was our focus on frequency of alcohol use rather than heavy drinking. However, other analyses of the PYS data (see footnote #6) indicated even weaker relationships in both adolescence and emerging adulthood between violence and heavy drinking (defined by the consumption of six or more drinks per occasion) and between violence and volume of alcohol (calculated as the product of quantity and frequency). Wells, Graham, Speechley, and Koval (2005) suggested that frequency of drinking maybe an important factor to consider when studying interpersonal aggression because it may be related to the frequency at which individuals are in situations where others are under the influence of alcohol. In fact, they found that frequency was a stronger predictor of fighting after drinking than was heavy episodic drinking. Leonard (2008), however, suggested that it is frequency of drinking large quantities or of being intoxicated, which is a key criterion for violence.

In addition, in the analyses presented here, violence was measured as a dichotomous prevalence measure rather than taking into account the frequency of violence. The reason for this was the low base rates for violence at some ages. Thus, the nature of the association may have been compromised. Zhang, Wiczorek, and Welte (1997) found that quantity/frequency of drinking was not significantly related to prevalence of aggravated assault, but was directly related to frequency of aggravated assault. Although alcohol use had no independent effect on prevalence of assault, it interacted with deviant attitudes and aggression/hostility to increase the risk of assault. In other words, chronic alcohol use facilitated violent crime among individuals who were higher in aggression/hostility and who held deviant attitudes. Similarly Welte, Zhang, and Wiczorek

(2001) found that early delinquency moderated the effects of substance use on crime. For those who reported early onset of delinquency, substance use was not related to later crime; however, for those who reported late onset of delinquency, there was a strong effect of earlier substance use on later crime.

We did not include any covariates in our models, although the extant research supports the idea of a common factor underlying violence and substance use. Therefore, the relatively weak associations observed here would probably be even weaker if we had controlled for common causes. Nevertheless, the purpose of this analysis was to demonstrate how within-individual growth mixture analytic techniques could be used to examine the comorbidity of substance use and violence. Future research should focus on various measures of substance use and violence and include individual and situational confounding variables as well as examine risk factors for comorbidity. Finally, this study focused only on males from one geographic area in the United States. Therefore, future studies should replicate these findings with more diverse samples.

## CONCLUDING REMARKS

Overall the existing research supports a strong association between substance use and violence. Menard and Mihalic (2001) suggested the best explanation for this association is that there is mutual causation or mutual causation coupled with shared causes. This seems like a reasonable suggestion, especially for drug-related violence, given the existing literature on acute and chronic associations. In terms of alcohol and violence, however, Leonard (2008) concluded that alcohol's acute effect on cognitive processes probably explains a great amount of alcohol-related violence. He also noted that this association reflects "shared characteristics of individuals who engage in violence and drink heavily and contextual characteristics that promote both behaviors" (Leonard, 2008, p. 47).

Thus, we need to keep in mind that the covariation between substance use and violence is confounded by other variables, such as sociodemographic characteristics, early exposure to violence, and personality characteristics, as well as the amount and type of substances used and the context of the use (Lipsey et al., 1997). Drinking is a common and frequent behavior among the majority of adults and many adolescents. Nevertheless, most occasions of drinking do not result in violence, and most drinkers do not engage in violent behavior. Therefore, more research is needed to understand the individual and situational factors that increase the risk of substance use leading to violence. With a greater understanding of the moderating and mediating processes, we will be able to develop better interventions to address this serious public health and criminal justice problem.

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## CHAPTER 22

# Caught in a Crossfire: Legal and Illegal Gun Ownership in America

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## INTRODUCTION

Just beneath the surface of much of the popular, political, and scholarly debate on gun control is a set of assumptions about the propinquity of the legal and illegal gun worlds. Few people know about, or carefully consider, exactly what these two worlds look like. As a result, much of the debate is ill informed and results in silly, if well intended, policy suggestions or actions, or the lack thereof. It is important to understand the simple facts of legal and illegal gun ownership and use because they are really at the foundation of the entire debate on myriad gun control issues.

The legal and illegal gun worlds can be quite far apart. A vast majority of legal gun owners never experience the illegal use of guns firsthand. Gun crime is only a faint news story emanating from a distant and unfamiliar place. This is why it is so difficult to convince hunters in Wyoming to give up what they see as gun rights in order to stop drive-by shootings in Los Angeles. It just does not make any sense to them. Similarly, many of those who dwell in the meaner parts of our largest cities almost never see a legitimate use of a gun by a resident. They simply cannot understand why any reasonable person would need a gun, much less multiple guns, and types of guns. The way they see it the guns and the pain and suffering they produce should not be tolerated.

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We do not pretend to cover all that is known about legal and illegal gun ownership and use. That enterprise would consume many volumes. Rather, this chapter attempts to bring the reader up to speed on the basics of legal and illegal gun ownership as we see them.

## LEGAL GUN OWNERSHIP AND USE IN THE UNITED STATES

Since first studied by Erskine (1972), empirical measures of gun ownership and public opinion regarding guns in the United States have been the subject of inquiry throughout the social sciences. The most common method of measuring and understanding legal gun ownership involves the use of survey interviews. These surveys ask respondents questions pertaining to whether they personally own a firearm, whether there is a gun in their home, how many guns they own, what types of guns they own, their personal opinions about guns, their activities that involve firearms, and whether their parents owned firearms. From these surveys, scientists have been able to paint a picture of gun ownership demographics, culture, and trends in gun ownership in the United States. Surveys do not, however, provide the only information about legal gun ownership, and additional insight about gun ownership can also be found in anthropological and historical research. Although neither of these areas offers the depth of testable information that is available through social science surveys, they do add to our understanding of the characteristics of the American “gun culture.”

The characteristics of firearms ownership, and the culture surrounding it, have developed through a number of distinct periods in American history. This history is unlike that of any other developed Western nation. It is important to understand this past as a point of reference for gun ownership today. Although historical research asserts that the United States has had very high levels of gun ownership<sup>1</sup> for many years, there is little in the way of solid, quantitative evidence to give us a precise picture of the levels of gun ownership during these periods.

Empirical data offer a number of different perspectives from which gun ownership can be viewed and measured. In addition to the demographic characteristics of gun owners, some scholars have focused on the number of firearms in gun owners' collections (Cook & Ludwig, 1996; Wyant & Taylor, 2007) while others focus on personal ownership of firearms (Cook & Ludwig, 1996; Jiobu & Curry, 2001) or various estimates of the civilian gun stock (Kleck, 1997) as a gross measure of the overall prevalence of private guns in the United States. Each of these different approaches has its own value and adds to our overall knowledge.

Perhaps the most useful measure of legal gun ownership is at the household level. Household gun ownership (hereafter HGO) provides the best information about availability of firearms because, even if not considered communal property, the firearms are usually accessible to everyone in the household. Much of what is understood regarding crimes, injuries, accidents, and suicides with firearms is based on ownership rates of firearms at the household level and this probably best represents exposure and risk from a public health perspective. It is also worth mentioning that numerous scholarly studies attempting to discern the potential benefits of private gun ownership for society are based on exactly the same concepts as potential harm and

<sup>1</sup> For historical research in the area of gun ownership in America see Bruce-Biggs, 2001; Cottrol & Diamond, 1995; Kennet & Anderson, 1975; Kopel, 1992; Legault, 2008b; Malcolm, 2003; Tonso, 1982, 1983.

risk. These ideas are two sides of the same coin and rely heavily on survey measurement of HGO for the base rates used to assess exposure, risk, and availability.

### Demographics of Legal Gun Ownership

Although there were survey data on gun-related topics as early as 1935, there were no specific data concerning legal gun *ownership* in the United States, only questions attempting to measure public opinion on gun *control* issues (Erskine, 1972, p. 456). Later studies, such as the General Social Surveys (GSS), National Gun Policy Surveys (NGPS), and National Survey on Private Ownership of Firearms (NSPOF), have provided more detailed information about gun ownership. These studies supply us with a wealth of descriptive information about gun ownership. They are designed to measure firearms ownership and the characteristics and behaviors of the gun-owning public.

Legal gun ownership is most often characterized by a series of demographic attributes that are commonly used to describe legal gun ownership and gun culture. Most surveys agree on the demographic characteristics of gun owners. For instance, there is universal agreement that the average gun owner is white, Protestant, middle class, male, and was socialized in a rural area (Bordua & Lizotte, 1979, p. 171; Kleck, 1997, p. 70; Lizotte & Bordua, 1980a, pp. 236–239; Lizotte, Bordua, & White, 1981, p. 502; Newton & Zimring, 1969; Wright, Rossi, & Daly, 1983, p. 122; Young, McDowall, & Loftin, 1987, p. 55). Additionally, gun ownership tends to be more heavily concentrated in the South and South-western regions of the country (Dixon & Lizotte, 1987, pp. 398–400; Kleck, 1997, p. 70; Wright et al., 1983, p. 122), and gun owners are often socialized into the gun culture by gun-owning parents (Lizotte & Bordua, 1980b; Lizotte et al., 1981, p. 502; Wright et al., 1983, p. 122). These demographic variables are associated with rates of household ownership in modern polls. Interestingly, these relationships also tend to hold true even when types of guns are taken into account or certain demographics are focused upon as a subsample (Kleck, 1979, p. 902; Williams & McGrath, 1978, p. 56).

These demographic descriptions of gun ownership are often discussed as a portrayal of “gun culture” in America. However, these demographic indicators do not imply or support the idea of culture on their own. Culture is more than a litany of descriptive categories. Culture is perhaps better understood as manifesting itself through shared beliefs, values, goals, and symbols that are usually driven by complex historical and social influences (Seidman, 1994). The data drawn from these surveys have consequently been used to assess whether a “gun culture” exists and to explain its role in gun ownership.

### American Gun Culture

A number of surveys and other research models have attempted to examine the gun culture directly, either by surveying gun owners exclusively, attempting to isolate different facets of the gun culture, or participating in activities associated with the gun culture. These research designs serve a number of purposes, but the major questions they hope to answer concern reasons for gun ownership, whether divergence in the values or characteristics within the gun culture exist, or if gun ownership is related to a culture of violence. This concept is central to the study of private gun ownership because culture is tenacious and cannot change easily. So, if there is a gun culture in the United States it would be difficult to alter.

**SUBCULTURE OF VIOLENCE.** A short review of the literature addressing the connection between guns, the South, and violence, tenuous though it may be, is necessary because it has fueled more discussion of the role of culture in gun ownership in the United States than any other topic. This examination also provides further insight into the status of this region as a progenitor and current leader of gun ownership and gun culture in the United States. One of the earliest attempts to offer a theory of a Southern subculture and its relation to violence (and, indirectly, gun ownership) was offered by Hackney (1969) from a historical perspective. Hackney (1969) provides a hypothesis explaining high rates of homicide in the Southern United States as an inherent part of its culture by comparing the ratio of suicides to homicides and regressing them on variables measuring “southernness” and a few structural variables (Hackney, 1969). His findings note an effect of structural variables on these rates, but also significant effects for region when controlling for these structural variables, leading him to conclude that high rates of homicide in Southern states are due to some function of Southern subculture and cultural transmission of violence. Hackney also raised the question of whether or not ready access to firearms through increased rates of legal ownership makes murder more likely in the South than in other parts of the country and found such a connection (1969, p. 919). Since this observation, research has often focused on the possible connection between violence, “southernness”, and firearms ownership.

Gastil (1971) offered a similar test of the Southern subculture of violence with comparable results. In this case, Gastil (1971) performs a test very much like Hackney’s (1969), but adds a few additional structural variables to control for access to healthcare, while assigning numerical values to individual states to give each a categorical score for “southernness” (Gastil, 1971, p. 419). Again, the results are similar to Hackney’s (1969), and the author concludes that with a lack of explanatory power on the part of the structural variables, some type of unobserved cultural effect specific to the South must be the cause of increased homicide rates. Finally, and also quite like Hackney (1969), Gastil (1971) mentions the possibility of exposure to legal firearms and its potential relationship to homicide rates, but does not allow for this potentially confounding variable in his subsequent analyses (Gastil, 1971).

Loftin and Hill (1974) replicate tests for both the Gastil (1971) and Hackney (1969) analyses with more and better measures of the structural variables. In this new analysis the cultural explanation for increased violence becomes statistically insignificant (Loftin & Hill, 1974). Furthermore, they point out the conceptualization of culture by both Gastil (1971) and Hackney (1969) is tautological in nature. That is, one cannot measure the prospect of cultural differences by region simply by including a measure of the region itself. In short, state borders are not sufficient measures of culture, and imprecise theoretical construction and conceptualization will always yield untestable hypotheses (Loftin & Hill, 1974).

**FINDING NEW CULTURAL RELATIONSHIPS.** This early work prompted a number of studies attempting to describe the relationship between a Southern subculture of violence (if it actually exists), firearm ownership, and interpersonal violence. More importantly, however, much of the work that attempted to test some relationship between the South, violence, and gun ownership found new relationships that pointed toward a more traditional understanding of culture and how that is related to gun ownership.

O’Connor and Lizotte (1978) were the first to test the relationship between Southern subculture and gun ownership; specifically, the indirect effect of Southern subculture on violence



mediated by personal handgun ownership. Using 1973 and 1974 GSS data, the authors estimated these effects finding no relationship between handgun ownership and socialization in Southern states (O'Connor & Lizotte, 1978, pp. 426–427). There are, however, significant effects of socialization in rural areas and income on handgun ownership (O'Connor & Lizotte, 1978, p. 427). This does not address the quandary of gun ownership in general and its potential relationship with the South nor does it disentangle the possible connections to a Southern subcultural influence, but it does address cultural transmission of gun ownership based on the type of place in which one was raised.

Some support was given to the hypothesis of an overall cultural influence on gun ownership by Young (1986). In this study, subsamples of the 1983 GSS were used to estimate the effect of cultural influence on gun ownership among white females and the difference in this influence between female and male gun owners. Young (1986) posits that women in the South will be motivated by cultural influences to become gun owners, and women not in the South will be motivated mainly by fear of crime to become gun owners (Young, 1986, p. 173). The author finds that women in the South are relatively unaffected by situational factors that predict gun ownership, while women in the non-South tend to be motivated by extreme fear of crime (Young, 1986, pp. 177–178). There are a number of difficulties with the test of this hypothesis, however. Perhaps the foremost limitation is a methodological impediment concerning the interpretation of the two subsamples used for comparison. Young (1986) compares subsamples of women that were not socialized in the South and women that were raised in the South (p. 177). The support for his hypothesis rests on the comparison of separate logistic regression equations estimated for each of the sub-sets. Unfortunately, he does not offer the necessary test to determine if the coefficients from each of the equations are significantly different from one another (Cohen, 1983).

Dixon and Lizotte (1987) provide the next test of the Southern subculture hypothesis that includes a test for direct and indirect effects of gun ownership and Southern culture on violence. Most importantly, though, this is the first test of these hypotheses that includes an operationalization of violent subculture that is not tautological (Dixon & Lizotte, 1987). In other words, by using GSS questions regarding approval of the use of violence, the authors were able to construct factors representing approval for both aggressive and defensive violence that is not dependent on state borders (Dixon & Lizotte, 1987). By using these factors there was a separation of region and subcultural violence, by which the relationship between the two could be tested. Although there is an effect of region on ownership in their analysis, there is no direct or indirect effect of aggressive violence on gun ownership (Dixon & Lizotte, 1987). There is, nonetheless, some effect of approval of defensive violence mitigating the direct influence of region on gun ownership. This theme was expanded upon by Ellison (1991) to further explore the relationship between subcultural violence, region, and gun ownership. In this case, Ellison (1991) argues that overzealous approval of defensive violence separates the South from other regions of the United States and that this difference is indicative of a culture of violence (p. 268).

In an attempt to explain high levels of Southern firearm ownership, Ellison (1991) also explores four dimensions of Southern subculture: subculture of violence, racial prejudice, ideological conservatism, and sporting gun subculture (pp. 268–270). As do many of his predecessors, Ellison utilizes the GSS data, in this case from the 1984, 1987, and 1989 surveys (Ellison, 1991). While the author sufficiently tests each of these dimensions, treating the data as if they were cross-sectional, he finds little evidence predicting gun ownership by region. While defensive

violence is related to the South, it is a poor predictor of both overall firearms ownership and handgun ownership (Ellison, 1991). Similarly, prejudice on the part of white Southerners was a predictor of increased gun ownership, but this relationship was significantly weakened when controlling for the presence of a sporting subculture (Ellison, 1991). Political ideology (conservatism) is also positively related to gun ownership, but not related to region (Ellison, 1991). Finally, sporting subculture and firearms ownership are strongly related, as one would expect, but neither is related to region at all (Ellison, 1991). The strongest predictors of gun ownership found in these equations are rural socialization and religion, far outstripping other estimates (Ellison, 1991). Setting aside the argument that voicing approval of *defensive* violence on a survey is indicative of a subculture of violence, the author finds little support for any of the hypotheses posed in this study, however, the relationship he finds between political conservatism and gun ownership has implications for later work. Testing relationships between region of socialization and political opinions pertaining to issues of gun control constitutes the most recent direct contribution to this literature.<sup>2</sup>

In sum, there seems to be a strong relationship between region of socialization, current region of residence, and legal firearm ownership. Much of this is due to the socialization of children into a sporting gun culture in the South or in rural areas, although some small part may be due to a subculture that encourages and approves of both firearms ownership and defensive violence among its members that may be related to the rural nature of much of the South. The convergence of these varied assessments of the relationships between region, socialization, and gun ownership is valuable. Predictions involving region, particularly the South, can be made with relative confidence when designing and interpreting models to test trends in gun ownership, especially where these trends may be tempered or exacerbated by regional considerations.

### Patterns of Legal Gun Use

There are a number of legitimate uses for firearms among civilians in the United States. Firearm use by gun owners in the United States is generally considered by researchers to fall into the categories of self-protection or sport and recreation. The sport and recreation category includes activities such as collecting, hunting, sport shooting competition, and informal target shooting. Self-protection is more focused, however, and generally seems to be motivated by fear of criminal victimization. There is a great deal of overlap between these two motivations.

Early examinations of gun use focused on defining the sport and protection subcultures and their demographic differences. For instance, Bordua and Lizotte (1979) were able to illustrate strong differences in ownership motivation and use in counties in Illinois, finding that ownership among women was more motivated by fear of crime than participation in sporting activities. Broader studies soon revealed that there is little difference, culturally, between survey respondents who report using guns for sporting purposes or protection. Furthermore, legal, protective gun ownership shows all the signs of a cultural influence. For example, there is intergenerational socialization of legal gun ownership, significant contact between members of the culture, it is independent of other situational influences, and the like (Lizotte et al., 1981).

<sup>2</sup> There have been other, more recent tests concerning subcultural violence in the South; however, these tend not to focus on the relationship between firearm ownership and region (see Nisbett & Cohen, 1996).

Later examinations of national data from the NSPOF, conducted in 1994, reveal similar, though less detailed, results that support these findings (Cook & Ludwig, 1996). Based on this national telephone survey, Cook and Ludwig report that 46% of all gun owners interviewed reported recreational use as their primary motivation for ownership. Among recreational users, 18% reported that they used guns for hunting only, 17% reported sport shooting only, and an additional 17% reported both. Finally, almost half of those who described themselves as recreational gun users reported participation in neither hunting nor other sport shooting (Cook & Ludwig, 1996).

Legal gun owners also use firearms for self-protection. Generally, researchers have tried to find a core difference between the self-protection and sporting groups, focusing on self-reports (Bordua & Lizotte, 1979; Cook & Ludwig, 1996; Lizotte & Bordua, 1980a; Wright et al., 1983). In these cases, it is often difficult to differentiate between the sport and self-protection groups because many of the respondents consider firearms to be suitable for self-protection *and* hunting or target shooting. Therefore, surveys generally ask for the primary reason for ownership. Of those gun owners in a 1978 survey, for instance, 20% reported home defense as a primary reason for ownership (Decision-Making Information, 1979). This poll was conducted well before the expansion of concealed weapons licenses by individual states in the United States, whereby self-protection outside the home became more common, realistic, and legitimate. In the NSPOF survey, the more general category of “self-protection” accounts for a full 46% of gun owners (Cook & Ludwig, 1996).

Firearm use for self-protection is difficult to assess in surveys. It is often unclear what constitutes use of a gun for self-protection. Moreover, gun owners may, and often do, report self-protection as a motivation for gun ownership, but whether they actually *use* a gun in self-defense is a hotly debated topic. Furthermore, those surveys that attempt to detail what Kleck (1997) refers to as defensive gun use (DGU) are criticized for producing overestimates because they often fail to differentiate between either the degree of use or the seriousness of the threat that led to gun use.<sup>3</sup> Additionally, these estimates often include cases where the defensive gun user might not simply be an innocent victim, but a criminal defending himself in the course of a criminal act. Even the most conservative estimates, however, indicate that private citizens use legally owned firearms to defend against crimes at least as often as guns are used in crime (Hemenway, 1997). Finally, a number of studies have tried to examine the effect of self-defense with a gun on crime levels. This topic is outside the scope of this work, but is nonetheless inexorably tied to the more general discussion of legal gun ownership (cf. Martin & Legault, 2005).

In the end, it is apparent that gun owners may own firearms for a number of reasons. They are generally socialized into gun ownership by family members, and their use of firearms spans a broad array of legitimate activities.<sup>4</sup> Target shooting, hunting, sport shooting competitions, gun collecting, home protection, and self-protection are a few of the activities commonly reported by legal gun owners, and they usually participate in more than one of these activities. Using firearms for sporting purposes would probably best be examined scientifically by those who

<sup>3</sup> The degree of gun use could range from a victim actually shooting an assailant to telling someone that he or she has a gun to scare the person away. The seriousness of the threat could range from an actual physical attack to something that “goes bump in the night” and may or may not be a real threat.

<sup>4</sup> For an excellent ethnographic description of some of these activities and the motivations of gun owners, see Kohn, 2004.

study the sociology of sport, not criminologists, as it is inherently non-criminal behavior (Wright, 1995). Defensive gun use, however, deals directly with crime, and there is little consensus among those who study the use of firearms for self-protection. What is known, however, is that legal guns are probably used to thwart crime at least as often as they are used to commit crimes, but that their effect on aggregate crime levels through concealed carry laws is relatively weak (Martin & Legault, 2005). Finally, legal gun ownership has the trappings of a culture in the United States.

### **Beyond Cross-Sectional Study: Trends in American Gun Ownership**

Until recently, all of the assessments of legal gun ownership were cross-sectional. It has only been within the last year that panel and time series models have been used to examine this topic (Legault, 2008b). Understanding these figures, however, is an important first step in explaining the relationship between firearms and violence in the United States (National Research Council, 2005). Two areas have received the most attention when analyzing trends in gun ownership in the United States: the raw numbers of firearms in civilian hands and determining whether there have been changes in the prevalence of HGO. There are a number of ways to view both of these measures, and there is little agreement among researchers as to their validity.

**THE CIVILIAN GUN STOCK.** Various estimates of the civilian gun stock (Kleck, 1997) are often used as a gross measure of the overall prevalence of private guns in the United States, with estimates ranging between 150 and 240 million firearms in private hands<sup>5</sup> (Cook & Ludwig, 2000, p. 11; Hemenway, 2004; Kleck, 1997, p. 70). We have calculated our own, up-to-date estimates of the civilian gun stock, using data from the Bureau of Alcohol Tobacco and Firearms (ATF), the International Trade Commission, and U.S. Census estimates. In Table 22.1, the growth of available guns in the U.S. population and potential for widespread gun ownership are apparent. Over the last 10 years, an average of about 4.8 million guns have been added to the national gun stock per year, and about 1.9 million of these have been handguns. In the end, we expect that there are about 216 million firearms in the civilian gun stock as of 2006, allowing for 1% attrition of the total stock per year to account for guns that are lost, destroyed, or otherwise rendered inoperable.<sup>6</sup> These figures tell us little about the presence of a firearm in specific households, however. In order to understand household ownership and exposure to firearms, research more commonly depends on surveys that are aimed at households or individuals.

<sup>5</sup> With between 3 and 6 million firearms being added every year, current estimates could range from 120 to 300 million firearms in private hands in the United States. These additions are not, for the most part, replacements for lost, broken, or worn out guns.

<sup>6</sup> One percent attrition is probably an overestimate of the number of firearms lost per year, but makes our estimate more conservative by its size and because it gives firearms that are produced more recently, in greater numbers, the same weight as those that were produced in the more distant past when fewer guns were added per year. Guns are durable goods that require only a small amount of care to remain operational.

**TABLE 22.1. Civilian Firearm Stock and Population Estimates (in Thousands) and Homicide Rate, United States, 1899–2006**

Year	Resident U.S. population	Firearms			Cumulative gun stock <sup>b</sup>	Privately held gun rate <sup>c</sup>	Homicide rate <sup>d</sup>
		Total <sup>a</sup>	Handguns	Long guns			
1899–1945	132,481	44,040	10,768	33,272	44,040	332	X
1946	140,054	1,410	119	1,291	45,010	321	6.4
1947	143,446	1,933	186	1,747	46,493	324	6.1
1948	146,093	2,450	346	2,104	48,478	332	5.9
1949	148,665	2,029	181	1,848	50,022	336	5.4
1950	151,868	2,299	186	2,113	51,821	341	5.3
1951	153,982	1,928	274	1,654	53,230	346	4.9
1952	156,393	1,811	386	1,494	54,509	349	5.2
1953	158,956	1,851	347	1,504	55,815	351	4.8
1954	161,884	1,496	322	1,174	56,753	351	4.8
1955	165,069	1,695	367	1,328	57,880	351	4.5
1956	168,088	1,901	466	1,435	59,203	352	4.6
1957	171,187	1,846	475	1,371	60,456	353	4.5
1958	174,149	1,636	467	1,169	61,488	353	4.5
1959	177,135	2,041	587	1,454	62,914	355	4.6
1960	179,975	2,042	546	1,496	64,327	357	4.7
1961	182,973	1,916	505	1,411	65,600	359	4.7
1962	185,738	1,941	540	1,401	66,885	360	4.8
1963	188,438	2,098	613	1,485	68,314	363	4.9
1964	191,085	2,367	671	1,696	69,998	366	5.1
1965	193,460	2,931	924	2,007	72,229	373	5.5
1966	195,501	3,319	1,118	2,201	74,825	383	5.9
1967	197,374	3,855	1,565	2,290	77,932	395	6.8
1968	199,312	5,016	2,367	2,649	82,169	412	7.3
1969	201,306	4,265	1,523	2,742	85,612	425	7.7
1970	203,302	4,287	1,533	2,754	89,043	438	8.3
1971	206,827	4,703	1,640	3,063	92,856	449	9.1
1972	209,284	5,283	2,071	3,212	97,210	464	9.4
1973	211,357	5,422	1,887	3,535	101,660	481	9.7
1974	213,342	6,399	2,023	4,376	107,042	502	10.1
1975	215,465	6,117	2,163	3,954	112,089	520	9.9
1976	217,563	5,718	1,976	3,742	116,686	536	9.0
1977	219,760	5,233	1,925	3,308	120,752	549	9.1
1978	222,095	5,360	1,903	3,457	124,905	562	9.2
1979	224,567	5,691	2,171	3,520	129,347	576	10.0
1980	226,546	5,882	2,449	3,432	133,935	591	10.7
1981	229,466	5,475	2,591	2,886	138,071	602	10.3
1982	231,664	5,349	2,708	2,642	142,039	613	9.6
1983	233,792	4,581	2,219	2,363	145,200	621	8.6
1984	235,825	4,411	1,905	2,507	148,159	628	8.4
1985	237,924	3,974	1,684	2,290	150,651	633	8.4
1986	240,133	3,524	1,538	1,986	152,669	636	9.0

(cont.)

TABLE 22.1. (Continued)

Year	Resident U.S. population	Firearms			Cumulative gun stock <sup>b</sup>	Privately held gun rate <sup>c</sup>	Homicide rate <sup>d</sup>
		Total <sup>a</sup>	Handguns	Long guns			
1987	242,289	4,345	1,842	2,503	155,487	642	8.7
1988	244,499	4,840	2,236	2,605	158,772	649	9.0
1989	246,819	5,123	2,353	2,769	162,307	658	9.3
1990	249,464	4,334	2,110	2,225	165,018	661	10.0
1991	252,153	3,873	1,941	1,929	167,241	663	10.5
1992	255,030	6,479	2,803	3,676	172,048	675	10.0
1993	257,783	7,759	3,881	3,879	178,086	691	10.1
1994	260,327	6,641	3,324	3,316	182,946	703	9.6
1995	262,803	4,911	2,199	2,713	186,028	708	8.7
1996	265,229	4,391	1,821	2,569	188,559	711	7.9
1997	267,784	4,242	1,773	2,469	190,915	713	7.4
1998	270,248	4,445	1,727	2,717	193,451	716	6.8
1999	272,691	4,693	1,565	3,128	196,209	720	6.2
2000	282,194	4,969	1,918	3,051	199,216	706	6.1
2001	285,112	4,211	1,593	2,618	201,435	707	5.6
2002	287,888	5,152	2,003	3,149	204,573	711	6.1
2003	290,448	4,944	1,841	3,103	207,471	714	6.1
2004	293,192	4,793	1,823	2,970	210,189	717	5.9
2005	295,896	4,923	1,907	3,016	213,010	720	6.1
2006	298,755	5,587	2,395	3,192	216,467	725	6.0

NOTE. These data do not include muzzle-loading firearms. All homicide rates are from the Vital Statistics except 2001. Homicide rates for 2001 are from the FBI's Uniform Crime Reports in order to report only homicides that were not a result of the September 11 attacks. Homicide rates for 2006 are preliminary and are presented here as reported by the source. These data do not include firearms for the military, but do include firearms for law enforcement agencies.

<sup>a</sup>Total firearms in the US are calculated from the sources listed above by summing all firearms produced for civilian use and imports and then subtracting exports. These totals do not include firearms produced or imported for the U.S. military.

<sup>b</sup>Cumulative gun stock calculated as all firearms produced and not exported, plus imports, minus 1% of the total per year to account for attrition.

<sup>c</sup>Rate per 1,000 in the population.

<sup>d</sup>Rate per 100,000 in the population.

Source: U.S. Bureau of Alcohol Tobacco and Firearms (2008); U.S. Bureau of Alcohol Tobacco and Firearms (2000); U.S. Bureau of Justice Statistics (2008); U.S. Bureau of Justice Statistics (2007); U.S. Census Bureau (2004); U.S. Census Bureau (2008a); U.S. International Trade Commission (2008); U.S. National Center for Health Statistics (2008a, 2008b).

**SURVEY ESTIMATES OF GUN OWNERSHIP OVER TIME.** Almost 50% of households in the United States reported gun ownership since the inception of these surveys in the 1950s, but reports have dropped sharply since the late 1980s. For instance, HGO in the United States has been reported at a rate of 46% as late as 1989. Nine years later in 1998, the same survey reported that household gun ownership rates have precipitously fallen to 38% (Smith, 1999,

p. 30). Likewise, in the General Social Surveys, HGO is reported at a rate of 46% in 1989, but only 32% in 2000. These severe declines could be indicative of a pronounced change in U.S. gun ownership, some prominent change in reporting behavior on surveys that ask questions about gun culture and gun ownership, random variation in reporting levels, or some combination of these causes.

Understanding these changes is important for a number of obvious reasons, but was thrown into sharp relief recently with the review of research on guns and violence in the United States published by the National Academy of Science (National Research Council, 2005). Little attention has been paid to the possibilities of systematic, measurable error present in the survey estimates or demographic changes in gun-owning group itself (National Research Council, 2005). If error does exist it would adversely affect the conclusions drawn from these types of data, and if it does not, an important question about the validity of HGO measures will be answered. This, in turn, would allow much greater confidence in the findings of previous scientific studies. In sum, much of what is known about firearms, who legally owns them, how many there are in the United States, what they are used for, etc., hinge on survey measurement of household gun ownership.

National trends in HGO and its face validity have only recently come under serious scrutiny. The National Academies of Science lists 35 data sources pertaining to firearms and violence in some way. However, only three of these data sources specifically address ownership (National Research Council, 2005, pp. 22–31). Data that can provide a detailed understanding of ownership are considered by that committee to be the most important data for explanation of the various roles that guns are thought to play in crime and violence in the United States. Nonetheless, the first major conclusion of this scientific body is that little or no effort has been made to assess the reliability and validity of these data, specifically data detailing gun ownership in the General Social Surveys (GSS) (National Research Council, 2005, pp. 3–4). They go on to state: “The committee is not aware of any research assessing the magnitude or impact of response errors in surveys of firearms ownership and use” (p. 36) and

Concerns about response errors in self-reported surveys of firearms possession and use require much more systematic research before surveys can be judged to provide accurate data to address critical issues in the study of firearms and violence. . . Without systematic research on these specific matters, scientists can only speculate. (National Research Council, 2005, p. 37).

In order to address the speculation surrounding measures of HGO and evaluate the quality of data on the topic, it has been necessary to develop and test theoretical models that explain HGO fluctuations over time. To this end, four major theoretical explanations for the apparent reduction of HGO have emerged in recent years. Although each of these explanations is relatively simple, they were, until recently, untested. The four main theoretical explanations for recent reductions in reported HGO are changes in the gender gap in reporting, the reduction of household size, the increase in the proportion of female-headed households, and the urbanization of America. It is important to remember that any combination of these hypotheses or any of the hypotheses individually has the potential to describe the recent reduction in HGO. Additionally, there is a fifth explanation that is often overlooked; the passage of time could provide evidence to support an actual reduction in household ownership among the demographic that has traditionally been referred to as the “gun culture.”

The gender gap in reporting HGO as an explanation for underreporting of gun ownership was first noted by Kleck (1997, p. 67). This analysis provides some support for the assertion that HGO misreporting has somehow grown since 1987, relying on the idea that there has been

some change in gun owners' feelings of legitimacy (Kleck, 1997, p. 67). This point is illustrated by calculating and comparing reported HGO percentages for married men and women from the 1973–1993 GSS (Kleck, 1997, p. 100). In this relatively simple comparison Kleck notes a two to three percentage point gap in HGO reporting between married men and women prior to 1988 and an increase to seven percentage points thereafter (1997, p. 67). He hypothesizes that the increased public discussions of highly restrictive federal gun control legislation in the United States during this period would function as a motivation for private citizens to consider gun ownership as less legitimate, therefore motivating such citizens to conceal their private gun ownership (Kleck, 1997, p. 67). Comparable logic was applied 1 year later by Ludwig and his colleagues to explain similar findings (Ludwig, Cook, & Smith, 1998). More recently, however, cross-sectional research has supported the social undesirability hypothesis by comparing married respondents in the 2000 GSS to find that observed differences between married men and women are due to a systematic pattern of reporting behavior concerning guns. This, of course, should not be and denotes measurement error. Married respondents who are cohabitating should not report any household-level variable differently. Further, the reporting error was concentrated among respondents who were raised in the urban North-east where population densities are greatest in the United States. (Legault, 2008a).

Among the five explanations for changes in survey reports of gun ownership there is one that remains untested. The urbanization hypothesis relies on a steady shift in the U.S. population toward urban areas (U.S. Census Bureau, 2004, p. 30). Therefore, a demographic shift from areas with strong sporting gun cultures to areas without a modern tradition of legitimate gun ownership or use will account for the overall reporting change. However, when one considers that *individual*-level reports of gun ownership have remained unchanged throughout this entire period, serious doubt is cast on the hypothesis. If urbanization in America was the explanation for reduced levels of gun ownership, it should be reflected in individual reports of gun ownership, but individual reports of gun ownership have remained comparatively stable at about 29% (Kleck, 1997, pp. 98–99; Smith, 1999, p. 9). A reduction in the proportion of rural population, HGO reporting, *and* individual gun ownership would point to the need for further evaluation of the hypothesis, yet this condition does not exist. It is much more likely that explanations that are not related to individual ownership, such as household size or systematic reporting error explain changes in reporting over time.

A reduction in household size could easily explain the drop in HGO (Smith, 1999, p. 13). This is a relatively simple, reasonable, and logical hypothesis that could rely on two different types of change in American household demographics. First, a reduction in the average size of household populations would necessarily reduce the total number of persons that could own a gun and therefore the odds of HGO for that household. Likewise, the number of generations living in the household could have the same effect on reporting HGO.

A significant shift in the demographic characteristics of the gun culture could also explain this change. If one or more of the typical predictors of gun ownership were to change, then those households that were likely gun-owning households in the past may no longer have a gun in them thereby reducing the frequency of HGO. For instance, reductions in gun ownership among men, Protestants, those raised in the South or those raised in rural areas, or any combination of the usual predictors of HGO might indicate a change in the gun culture, as it is usually understood, and explain overall changes in the prevalence of HGO.

The final explanation that could be offered to explain some part of the reduction in HGO takes the increase in female-headed households into account. Similar to the reduction



in household population hypothesis, it is easily testable with GSS data due to the inclusion of detailed household enumeration data. It is also a possible explanation that attempts to reconcile the reduction in HGO and the stability of personal gun ownership (PGO) in the GSS sample. It is easy to imagine that since women are less likely to own guns than men, the doubling of the percentage of female-headed households between 1970 and 1997<sup>7</sup> could explain the actual reduction in HGO. This state of affairs would leave the relative status quo of PGO unchanged.

Perhaps the least surmountable of the barriers to studying HGO over time has been the nature of the gun ownership data. Data that are dichotomized are difficult to analyze over time because most traditional time series and longitudinal methodologies depend on statistical models that assume normality in the dependent variable. More recently, however, mixed models and panel models have regularly been applied to repeated cross-sectional survey data like the GSS (Firebaugh, 1997). These types of methods, and their derivatives, have been used to test hypotheses regarding gun ownership and the greater question of the reliability and validity of HGO measures on national surveys (Legault, 2008b).

In the case of the most recent scholarship on legal gun ownership over time, we note that the changes in reporting levels of household gun ownership can be mostly attributed to changing household demographic patterns and not changes in measurable reporting error (Legault, 2008b). More specifically, evidence from an examination of 16 years of GSS data reveals that an increase in the proportion of female-headed households and a reduction of household size in the United States account for a great deal of the drop in household gun ownership reporting between 1972 and 2000.

Similar to the cross-sectional studies mentioned earlier, there is also evidence of a gender gap in HGO reporting among married men and women. Unlike previous studies, however, this gap in reporting was also examined over time to determine whether changes in the gender gap, and therefore reporting error, might account for a decrease in overall reporting. In this case, changes in the gender gap were not supported as the magnitude of the gender gap has been essentially constant over the life of the GSS when controlling for other causal factors that predict HGO (Legault, 2008b). This means that, as the size of the civilian gun stock continues to grow or remain stable, the number of individuals owning firearms remains about the same, the number of gun-owning households decreases, and we expect the number of guns per household in the United States to increase.

## Summary – Legal Gun Ownership

There has been a great deal of consensus in the scientific literature regarding legal gun ownership in the United States. More recently, however, the reliability and validity of these data have been called into question (National Research Council, 2005). Although there appears to have been a substantial change in HGO over the last 20 years, this is more due to a change in the household demographics in the United States than reporting error. While some tests have provided information and add to the current scientific knowledge regarding HGO, further research is required to develop a full understanding of the data from which measures of HGO are derived. We now

<sup>7</sup> From 10% to 23% in 27 years (Bryson & Casper, 1998, p. 5).

know what forces are likely *not* producing a change in HGO, and what demographic changes likely *are* producing measurable changes. These types of tests are a first step in understanding how we measure legal gun ownership in the social-scientific study of firearms, gun violence, gun ownership, and gun policy.

Thanks to many years of scholarly research, we also have a very detailed picture of the general demographic picture of gun owners. Driven by cultural predictors such as region, type of place, rituals like hunting, and familial ownership, we know that gun ownership is most common among males, persons raised in rural areas or the South or West, political conservatives, Protestants, those with higher levels of income, and persons who are older, married, and whose parents were gun owners. Moreover, thanks to longitudinal analyses of HGO, we also know that this demographic description of gun ownership has remained essentially unchanged.

We also know that legal gun ownership in the United States exemplifies the very definition of normative behavior and seems to be culturally motivated.<sup>8</sup> Based on the highest estimates of the number of guns in private hands in the United States, there could be as many as three firearms for every household in the United States. Another way to think of this is that there may be almost enough privately held guns to provide one for every man, woman, and child in the country.<sup>9</sup>

## ILLEGAL FIREARMS OWNERSHIP AND USE IN THE UNITED STATES

Much of our knowledge about the illegal use of firearms comes from surveys of felons (Shelley & Wright, 1995; Wright & Rossi, 1986) or of the urban, high risk, youthful populations from which the delinquents are extracted (Bjerregaard & Lizotte, 1995; Lizotte, Howard, Krohn, & Thornberry, 1997; Lizotte, Krohn, Howell, Tobin, & Howard, 2000; Lizotte & Sheppard, 2001; Lizotte, Tesoriero, Thornberry, & Krohn, 1994). There is also a substantial body of knowledge obtained from guns confiscated in crimes (Cook & Braga, 2001; Kennedy, Piehl, & Braga, 1996). There are some striking differences between the guns used in crime and those owned by the general population and even more profound differences between characteristics and motivations of legal and illegal owners.

### Demographics of Illegal Gun Ownership

As discussed above, legal ownership in the United States is largely culturally derived with family socialization driving ownership through the generations. Illegal ownership is another matter entirely. It is a product of necessity, and the socialization comes from deviant peers, not the family. Illegal gun owners and gun criminals, whether or not they own the gun they carry, are overwhelmingly male. However, the other demographic predictors of legal gun ownership are of

<sup>8</sup> In national surveys with a sample size of around 1,500 cases, it is unlikely that more than one or two violent gun felons would be included in the sample. For example, even in years when violent crime was at its peak the United States might log 480 violent crimes per 100,000 population with about a quarter using guns. This nets one or two gun felons in 1,500 cases under the unlikely assumption that each crime was committed by a different felon. So, surveys of the general U.S. population typically tap legal owners.

<sup>9</sup> These illustrations are based on the highest estimates of privately owned firearms and U.S. census estimates for 2006 of about 105 million households and 299 million persons in the U.S. population (U.S. Census, 2008b).

no help for predicting illegal ownership. Unlike legal gun owners, illegal gun owners do not tend to be rural, middle class, Southern, Protestant, republican, middle aged, and white. There is no evidence that illegal gun ownership significantly overlaps with the legal gun culture or even the so-called Southern subculture of violence. Legal owners do not possess the violent attitudes that one would expect from a violent culture (Dixon & Lizotte, 1987). While Southern culture may place a special emphasis on gun ownership, those raised in the South are not more violent than those who grew up in other regions (Loftin & Hill, 1974), and Southerners are no more violent minded than others (Dixon & Lizotte, 1987; O'Connor & Lizotte, 1978).

Data from the Rochester Youth Development Study (RYDS) (Lizotte et al., 1994, 1997, 2000) show that even urban youths who own legal guns are socialized by their families, whereas boys who own illegal guns are socialized by their deviant peers who own illegal guns. Furthermore, there is momentum in both types of ownership. Even urban children who are socialized into legal gun ownership by their parents are statistically significantly more likely to be legal owners later in life, while boys who are socialized into illegal ownership on the street by their peers are more likely to own illegal guns as adults (Lizotte, Chu, & Krohn, 2009). This simple fact suggests that deterring, or otherwise stopping, illegal gun ownership early may reduce gun crimes over long periods of the life course.

### **Patterns of Illegal Gun Use**

There are a number of different approaches to studying illegal gun ownership, and each has been the subject of research from a variety of perspectives. The areas that are studied are often informed by the perspectives of the researcher or the research question, but together they serve to inform an overall understanding of the etiology of illegal firearms, the users of illegal firearms, and the demand for illegal firearms.

**ORIGINS OF ILLEGAL FIREARMS.** While almost all guns begin at manufacture or importation legally, some transcend into the illegal realm. This is of no surprise given that roughly one-third of households share literally hundreds of millions of guns. Surveys tell us that illegal gun owners primarily obtain their guns from illegal transfer, with theft being the most common form (Shelley & Wright, 1995; Wright & Rossi, 1986).<sup>10</sup> On the other hand, gun trace data show that many guns used in crimes were purchased relative recently suggesting straw purchases (Wintemute, Romero, Wright, & Grassel, 2004). Both statements are true. They just view sources of illegal guns from different perspectives: that of the bad guy and of the police. The first consists of guns ever used by bad guys and the second those guns confiscated or discovered by the police that can be traced.<sup>11</sup>

<sup>10</sup> Many guns obtained from illegal transfers excluding theft were stolen at some point down the line by one transferee or another (Wright & Rossi, 1986).

<sup>11</sup> Traceable guns need to be obtained by the police in the first place. They must have been manufactured after serial numbers were introduced to the market. They must in fact be traced by the police, and so on. In other words, traced guns are not necessarily an unbiased sample of all guns used in crime, just as felons' reports of guns used are not an unbiased source.

There is certainly a vast market in illegal guns (Cook, Ludwig, Venkatesh, & Braga, 2007; Cook, Molliconi, & Cole, 1995).<sup>12</sup> For example, there is strong evidence that gangs provide guns for the boys who join them. Not surprisingly, data from the RYDS (Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003) show that boys who are current gang members are much more likely to own and to carry illegal guns. However, the really remarkable findings are that the boys who are gang members are no more likely than those who were never gang members to own illegal guns pre-gang and post-gang. Put simply, the gangs and the guns are nearly isomorphic.

**USERS OF ILLEGAL FIREARMS.** It is important to note that criminals do not need to own guns to use them in crime. Many borrow or rent the guns that they use illicitly (Lizotte et al., 2009; Shelley & Wright, 1995; Wright & Rossi, 1986). In fact, in the RYDS more than 60% of gun carriers borrow the gun compared to about 38% who own it. We suspect that some of the owners actually share ownership with others. For example, gang members may share a gun and think of it as collective ownership. Of course, the owners can also loan or rent the guns to others as well. These simple facts suggest that there are more gun carriers than there are illegal guns to carry.

Regardless of whether the illegal gun is borrowed or owned boys move in and out of gun carrying very quickly. Lizotte, McDowall, and Schmidt (see Chapter 3, Longitudinal Data and Their Uses) report that between 5 and 8% of boys carry illegal guns during their adolescence and the percentage increases as they age. Furthermore, about 44% of boys who carry guns do so for one 6-month period or less and about 72% carry for two not necessarily adjacent 6-month periods or less. This suggests that the motivation to carry is weak and transitory and may be easily deterred. In fact, the predictors of gun carrying change over adolescence (Lizotte et al., 2000). In early adolescence gang membership and drug use are statistically significant predictors of gun carrying. However, by middle adolescence, gang membership continues to have a strong influence but high levels of drug sales and peer illegal gun ownership also come into play. By late adolescence and early adulthood the impact of gangs diminishes and high drug sales and use and peer illegal gun ownership are in full swing.

*Preference for Illegal Guns.* Bad guys want the types of guns that the police have (Shelley & Wright, 1995; Wright & Rossi, 1986). They prefer handguns in general and semi-automatics in particular. The boys who were illegal gun carriers in the RYDS overwhelmingly preferred handguns and sawed-off shotguns and rifles for their concealability and power. Boys who used guns legally preferred unadulterated rifles and shotguns and some handguns (Bjerregaard & Lizotte, 1995; Lizotte, et al., 1994). Wright and Rossi (1986) and Shelley and Wright (1995) report similar findings. Felons seek powerful, well-made handguns that are concealable, and when they cannot get them they overwhelmingly saw off shotguns and rifles.

<sup>12</sup> See Cook et al. (2007) for a fascinating account of underground gun markets.

Among criminals who carry firearms, the most often self-reported reason for doing so is self-protection (Decker, Pennell, & Caldwell, 1997; Lizotte & Sheppard, 2001; *Wright & Rossi*, 1986), further supporting the idea that criminals prefer small concealable firearms. This is true in incarcerated populations (Wolf Harlow, 2001), interviews with arrestees (Decker et al., 1997), and in delinquency studies and across age groups (Bjerregaard & Lizotte, 1995). When inmates who had used a gun in the commission of a crime were asked information on the extent of their firearm use they often reported that they brandished the weapon to “scare someone” or “get away” (Wolf Harlow, 2001, p. 11).

### Illegal Guns and Crime

Wright and Rossi (1986) and Sheley and Wright (1995) surveyed felons in part to determine their motivations to go armed. There are many reasons, but the primary ones are that it is a dangerous world inhabited by dangerous armed people from whom the carrier needs protection. These bad actors perceived a need for protection from armed store clerks, armed citizens, the police, drug dealers and users, and other people who look just like the bad actor himself. Additionally, the guns trump many dangerous situations. In essence, offenders need guns for protection and to facilitate crime. Of course, this fuels an arms race.

There has been some debate as to whether guns lead bad guys to commit crime or whether bad guys choose guns when they intend to commit more crime. In other words, we need to know if the elevated level of crime comes from the kind of people who carry guns or from the facilitation effect of the gun. Of course, guns do not possess teleology (Wright, 1995). However, they may empower carriers to commit more crime. Some psychological experiments have attempted to address this issue by measuring the willingness of subjects in laboratories (typically college students) to electrically shock stooges who are portrayed as either gun owners or non-owners. They claim that the trigger pulls the finger (Anderson, Benjamin, & Bartholow, 1998; Ellis, Weinir, & Miller, 1971), because the scientific conspirator with the gun in an experiment gets longer and more intense shocks from the college student subject. However, these sandbox experiments have serious methodological problems (Toch & Lizotte, 1992) that render the effort nearly useless. In the real world, Wright and Rossi (1986) and Sheley and Wright (1995) have found that felons who use guns do in fact commit more crimes than non-gun offenders. However, this begs the question of the motivation of the offender and the facilitation of the gun. On the one hand, Kleck (1997) notes that criminals who are more intent on inflicting serious harm will be more likely to seek out a weapon that will do so. They will therefore prefer firearms to knives or other weapons. On the other hand, using simple bivariate comparisons Thornberry et al. (2003) and Lizotte, Bonsell, McDowall, Krohn, and Thornberry (2002) show that RYDS subjects commit more crimes during periods of gun carrying compared to when they do not carry. This suggests that it is the gun. However, person effects were not properly controlled and other control variables were absent. In a critical set of analyses, Lizotte et al. (see Chapter 3) and Schmidt and Lizotte (2009) use fixed effects models to estimate the impact of gun carrying by comparing individuals to themselves controlling while for other predictors. They found that guns elevate the level of offending when holding person effects and other variables constant. This further suggests that there are more gun crimes than there are guns used to commit them. There is also strong evidence that the combination of gun carrying and gang membership greatly intensifies levels of

criminal activity, and is much more pronounced than one would expect from either individually (Thornberry et al., 2003).<sup>13</sup>

There is also a body of research that suggests that, compared to other weapons, when guns are used in assaults there is a higher likelihood of death but a lower probability of injury.<sup>14</sup> This is called the “weapons instrumentality effect.” For example, Zimring (1968) compared gun and knife assaults finding that guns were five times more likely to result in death than attacks with knives. Cook (1987) did the same for robberies finding guns more deadly than knives and much more deadly than other weapons. Kleck and McElrath (1991) show that the strength of the effects varies for different stages of attacks. Felson and Messner (1996) failed to find an interaction of weapon type and crime type (assault and robbery) on the probability of death. Probably the most methodologically sophisticated analysis of the weapons effect was conducted by Wells and Horney (2002). They interview prisoners and compare these prisoners’ self-reports of attacks involving either guns or other weapons and attacks that did not involve either guns or weapons. This strategy is important because simply comparing various types of weapons users to each other confounds the impact of the weapon with the fixed personality traits of attackers. In other words, people who are psychologically capable and who intend to kill or seriously injure others may choose guns, while those without such strong intent choose other weapons. Using the more sophisticated methodology, Wells and Horney found that gun use increased the odds of an attack by 130% compared to no weapon, while other weapons increase the odds by about 400%. Similar to prior research they find that guns reduced the odds of an injury by about 60% and other weapons increased the odds by about 80%. However, guns increased the odds of serious injury by 53-fold (5,300%), while other weapons increased serious injury by a comparably meager amount (350%). So, guns prompt more attacks that result in more serious injury independent of the time stable motivations of the offender.

### **Time Trends in Civilian Ownership and Crime**

As mentioned earlier, the United States has added many millions of guns to its private stock since records have been kept. Before 1995 it was fashionable to argue that more guns meant more crime. In the 36 years from 1960 to 1995, the United States added about 98 million long guns and sixty-seven and a half million handguns to the civilian stock. The violent crime rate, and certainly the gun crime rate, increased in lock step over the same period. More guns, more crime. However, in the 10 years from 1996 to 2005, the number of guns added to the private stock increased even faster with handguns, and not rifles, taking the lead. For example, about 32 million long guns and 20 million handguns were added after 1995. By combining data from BATF reports and import information from the International Trade Commission, we can see that the rate of available firearms in the U.S. population was probably about 708 guns per 1,000 persons in 1995 and 725 per 1,000 in 2006. This indicates that there are somewhere in the neighborhood of 216 million firearms owned privately or by law enforcement agencies in the United States, allowing for 1% yearly attrition in the total gun stock. However, homicide in general, and the gun crime

<sup>13</sup> In fact, boys who own legal guns essentially look like those who do not own in terms of criminal offending.

<sup>14</sup> See Wells and Horney (2002) for an excellent discussion of this research.

rate in particular, dropped rather dramatically after 1995. For example, in 1995 the U.S. homicide rate and the firearms homicide rate was 8.7 and 5.6, respectively, by 2006 they were 6.0 and 3.9 per 100,000. More guns, less crime.<sup>15</sup>

We are not arguing that citizens' guns do not have anything to do with crime. Rather, the relationship is neither straightforward nor simple. Aside from the high profile use of firearms in crime in the United States, firearms also serve a number of legitimate uses. As recently pointed out in the majority opinion of the *Heller* case, personal firearm ownership in the United States is inexorably tied to an individual right to self-defense. While research in this area exceeds the scope of this work, it is important to be aware that there is little consensus among researchers on the topic, and much yet to discover about its complex relationship to crime and violence. It is certainly true that criminals use firearms to nefarious ends, but it is likely that many firearms crimes are committed with a few firearms by criminals who are engaged in a lot of criminal activity.

## CONCLUSION

Gun ownership is common in the United States. Well over one-third of households in the United States report a firearm in the household, and it is likely that there are numerous guns in each home. It is also likely that there are almost enough privately held firearms in the United States to provide every man, woman, and child with one. Yet, only four or five research studies address the validity or reliability of the measures used to determine the nature of gun ownership (National Research Council, 2005). A vast majority of these firearms are never used for anything more threatening than target practice, but this stock of legal firearms is also the main source of arms for criminals. Criminal uses of firearms are certainly not innocuous and are concentrated among the most violent, youthful offenders.

Gun ownership is generally understood to be concentrated among those who live in the South-east or West and in rural areas, and who are white, middle aged, middle class, married, Protestant, and male. At the household level, these demographic predictors appear to have changed little over the past 30 years, indicating stability within the gun culture (Legault, 2008b). However, there have been changes in the overall makeup of U.S. households during this time period. The decrease in the percentage of households that report gun ownership can be explained, largely, by an increase in female-headed households and a decrease in overall household population in the United States. Female-headed households have never been likely to have a gun, and decreases in household population yield a situation where there are fewer individuals per household that could be gun owners (Legault, 2008b). This decrease in the proportion of gun-owning households in the United States combined with vast increases in the number of firearms in the civilian gun stock leads us to expect that there has been an increase in the concentration of the number of firearms per household in gun-owning households. More recently it has been handgun ownership that is on the rise, suggesting civilian protection ownership. The individuals that own guns legally, however, are quite different than those who use guns for criminal purposes.

<sup>15</sup> The homicide rates are reported in the U.S. Vital Statistics (see table), and the firearm homicide rates are reported in the Uniform Crime Reports (U.S. Bureau of Justice Statistics, 2007).

In stark contrast to legal gun owners, there is no evidence of cultural transmission among illegal gun owners. Criminals' socialization of gun ownership and use is exclusively the purview of delinquent or criminal peers. Information ranging from surveys of convicted felons to youth delinquency studies has revealed that criminals obtain their firearms through theft, straw purchase, illegal trade, or loan, often from other criminals or gang members. Furthermore, gang membership and participation in drug sales are the strongest predictors of gun usage among criminals in many of these studies. Most recently, very strong connections between youth gang membership, gun use, and criminal activity have been noted.

Those criminals who use firearms prefer reliable, concealable, well-made guns. This most often manifests itself in handguns that are similar to those used by the police. When handguns are not available, criminals report seeking or using sawed-off rifles and shotguns that are as concealable as, and much more deadly than, handguns. When asked why they use guns, criminals most often report that they need to protect themselves from other criminals, armed citizens, and their victims. Understanding that this is their primary motivation for being armed also provides insight into the potential efficacy of various violence reduction strategies. The arms race itself must be the target of intervention.

There is also the question of whether the gun motivates the criminal to be more violent or the more violent-minded individuals choose to use guns to commit violence. Discounting psychological studies with flawed methodology, evidence exists that guns increase the amount of crime committed, as well as the number of fatalities that result from those uses. This elevated gun offending is especially strong for youthful gang members. However, gang membership and the gun use that goes with it are transient, indicating that successful deterrence may be possible for these offenders.

With so many firearms available in the United States and the prevalence of firearms crime, it is little wonder that many fail to distinguish between legal and illegal gun ownership. Legal use and ownership, much like legal behavior in general, is by far the more common of the two. Nonetheless, the social harm caused by the much less common illegal use of firearms is a serious problem that must be addressed. It is essential to understand, then, that there is very little relationship between the legal and illegal gun worlds. Policies that attempt to address firearms crime and negatively affect legal gun owners do and will meet strong resistance precisely because those who legally own guns tend to live and work in places where they are unlikely to witness gun crime. Likewise, those who live in areas that are burdened with gun crime will likely never witness firearm use that is innocuous or beneficial. This is true because legal and illegal gun users are, in almost every way, different. This goes a long way toward explaining the complex relationship between firearms and violence in the United States.

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## CHAPTER 23

# Family Violence and Delinquency

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Interdisciplinary research has indicated that the experience of family violence is a risk factor for childrens' delinquency specifically and antisocial behavior more generally. Violence in the family is a national public health concern in view of its common occurrence, its immediate health and safety concerns for victims, and its broad effects on youth development (Daro, Edleson, & Pinderhughes, 2004; Straus & Gelles, 1990; US Department of Health and Human Services, 2000). However, family violence and its main components, child maltreatment and domestic violence exposure, are often peripheral topics in criminological theory and research. Problems in research on the causes and consequences of family violence have also contributed to controversies surrounding the role of family violence in criminology. Family violence is defined as a spectrum of harmful acts within families that are beyond normally accepted family dynamics (Giovannoni, 1989). Broadly conceptualized, family violence includes sibling violence, elder abuse, child maltreatment, dating violence, and intimate partner violence. Here the focus is on research that has utilized child maltreatment and domestic violence terminology/conceptualizations and that links these family experiences with later adolescent delinquency and adult offending.

This chapter lays out the definition and extent of family violence, describes what is known empirically about the role of family violence in the etiology of antisocial behavior, and discusses what conceptual frameworks link family violence with later criminal behavior including what pathways may be involved in understanding the relationship. Studies on family violence conducted by researchers affiliated with the Rochester Youth Development Study (RYDS) are highlighted where appropriate. We conclude with a discussion of future directions for research in this field.

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## HISTORY AND DEFINITIONS

Family violence includes disparate forms of family behavior that have important commonalities in their context and precursors and, especially, in their damaging impact on children. Major forms addressed in the literature include child maltreatment and domestic violence exposure (Gelles, 1997; Heyman & Slep, 2002; Tomison, 2000). Child maltreatment is the overarching term used for physical abuse, child neglect, sexual abuse, and emotional or psychological abuse, irrespective of whether the maltreatment occurs in infancy, childhood, or adolescence. Controversies over definition abound and must be kept in mind in understanding the research and its meaning (Giovannoni, 1989).

The emergence of *child maltreatment* as a social problem dates back to the late nineteenth century, although it has existed historically from earliest times (Siegel, Welsh, & Senna, 2006). At the end of the nineteenth century, egregious reports of cruelty to children in America led to the first policies and laws to protect children from danger and prosecute perpetrators of child abuse (for historical accounts, see Pfohl, 1977; Siegel et al., 2006; Widom, 1997; Zigler & Hall, 1989). Awareness of poor family lives among juvenile offenders also was viewed as an issue for “protection” in early family courts, leading to juvenile justice intervention (Pfohl, 1977).

Anecdotal evidence of child maltreatment in the early lives of criminal offenders also has quite a long history. During the early twentieth century in the field of psychiatry, research on psychopathy in studies of incarcerated males indicated that childhood exposure to family violence was rather consistently present among adults exhibiting serious criminality and psychopathy (see Luntz & Widom, 1996, for a discussion of child abuse and psychopathy). Assumptions about the way that abuse might blight children’s future development presaged burgeoning concern about the intergenerational consequences of family violence, leading to the notion of “a cycle of violence” (Straus & Gelles, 1990; Widom, 1989a). Convicted offenders, including women, and especially those who are violent report high levels of exposure to family violence (e.g., Lewis, Mallouh, & Webb, 1989; Siegel & Williams, 2003). However, because of the well-documented methodological limitations in retrospective and cross-sectional studies, they do not illuminate the causal and temporal role maltreatment might play in the etiology of delinquency and crime (e.g., Smith, Ireland, Thornberry, & Elwyn, 2008).

Concern about maltreatment directed at children entered the research arena during the 1960s following a landmark study of non-accidental injury to children – the “battered child syndrome” (Kempe, Silverman, Steele, Droegmueller, & Silver, 1962). “Battering” (physical abuse) rapidly became an issue of widespread concern and the basis for the development of national public policy and statewide laws to report and investigate allegations of child abuse and neglect (Pfohl, 1977).

Although there is no commonly accepted current definition of child maltreatment, the federal government defines child abuse and neglect in the Child Abuse Prevention and Treatment Act (CAPTA) of 1974 (revised in 2003) as affecting persons under age 18 and involving “. . . any recent act or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm” (Child Abuse Prevention and Treatment Act, CAPTA, 42 U.S.C.A. 5106 g). The spectrum of involved parental behaviors is quite broad and has shifted over time. Physical abuse and sexual abuse are defined as being directly experienced and are classified as “active” forms of abuse (Lau et al., 2005).

Physical abuse refers to incidents of hitting, punching, kicking, burning, and otherwise inflicting physical harm. Nevertheless, there is definitional ambiguity as it pertains to the concept of physical abuse (Knutson & Heckenberg, 2006). Some define harsh parenting techniques, which include things like scapegoating, verbal attacks, threats of physical punishment as well as actual physical punishment as physical abuse (e.g., Brezina, 1998). Murray Straus (1991) in his presidential address to the *Society for the Study of Social Problems* highlighted the issue of corporal punishment and outlined a theoretical model linking corporal punishment to a variety of negative developmental consequences. Straus (1991) carefully delineated between legal physical force (corporal punishment) and illegal physical force (physical abuse), but started a very important debate regarding culturally derived standards of acceptable physical force directed at children that persists today (cf. Rosemond, 2005; Straus, 2005a).

Sexual abuse refers to a spectrum of behavior from fondling and touching to intercourse. Sexual abuse, like the discovery of the “battered child syndrome,” has been acknowledged historically and was researched initially in clinical practice. Subsequently, the causes and consequences of child sexual abuse have become a burgeoning field of research largely separated from criminology theory and indeed from other components of family violence research (Kendall-Tackett, Williams, & Finkelhor, 1993). There is mixed evidence about whether, in fact, sexual abuse is distinct from other forms of family violence in its impact on child and adolescent development. Although sexual abuse is often studied as a distinct phenomenon, it commonly overlaps in occurrence with other forms of child maltreatment (Siegel & Williams, 2003; Smith & Ireland, 2005). Unlike other forms of child maltreatment, sexual abuse also disproportionately affects females (US Department of Health and Human Services, 2008). Yet, like other forms of child maltreatment, victims of sexual abuse are disproportionately at risk for antisocial and aggressive behavior, as well as other negative consequences (Siegel & Williams, 2003).

Neglect refers to acts of omission of care including failure of parents to meet basic needs, including food, medical attention, and clothing, or adequate protection and supervision (severe enough to lead to harm). Neglect has proven much harder to define than physical or sexual abuse, is more age-dependent in definition, and has received less research attention (Dubowitz, 2007; Straus & Kantor, 2005). In the 1990s neglect as a component of child maltreatment gained more prominence as researchers addressed the “neglect of neglect” (Dubowitz, 2007). Findings indicate that neglect, compared to abuse, is an equivalent and sometimes stronger risk factor for subsequent delinquency and antisocial behavior (Widom & Maxfield, 2001). Findings from the RYDS have also implicated neglect as a form of maltreatment linked with antisocial behavior during adolescence and early adulthood (Smith, Ireland, & Thornberry, 2005; Thornberry, Ireland, & Smith, 2001).

Psychological or emotional abuse is also more difficult than physical or sexual abuse to define precisely and includes inadequate nurturing as well as criticism and rejection and other forms of mental cruelty that place children at risk of damaged development (Goldman, Salus, Wolcott, & Kennedy, 2003). Emotional or psychological abuse is also sometimes characterized as “other abuse.” As with other forms of maltreatment, legal definitions seem to include acts (or omissions) as well as consequences, or judgments about potential consequences, making it hard to operationalize them for research purposes (e.g., Barnett, Manly, & Cicchetti, 1991). Exposing children to domestic violence sometimes is classified as a form of emotional or psychological abuse of children (Kitzmann, Gaylord, Holt, & Kenny, 2003; Manly, 2005), although this is controversial (e.g., Edleson, Gassman-Pines, & Hill, 2006). Here, we consider exposure to, or

witnessing, intimate partner violence (IPV) between parents as a separate form of family violence since it is consistently addressed in different literatures.

*Intimate partner violence (IPV) or domestic violence (DV)* refers to violence between intimate partners, and such behaviors have also been a persistent theme throughout history. Pleck (2004) has documented instances of domestic abuse during Puritan times, and while much has changed in the family landscape, the presence of IPV has remained a constant. Generally, the idea of domestic violence was known, but well into the twentieth century, violence in the home was considered a private matter and government intervention was unwarranted (Gelles, 1997). The Kempe et al. (1962) article on the Battered Child Syndrome opened the doors to a public discourse on child maltreatment. However, domestic violence did not generate much discussion in the public media outlets or in scholarly journals until the late 1960s and into the 1970s. Pleck (2004) notes that

...in the *Journal of Marriage and the Family*, the major scholarly journal in family sociology, no article on family violence appeared from its founding in 1939 until 1969. Very few modern novels contained scenes of marital violence. In spite of the rediscovery of child abuse in the 1960s, newspapers did not begin to report on abuse of wives until 1974. (p. 182)

The contemporary movement to end domestic abuse did not emerge as a social or criminal problem until the last 25 years of the twentieth century when “Battered Women” became a focus of concern and a topic of study in the 1970s mainly as a result of advocacy in the women’s movement (Gelles, 1997). The hitherto understudied victimization of women in intimate relationships was further illuminated by the first national survey data on the extent and frequency of occurrence of IPV from the National Family Violence Surveys conducted by Murray Straus and colleagues starting in the 1970s (Straus, 1979). Subsequent systematic examination of partner violence revealed a much broader and more frequent range of experiences of partner violence, the majority reflecting female victims and male perpetrators. Concern about the extent of domestic violence and its consequences led to the passage of the Violence Against Women Act (1994), the first federal legislation designed to address partner violence.

Controversy and complexity surround the research on IPV which, like child maltreatment, is a private behavior usually contained within the family. Intimate partners are currently defined to include spouses, cohabiting partners, and dating partners, and IPV includes actual or threatened physical, sexual, and emotional abuse and threats (CDC, 2006). Research indicates that it occurs on a continuum from a single or occasional episode of violence to battering, or serious and frequent violence aimed at control of the partner (Johnson, 1995). Definitions of IPV and DV remain in flux, which in turn effects measurement; the issue of gender symmetry in partner violence remains a hotly debated issue (cf. Loseke & Kurz, 2005; Straus, 2005b, 2006), and so do explanations for the causes of IPV. Related to all these issues, a firm estimate of the national prevalence rate of IPV remains elusive. Even as police intervention and prosecution of domestic violence cases grew, information on children and adolescents in IPV households has been slower to emerge.

Concern for IPV exposure among children of victimized women occurred subsequent to the recognition of child and woman battering (Kitzmann et al., 2003; Widom, 1997). Studies of affected children generally in battered women’s shelters first appeared in the 1970s, and the first empirical studies appeared in the 1980s (e.g., Davis & Carlson, 1987; Hughes & Barad, 1983; Jouriles, Barling, Norwood, & Ezelle, 1987). By the turn of twenty-first century, several extensive reviews of the nature and correlates of child exposure to IPV were published

(e.g., Margolin, 1998; Rossman, Hughes, & Rosenberg, 2000; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003), and almost none of this research has been systematically incorporated into the discipline of criminology.

## MEASUREMENT AND PREVALENCE OF FAMILY VIOLENCE

Several issues impede an accurate assessment of family violence. First, the concepts of child maltreatment and domestic violence – both of which are at the core of family violence – have proven difficult to define and accurately measure. Inconsistency in the operationalization of forms of family violence continues to be one of the hallmarks of this field of research (Barnett, Manly, & Cicchetti, 1993; Loseke, Gelles, & Cavanaugh, 2005; Loseke & Kurz, 2005; Manly, 2005; McGee, 1995; Straus, 2005b). Getting a handle on “prevalence” continues to be a challenge partly owing to the varied ways in which forms of family violence have been “observed” and measured. For example, there is a question about whether child neglect and psychological maltreatment (dimensions of maltreatment) are appropriately classified as family violence even though they are appropriately classified as child maltreatment. It remains equally unclear whether emotional, psychological, or even economic abuse of an intimate partner should fall under the auspices of domestic violence (Davis, 2008). In addition, whether directly witnessing interparental violence is equivalent to being raised in a partner-violent family still generates discussion and debate. Since family violence research cuts across several disciplines including developmental psychology, developmental psychopathology, sociology, criminology, law, family studies, and social work, this further diminishes the likelihood of consensus and consistency in defining and assessing family violence.

Second, family violence research often explores narrowly constructed categories of victimization, for example, the consequences of sex abuse of female children (e.g., Kendall-Tackett et al., 1993) or the consequences of physical abuse (e.g., Holt, Buckley, & Whelan, 2008). Narrow definitions of domestic violence, in particular, have been used to influence and direct policy down a specific path. For example, although much current research suggests gender symmetry in the perpetration of partner assault (Straus, 2006), many advocacy organizations and feminist researchers continue to focus exclusively on male-perpetrated domestic violence (Davis, 2008; Dutton, 2006). In fact, Loseke and Kutz (2005) provide several compelling arguments for a continued focus on male-perpetrated violence directed at intimates. Yet, narrow categories of family violence do make it very difficult to estimate the overall extent and impact of family violence and victimization (Finkelhor, Ormrod, Turner, & Hamby, 2005a; Hartley, 2002; Rossman & Rosenberg, 1998; Saunders, 2003; Shipman, Rossman, & West, 1999).

Third, child maltreatment and domestic violence are themselves often confounded and have common roots and consequences. For example, dimensions of family functioning like parental attachment and supervision, use of corporal punishment, broken homes, family conflict, parental drug and alcohol use, and parental mental health status potentially co-occur with family violence (e.g., Agnew, 2005; Siegel et al., 2006), but are infrequently taken into account when exploring the consequences of exposure to family violence. Most critically, child maltreatment and domestic violence commonly co-occur, yet the research rarely incorporates both measures simultaneously when exploring the litany of possible consequences (Dong et al., 2004; Hartley, 2002).



Finally, much of the knowledge base on the causes and consequences of family violence is derived from non-probability, clinical samples that often rely upon cross-sectional designs, retrospective assessment of family violence, and single reporters. However, a number of longitudinal studies with random, community samples, prospective data collection, and multiple reporters are contributing to our evolving understanding of the consequences of family violence (Capaldi, Kim, & Shortt, 2007; Ireland & Smith, 2009; Smith et al., 2008). We focus on such studies here.

## Child Maltreatment

In the field of child maltreatment, a major distinction in research studies is between those that employ prospective officially substantiated or “official” measures of maltreatment and those that employ retrospective self-report measures, with both strategies yielding different estimates (Smith et al., 2008). The first strategy uses Child Protective Services (CPS) records to measure maltreatment based on a finding that the alleged maltreatment was substantiated. The second measurement strategy relies on self-report of child or parent experiences, generally retrospectively collected in adulthood (Brown, Cohen, Johnson, & Salzinger, 1998; Widom, Weiler, & Cottler, 1999, but see Finkelhor, Ormrod, Turner, & Hamby, 2005b for a description of concurrent self-report measures). Official records greatly under-represent the amount of actual maltreatment in the population because considerable filtering occurs in the reporting and determination of substantiated maltreatment (Smith & Thornberry, 1995; Stockhammer, Salzinger, Feldman, Mojica, & Primavera, 2001).

Different measurement strategies have led to widely different estimates of child maltreatment prevalence. The National Child Abuse and Neglect Data System (NCANDS) collects and analyzes annual CPS data from states. The most recent report (US Department of Health and Human Services, 2008) indicates that out of 3.3 million referrals, 60% were screened for investigations, and of these, 30% were substantiated, or about 12.1 per 1,000 children (about 900,000 children). Girls and boys were approximately equally maltreated, and neglect was by far the predominant form of substantiated maltreatment (64%) followed by physical abuse (16%), sexual abuse (8.8%), and emotional maltreatment (6.6%). Youngest children had higher rates of maltreatment: only 16.5% of cases involved children aged 12 and over.

The National Incidence Studies (NIS) report information from a national sample of community professionals on those affected by maltreatment (Sedlak & Broadhurst, 1996). The study estimates the number of children actually harmed by maltreatment, as well as those considered endangered, using child protection standards. A higher rate of maltreatment of 23 per 1,000 children, or 2.3% of all children, comes from this data source (Sedlak & Broadhurst, 1996).

Maltreatment prevalence in surveys of community samples is much higher, at 15% or more (e.g., Straus & Gelles, 1986; Thornberry et al., 2001). In these data, neglect is also the most typical form of child maltreatment, followed by physical abuse and then sexual abuse (Sedlak & Broadhurst, 1996), but there is much overlap between types of maltreatment (Crittenden, Claussen, & Sugarman, 1994; McGee, Wolfe, & Wilson, 1997; Smith, Thornberry, & Ireland, 2004). For example, in the RYDS, 21% of participants had substantiated records of maltreatment; of these, 11% had any report of sexual abuse, 85% experienced physical abuse, 60% experienced neglect, and 39% experienced psychological maltreatment. Almost half of those maltreated had multiple subtypes.

There have been studies of the concordance or discordance between different measures of maltreatment. NIS-3 indicates that as many as two-thirds of those maltreated do not come to the attention of protective services (Sedlak & Broadhurst, 1996). Other estimates of concordance between substantiated CPS reports and community surveys using self-reported maltreatment indicate a broad range of concordance from no significant agreement (Eckenrode, Izzo, & Smith, 2007; McGee, Wolfe, Yuen, Wilson, & Carnochan, 1995) to about three-quarters of those with substantiated records also self-reporting retrospectively (Raphael, Widom, & Lange, 2001; Widom et al., 1999). The Rochester data are in the middle of the range, with about one-half of those with substantiated CPS reports also self-reporting retrospectively in young adulthood (Smith et al., 2008). The studies finding concordance at the higher end of the range contain multi-item, multi-dimensional self-report measures, rather than single-item measures.

Concerns have been raised about the validity of both types of measurement approaches, and Smith et al. (2008) recently summarized arguments on both sides. Retrospective self-reported measures of maltreatment are problematic particularly when long recall periods are required (Dube, Williamson, Thompson, Felitti, & Anda, 2004; Widom, Raphael, & DuMont, 2004). In addition, contemporary research is conflicted about whether self-reported measures are systematically biased by mood and psychopathology or are subject to normal memory problems such as forgetting (Greenhoot, McCloskey, & Glisky, 2005; Hardt & Rutter, 2004). CPS measures, on the other hand, are criticized for only “identifying the tip of the iceberg” when it comes to child maltreatment, which results in a large number of false-negatives. RYDS data suggest that self-reported retrospective maltreatment has a higher prevalence (29%) than official substantiated maltreatment (21%). About half of those with a history of official maltreatment also self-report maltreatment, and 37% of those who self-report maltreatment also have an official report (Smith et al., 2008). Notably, both sources suggest that maltreatment was associated with a higher prevalence of antisocial behavior. It was not clear that combining sources of information improved prediction (Smith et al., 2008).

Recently, contemporaneous measures of childhood and adolescent victimization, including maltreatment, have been developed, based upon detailed self-reported experiences in the recent past (e.g., the preceding 12 months), and the approach is analogous to self-reported delinquency strategies. One of the proponents of this approach is the Crimes against Children Research Center with the development of the Juvenile Victimization Questionnaire (JVQ, Finkelhor et al., 2005b). The prevalence of any type of maltreatment using this instrument is 13.6% in 1 year (Finkelhor, Hamby, Ormrod, & Turner, 2005). However, as with any measurement strategy designed to assess hidden and proscribed behavior, there are weaknesses. Juvenile respondents may opt not to disclose maltreatment, partly because they do not recognize the events as inappropriate (e.g., the fine line between harsh discipline and physical abuse). Furthermore, because of mandated reporting laws in many jurisdictions, it is not clear how the potential to bring self-reported maltreatment to the attention of CPS will affect the reporter, the family, and the research project. More research on such strategies is needed before assessing the validity of such self-reported prospective measures of maltreatment and comparing them with self-reported retrospective measures of maltreatment and official substantiated maltreatment.

## **Exposure to IPV**

As indicated above, exposure to domestic violence is not generally considered maltreatment, and estimates are not included in estimates of maltreatment. In contrast to maltreatment, there is less

uniformity in definitions of domestic violence and there are no standardized national prevalence data about child exposure to parent violence (Fantuzzo & Mohr, 1999; Holden, 1998; Tomison, 2000). The definition of intimate partner violence used in the National Violence Against Women (NVAW) Survey includes rape, physical assault, and stalking perpetrated by current and former dates, spouses, and cohabiting partners. It should be noted that measurement of intimate partner violence is dominated by the Conflict Tactics Scales (CTS) and a revised version (CTS2), developed by Straus and colleagues (Straus, 1979; Straus & Gelles, 1990). This measure establishes the occurrence and frequency of violent behavior within intimate partner relationships including acts like hitting, pushing, and shoving, as well as acts with the potential for injury including threatening with and using a weapon. Although definitions of partner violence include physical and sexual violence, threats of either form of violence, or emotional abuse (Center for Disease Control, 2006), the majority of our knowledge of the prevalence of IPV derives from research using the earlier version of the CTS, which focused on physical violence. The more recent version of the CTS (CTS2) includes sexual violence and emotional abuse (Straus & Gelles, 1990).

Community surveys using the CTS and various other measures find that about one in six couples experience domestic violence annually (Jouriles, McDonald, Norwood, Ware, Spiller, & Swank, 2001; Schafer, Wickrama, & Keith, 1998; Straus & Gelles, 1990; Wolak & Finkelhor, 1998). In 2001, data show that 20% of nonfatal violent crime experienced by women was partner violence (US Department of Justice, 2003). The National Violence Against Women Survey indicated that 22% of surveyed women and 7% of surveyed men reported they were ever physically assaulted by a current or former spouse, cohabiting partner, boyfriend, or girlfriend (Tjaden & Thoennes, 2000). More recently, McDonald, Jouriles, Ramisetty-Mikler, Caetano, and Green (2006) collected data on a national probability sample of 1,615 married or cohabiting couples. They found that partner violence (as measured by the CTS) was reported by 21.4% of the sample, and severe partner violence was reported by 8.6% of the couples. Additionally, rates are higher among younger couples, cohabiting couples, and couples with children (Bardone, Moffitt, Caspi, & Dickson, 1996; Magdol, Moffitt, Caspi, & Silva, 1998).

Estimates of children witnessing violence in the home are particularly incomplete (Osofsky, 2003). Recent population-based studies of police domestic violence surveillance have clarified that children are in the home in about one-half of cases examined in 1 year. In homes where children were present, police reported that 80% of children were directly exposed. Moreover, in majority of the cases, prior violence had occurred in the home (Fantuzzo, Fusco, Mohr, & Perry, 2007; Fantuzzo & Fusco, 2007). A recent meta-analysis of studies of the impact of interparental violence on children and youth indicated that actual witnessing as opposed to presence in the home did not moderate the effect of adult domestic violence in general (Kitzmann et al., 2003). Thus, it is assumed that children are generally exposed to adult domestic violence in homes where it occurs, although this exposure may take several forms.

It is estimated that 10–20% of children are exposed to domestic violence, or up to 10 million children annually (Carlson, 2000; Jaffe, Wolfe, & Wilson, 1990; Straus, 1992). Some studies indicate estimates of exposure to IPV that are somewhat higher. For example, McDonald et al. (2006) estimated that

... approximately 15.5 million American children live in dual-parent households in which intimate partner violence had occurred in the past year... this means that 29.4% of children in dual-parent homes live in a family in which partner violence has recently occurred (p. 139).

In the RYDS, a community sample of 1,000 urban youth, about 39% of their cohabiting parents reported either perpetration or victimization of partner physical violence during adolescent participants' mid-adolescent years. Additionally, about 21% reported that a severe form of IPV (likely to cause injury such as weapon use) occurred. Thus, about 24% of the total sample lived in homes where partner violence was known to have occurred, and 15% were potentially exposed to severe violence. These prevalence estimates are quite similar to those reported by McDonald et al. (2006). Male and female adolescents were approximately equally exposed. Prevalence during childhood, however, cannot be known from the initial RYDS data, but eventually this issue can be addressed using the intergenerational data currently being collected.

There has been increasing sophistication in the measurement of children's exposure, and Edleson et al. (2007) recently conducted a systematic review. Edleson and colleagues summarized available survey measures and found them incomplete for understanding the nature of the reported variation in outcomes of child exposure. Once again, much more work has been completed in the child maltreatment field in understanding the dimensions of maltreatment than in the IPV field (e.g., English et al., 2005; Manly, 2005).

### **Co-occurrence of Maltreatment and Exposure to IPV**

Co-occurrence of domestic violence and child maltreatment is common (Appel & Holden, 1998; Edleson, 1999, 2001; Hazen, Connelly, Kelleher, Landsverk, & Barth, 2004; Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008). Edleson (1999) provides a "best estimate" that in 30–60% of families where either form of exposure to violence was identified, the other form of violence was also present. Limited prospective data on co-occurrence are available in high-risk populations: the odds of maltreatment doubled, to almost 30%, within the 2 years following domestic violence exposure (Cox, Kotch, & Everson, 2003), and a domestic violence rate of 29% was found in a follow-up of a national CPS sample (Hazen et al., 2004). There are hints in the research literature that men who batter wives also abuse children (Bowker, Arbitell, & McFerron, 1988; Edleson, 2001; Straus & Gelles, 1990) but the "single-perpetrator" model is only one of several forms of co-occurrence (Appel & Holden, 1998). There is some evidence that women who are victims of domestic violence are more likely to abuse their children (Straus & Gelles, 1990). Women also have been found to engage in perpetration of IPV and to maltreat their children (Ross, 1996). Co-occurrence is lower among community studies than in studies of families receiving government assistance, child welfare services, or among battered women samples (Herrenkohl, Herrenkohl, Egolf, & Russo, 1998), since these high-risk samples are also likely to experience multiple other adverse experiences common to the etiology of both maltreatment and domestic violence. In the RYDS, a community study, concordance is at the low end of estimates. Among those who had an official report of maltreatment, 24% were also exposed to IPV. Among those who were exposed to IPV, 23% also had an official record of maltreatment. IPV was only assessed during a 3-year period in adolescence, limiting estimates of overlap.

Moreover, family violence exposure commonly occurs in the context of "socially toxic environments" (Garbarino, 1997, p. 141) that include poverty and disadvantage, community violence, and multiple stressors (Belsky, 1993; Cicchetti & Lynch, 1993; Cox et al., 2003; Emery & Laumann-Billings, 1998; Margolin & Gordis, 2000). Such contextual risk factors are, of course, also linked with child and adolescent maladjustment, so research studies suggest that children who are vulnerable to maltreatment or to domestic violence exposure are subject to a range

of other risk factors which are challenging to truly “control” in non-experimental studies. The existence of such a plethora of co-occurring risks makes it particularly complicated to distinguish sequelae of childhood exposure to child maltreatment or IPV, let alone specific dimensions of either (English et al., 2005; Fantuzzo et al., 2007). However, research studies have become increasingly sophisticated especially in prediction of maltreatment consequences.

### **Antisocial Consequences of Exposure to Family Violence**

**CHILD MALTREATMENT.** A methodologically strong body of prospective research has investigated the extent to which maltreatment predicts delinquency and antisocial outcomes. Maltreated children suffer from childhood developmental deficits including externalizing behaviors, disruptive behavior, behavioral and academic problems at school, and depressive symptoms (see Cicchetti & Lynch, 1995 and Trickett & McBride-Chang, 1995, for reviews). In the longer term, longitudinal studies have shown that experiencing maltreatment at some point between birth and age 18 is a significant risk factor for delinquency, crime, and violence (English, Widom, & Branford, 2001; Fagan, 2005; Ireland & Widom, 1994; Kakar, 1996; Lemmon, 1999; Merzsky & Reynolds, 2007; Rebellon & Van Gundy, 2005; Smith et al., 2005; Smith & Thornberry, 1995; Widom, 1989a). Maltreatment also predicts later alcohol and drug use and arrest (Ireland & Widom, 1994; Lo & Cheng, 2007; Widom, Ireland, & Glynn, 1995). Problematic adult outcomes include arrest and self-reported offending (Maxfield & Widom, 1996; McCord, 1983; Smith et al., 2004), as well as adult drug arrest (Kaplan et al., 1999; Widom & White, 1997). Studies by Widom and colleagues (see Widom, 1989a, for description of data) have been among those that have been very informative in our understanding of outcomes of maltreatment since they address many of the design problems found in earlier research on maltreatment. The Widom studies have relied on longitudinal data to establish proper temporal order between maltreatment occurring prior to age 12 and a range of problem outcomes and included groups of maltreated and non-maltreated youth matched on several key characteristics (e.g., Widom, 1989a; Widom & Maxfield, 2001; Widom & White, 1997).

RYDS investigators have conducted several studies on the impact of substantiated child maltreatment, and these studies are detailed because they illustrate some of the nuances of current research on maltreatment. In the RYDS panel study of an urban community sample containing maltreated youth, statistical control for a number of confounding variables is possible in examining later outcomes. In the first of these published studies, Smith and Thornberry (1995) confirmed studies by Widom and others indicating that substantiated maltreatment prospectively predicted adolescent delinquency, violent delinquency, drug use, and arrest. This study also tested the hypothesis that more extensive or refined maltreatment – including multiple incidents, more severe incidents, and more types of maltreatment – would be related to higher rates of delinquency. Results were mixed on this point; although the most extensively maltreated teenagers had consistently higher rates of delinquency, these differences were not significant and appeared “to be overwhelmed by the threshold effect of simply experiencing maltreatment serious enough to elicit official recognition” (Smith & Thornberry, 1995, p. 469). Subsequent studies using more refined measures of maltreatment subtypes have tended to support the hypothesis that more chronic and severe maltreatment is more consequential for a variety of youth outcomes – at least in childhood (e.g., English et al., 2005).

Investigations focusing on dimensions of maltreatment and their impact have been an increasing feature of maltreatment research particularly in the last decade. For example, there is increasing evidence that the developmental stage during which maltreatment occurs, in particular whether it occurs in childhood or in adolescence, is a dimension of maltreatment which can alter its impact on subsequent outcomes. Using available information on timing of substantiated maltreatment and capitalizing on the longitudinal design of RYDS, Ireland and colleagues investigated whether the developmental stage at which children were exposed to maltreatment affected the prediction of delinquency (Ireland, Smith, & Thornberry, 2002). In this study, maltreated RYDS participants (about 20% of the total sample) were assigned to three groups: childhood-only maltreatment (birth through age 11), adolescent-only maltreatment (12–17 years), and persistent maltreatment (maltreatment in childhood and adolescence). About 40% of maltreated participants were maltreated in adolescence, with about one-third of these having a prior maltreatment record. Results suggested that children whose maltreatment ended in childhood were no more likely to be delinquent in late adolescence than those without maltreatment records. However, both adolescence-limited and persistent maltreatment increased the risk of delinquent outcomes in adolescence compared to those never maltreated. A later study indicated that these results persisted into early adulthood, even controlling for adolescents' prior antisocial behavior (Smith et al., 2005); the odds of arrest, violent delinquency, and drug use were more than doubled for adolescent-maltreated participants, even controlling for prior behavior and sociodemographic controls. RYDS studies have also demonstrated that the official maltreatment in adolescence, whether continuing or emerging for the first time, is similarly consequential for a range of other outcomes that have been explored in the maltreatment literature including mental health problems and school outcomes (Thornberry et al., 2001).

The importance of adolescent maltreatment specifically has been reinforced by a few other studies. Eckenrode et al. (2001) followed a sample of mothers and children 15 years after birth and investigated a range of problem outcomes. These investigators also found that those with no maltreatment and childhood-limited maltreatment were statistically identical, but those with adolescence-limited and persistent maltreatment had earlier onset problem behavior. Jonson-Reid and Barth (2000) in a review of administrative data found that a report of maltreatment first investigated in adolescence predicted higher rates of incarceration than those with first maltreatment records prior to adolescence. Finally, Stewart, Livingston, and Dennison (2008) found that children with maltreatment trajectories starting at adolescence or extending into adolescence were more likely to offend as juveniles than children whose maltreatment trajectory occurred prior to, but not during, adolescence. This set of findings is important since maltreated adolescents may receive less access to preventive and rehabilitative services than younger children, especially if they are delinquent and disruptive (Smith et al., 2005).

In assessing the link between maltreatment and these outcomes, maltreatment studies typically control for the effect of potential confounding factors such as family structure and transitions, parental poverty and social class, and parent education and neighborhood disadvantage; additionally, other characteristics of parents, child, and family are sometimes employed. Studies of maltreatment impact do not generally control for exposure to IPV although the reverse is more common. While not all studies find a significant impact of maltreatment on all outcomes net of covariates, the weight of evidence clearly indicates that exposure to maltreatment significantly increases risk for antisocial behavior, delinquency, crime, and arrest.

## Exposure to IPV

The developmental impact of exposure to IPV is less understood than the impact of maltreatment (Carlson, 2000; Jouriles et al., 2001; Rossman, 2001). A meta-analysis by Kitzmann and colleagues (2003) that included 118 studies of psychosocial outcomes of exposed children (including 2,261 effect sizes) identified a consistent significant association between exposure and child problems including externalizing or behavioral problems. However, the lack of longitudinal studies (only 6% in this sample of studies), the absence of statistical controls for confounding stressors, and measurement limitations were noted as general limitations. Notably few well-designed longitudinal studies of links between exposure to IPV and antisocial behavior among older adolescents and young adults are available (Wekerle & Wall, 2002). Stith et al. (2000) focused on IPV as a specific outcome of living in a partner-violent family to examine research on the intergenerational consequences of exposure to IPV. Their meta-analysis inventoried published and unpublished studies over a 20-year period until 1997. Overall, being raised in a partner-violent home was significantly related to perpetration of dating violence in adulthood, but the relationship was rather weak, especially in community samples (Stith et al., 2000), and no studies reviewed by Stith et al. (2000) were prospective. More recently, however, longitudinal data are emerging on antisocial outcomes, including participants' own partner violence, of adults raised in partner-violent homes.

Several studies have suggested that IPV is a relatively weak predictor of delinquency and antisocial behavior, especially when harsh punishment is controlled. Studies have investigated conduct problems more than delinquency. For example, McCabe, Lucchini, Hough, Yeh, and Hazen (2005) tested the hypothesis that exposure to different types of violence (child maltreatment, community violence, and partner violence) contributes independently to prediction of adolescent conduct problems. Exposure to IPV was not related to either conduct disorder or externalizing problems controlling for other forms of violence and sociodemographic factors. A study from the Minnesota parent-child project (Yates, Dodds, Sroufe, & Egeland, 2003) used prospective longitudinal data to clarify the role of exposure to IPV on internalizing and externalizing problems in adolescence controlling for child maltreatment, poverty, and life stress. Pre-school exposure to IPV predicted externalizing problems among boys, but not girls. Exposure at older ages was not predictive of later problems.

On the other hand, a set of studies by Herrera, McCloskey, and colleagues (Herrera & McCloskey, 2001, 2003; McCloskey & Lichter, 2003) based on a sample of women in which battered women were oversampled, and including children aged at least 6, found IPV did predict later violence and antisociality. Controlling for covariates including child abuse, findings indicated that children from partner-violent families were twice as likely to have a court record as those from non-violent families, and they were also more likely to be referred for violent offenses, including violence directed at parents (Herrera & McCloskey, 2001). However, children exposed to IPV were not at risk for becoming aggressive with dating partners (McCloskey & Lichter, 2003). Another study focusing on children in homes with official records of domestic violence (Kernic et al., 2003) found that exposed children, both with and without maltreatment reports, had elevated rates of externalizing behaviors compared to a normative sample, controlling for age and sex.

A few longitudinal studies have published results on early adult consequences of exposure to IPV, mainly focusing on partner violence. Results are mixed, with some studies finding that IPV exposure predicts delinquency and violence, while others do not find such a connection. For

example, one study utilizing a community sample followed up over 20 years (Ehrensaft et al., 2003) that employed predominantly retrospectively reported childhood exposure to parent fighting (assessed by one item) predicted increased partner violence perpetration and victimization, controlling for child maltreatment reports and adolescent antisocial behavior. Another study also using a single item measure of prospective IPV in adolescence assessed partner violence in early adulthood and found a significant relationship, even after several relevant factors were controlled, including parent physical abuse (McNeal & Amato, 1998).

Other studies found no link between IPV and antisocial outcomes. For example, Simons, Lin, and Gordon (1998) found, after controlling for harsh parenting, that domestic violence exposure assessed in adolescence was unrelated to violence toward an intimate partner in early adulthood. Similarly, Capaldi and Clark (1998) did not find that exposure to IPV was linked to partner violence in young adulthood in their sample, when dysfunctional parenting and early antisocial behavior were controlled. In a study of more general criminal outcomes, Fergusson and colleagues, using Christchurch Health and Development Study data, used retrospective information on exposure to IPV from participants in late adolescence (at age 18) to predict self-reported crime and partner violence data among late adolescent and young adult participants (Fergusson & Horwood, 1998; Fergusson, Boden, & Horwood, 2006). A large range of other risk factors were controlled including child physical and sexual abuse. Exposure to interparental violence was not related to violent crime or partner violence in adult relationships when assessed at age 25 (Fergusson et al., 2006).

The conclusion of some studies that exposure to IPV is not related to antisocial outcomes once child maltreatment or harsh punishment is controlled (e.g., Fergusson et al., 2006; Simons et al., 1998) is contradicted by others that find that exposure to IPV is a significant risk factor over and above these other factors (Herrera & McCloskey, 2001). Differences in measurement and samples across studies are likely to contribute to these inconsistencies. Variations in control for associated contextual risks and especially for child abuse have also been notable (e.g., Herrenkohl et al., 2008; Jouriles et al., 2001; Margolin & Gordis, 2000; Yates et al., 2003).

Studies of IPV exposure have displayed many of the problems associated with earlier maltreatment studies, especially lack of prospective designs and measures, and limited measurement strategies, although recent research is showing promising trends to increasing use of longitudinal designs and population-based samples, as well as control for child maltreatment. However, our understanding of the longer term impact of exposure to IPV is still quite rudimentary since few studies contain multiple antisocial outcomes, particularly across different reporters. Adult partner violence is not generally studied together with other outcomes, and studies following participants into adulthood and assessing the impact of longer term exposure to IPV impact are also generally lacking in the literature. Thus it is possible that exposure to IPV is a short-term risk factor for disrupted development and its impact does not last into adulthood.

In order to advance this literature, two recent RYDS studies have examined the impact of exposure to IPV on adolescent and young adult antisocial behavior and partner violence. Ireland and Smith (2009) investigated the impact of adolescent exposure to IPV on a range of adolescent antisocial outcomes, as well as young adult outcomes. The study tested the general hypothesis that living in a partner-violent home during adolescence is associated with later antisocial behavior and relationship violence. Employing logistic regression and controlling for related covariates, including child physical abuse, a significant relationship between exposure to parental violence and adolescent conduct problems, including delinquency and arrest, was found. The relationship between living in partner-violent families and measures of antisocial behavior and



relationship aggression dissipates in early adulthood. However, exposure to severe interparental violence is significantly related to self-reported violent crime and being in a partner-violent relationship in early adulthood. These results suggest that exposure to severe parental partner violence is indeed consequential for aggression and antisocial behavior in adulthood, apart from any impact of child physical abuse. Another study (unpublished) investigated whether exposure to IPV predicts drug and alcohol problems in adulthood (Smith, Thornberry, & Ireland, 2007). This study did not indicate that exposure to IPV, even including severe IPV, led to substance use problems in early adulthood, with the possible exception of alcohol problems among women. Thus, effects of IPV seem more specific to antisocial and violent behavior among RYDS participants.

Although research on the consequences of exposure to IPV continues to evolve, there are many unanswered questions. While a number of different consequences have been considered, to date no definitive statement can be made regarding the criminal consequences of exposure to intimate partner violence. In addition, at least two major issues remain at the heart of much of contemporary research into the consequences of family violence: exposure to multiple types of family violence or violence in general and the dimensions of exposure to violence in the life course.

## Multiple Exposure

Very few studies, especially longitudinal studies, have investigated the consequences of exposure to multiple forms of family violence. Compiling information from quite different studies of different outcomes is challenging. For example, findings about the respective roles of child abuse versus exposure to IPV have not been clarified in these studies, although measures of both forms of family violence are increasingly incorporated. There is some evidence that exposure to family violence has a “dose–response” relationship to problem outcomes (Jaffee, Caspi, Moffitt, & Taylor, 2004, p. 47): when more types of violence are involved, consequences are likely to be worse (Bourassa, 2007; Carlson, 2000; Edleson, 1999; Fergusson & Horwood, 1998; Heyman & Slep, 2002; Litrownik, Newton, Mitchell, & Richardson, 2003; Herrenkohl et al., 2008). Nevertheless, there is inconsistency across studies of multiple exposure, with some finding no or few significant effects (Carlson, 2000; Jouriles, Norwood, & O’Leary, 1996; McCabe et al., 2005). Other studies have indicated that maltreatment and exposure to IPV have equivalent effects (Kitzmann et al., 2003) or that the significant association of exposure to IPV and antisocial outcomes sometimes washes out in the presence of maltreatment or harsh parenting (see also Fergusson et al., 2006; McCabe et al. 2005; Simons, Simons, & Wallace, 2004). An important task for future research is to disentangle the separate and joint consequences of different aspects of family violence. An early hypothesis explored with the RYDS data was based on the notion of multiple stressors and their cumulative impact. A brief report examined the relationship between multiple types of family violence: exposure to partner violence, substantiated maltreatment, family climate of hostility, and self-reported violence delinquency (Thornberry, 1994). Adolescents who were exposed to each of these types of violence were more likely to report involvement in youth violence compared to non-exposed subjects, and moreover, those exposed to all types of violence had the highest rates of violence.

In summary, teasing out the impact of co-occurring stressors and the impact that co-occurring exposure to family violence has upon antisocial behavior is complex. It generally appears that family violence occurs in the context of multiple other stressors, including other

forms of violence and multiple disadvantages. The differential contributions of maltreatment, exposure to IPV, multiple other stressors, parenting problems, and highly disadvantaged environments are hard to assess, but initial considerations of the issue indicate that exposure to multiple types of violence either directly or indirectly is more developmentally problematic than a “one-time” event or persistent exposure to a single type of violence.

## Dimensions of Family Violence

As research on family violence moves beyond dichotomous exposure variables, various dimensions of maltreatment are getting more research exposure. Work in the early 1990s by Cicchetti and colleagues (Barnett et al., 1993), developed a maltreatment coding system that describes coding of case reports for dimensions such as type, severity, duration, frequency, and developmental age at exposure. These dimensions have been at the heart of several studies exploring antecedents and consequences of child maltreatment conducted by the consortium of Longitudinal Studies on Child Abuse and Neglect (LONGSCAN, Runyan et al., 1998). Although participants in these studies are still quite young, findings have tended to support the hypothesis that maltreatment of longer duration and greater severity is more consequential for a variety of youth outcomes – at least during childhood (English et al., 2005; Litrownik et al., 2005). Studies have not established long-term outcomes for delinquency and offending, or for violence, since children in these studies are still relatively young, but will clarify the impact of age on maltreatment outcomes as participants age. To date, however, a wide-ranging consideration of dimensions of maltreatment in these studies has indicated that, beyond a clear effect of maltreatment itself, “unpacking” the dimensions of maltreatment reveals somewhat different effects associated with different dimensions of maltreatment (English et al., 2005).

Developmental stage of maltreatment as a dimension with important consequences has been referenced above. In general, RYDS studies rather consistently find that maltreatment that starts in or continues into adolescence is more consequential for later crime (and other problem outcomes) than maltreatment that ends in childhood. Such findings engender controversy because it is clear in carefully conducted studies of young children that maltreatment can have broad impacts on early child development in the short term (See Aber, Allen, Carlson, & Cicchetti, 1989; Cicchetti, 1989). Ireland et al. (2002) addressed the argument prominent in the psychological literature that early childhood maltreatment would be especially developmentally problematic, and “. . . should have stronger and more enduring negative effects on future adaptation than later exposure” because it disrupts the early course of human development (Sternberg, Lamb, Gutterman, & Abbott, 2006, p. 285; see also Cicchetti & Toth, 1995; Dodge, Bates, & Pettit, 1990; Kaplow & Widom, 2007). In contrast, developmental models that adopt a life-course perspective (Elder, 1998) hypothesize that maltreatment that occurs in adolescence is likely to be more damaging because of the person’s increased autonomy, cognitive ability, and heightened reaction to stress (Agnew, 1997; Garbarino, 1989; Larson & Hamm, 1993), as well as the proximity of the maltreatment to the outcomes. Both models suggest the importance of persistent maltreatment. RYDS studies indicate that maltreatment that starts before adolescence and continues into adolescence is developmentally problematic.

Another dimension of maltreatment on which research has focused is subtype. Questions remain about whether subtypes of maltreatment such as neglect, physical abuse, or sexual abuse are more consequential for delinquency, crime, and other outcomes. In fact much research has

focused on one type of maltreatment, while ignoring the presence of other subtypes, although it is clear that there is significant overlap between multiple types of maltreatment experiences (Crittenden et al., 1994; McGee et al., 1997; Smith et al., 2004). Limited literature comparing physical abuse and neglect suggests that neglect, compared to abuse, is an equivalent and sometimes stronger risk factor for subsequent delinquency and antisocial behavior (e.g., Widom & Maxfield, 2001). RYDS studies have also implicated neglect as a form of maltreatment linked with antisocial behavior during adolescence and early adulthood (Smith et al., 2005; Thornberry et al., 2001).

To date, results indicate that the timing of maltreatment matters and that maltreatment that occurs in adolescence is particularly disruptive for antisocial behavior in adolescence and in early adulthood. While there is discussion in the exposure to IPV literature that the timing of exposure and other dimensions may matter for developmental consequences, to date, studies have not addressed this important issue. There are some preliminary data from RYDS studies to suggest that severity of IPV exposure in adolescence predicts long-term antisocial outcomes, whereas a straightforward dichotomy does not. It is, however, possible that different sets of experiences may lead to problem outcomes via different developmental trajectories, and we turn next to consideration of theoretical mechanisms that link family violence experiences to delinquent and antisocial outcomes.

## **THEORETICAL POSITIONS LINKING FAMILY VIOLENCE AND OFFENDING**

No single theory has gained prominence in research linking family violence and delinquency, yet, family violence is implicated in several of the traditional criminological theories discussed in this volume, particularly those theories that invoke the role of the family dynamics or family functioning in understanding the genesis of delinquency. Some empirical studies have also begun to illuminate possible pathways from family violence to delinquency and violence (e.g., Fite et al., 2008; White & Widom, 2008). However, it is important to underline that theory testing, particularly of mediators and moderators, requires clear information that exposure to family violence does predict delinquency and crime. Specifically, in the case of linking IPV exposure to negative outcomes in adolescence and adulthood, evidence establishing such a link with strong designs and strong measurement has scarcely been made. However, enough information has accumulated that, in general, family violence exposure is associated with offending and antisocial behavior among children and that it is timely to consider the potential theoretical links between exposure to violence in the family and antisocial behavior. Because theoretical mechanisms are likely to differ in their impact depending on other aspects of child or adolescents' context and characteristics, as well as characteristics of the family violence experiences, it is likely that multiple theoretical approaches are needed for explanation and intervention (Rossman et al., 2000).

### **Social Learning Perspectives**

Social learning perspectives have been quite influential in studies of the impact of family violence and in criminology more generally. The general idea of social learning perspectives is that the aggression and violence on display in adolescence and adulthood is grounded, at least to some

degree, in experienced or observed violence in the home as a child. Bandura's (1973) ideas on the learning of aggression in a social learning context have been particularly influential. Children learn through observing important role models and reinforcement contingencies that violence and coercion "pay" in life and these behaviors are then enacted and reinforced in development, leading to antisocial and delinquent behavior. Specifically in the context of maltreatment

social learning theory posits that the experience of physical abuse will lead to later aggression to the extent that it makes aggressive responses salient in one's response repertoire and leads one to evaluate aggressive responses as efficacious in leading to positive outcomes. (Dodge et al., 1990, p. 1679)

Relatedly, and with particular relevance to violent outcomes, the "cycle of violence" hypothesis indicates that a history of family violence leads to violence later in life (Widom, 1989b). Children's exposure to violence teaches them that controlling others through coercion and violence is normal and acceptable, and indeed using such strategies helps people reach their goals. Direct imitation of violence models is complemented by internalized principles that guide behavior (Bandura, 1977). The resulting behavior is applied in general rather than specific situations – thus family violence that begets subsequent violence in the next generation is likely to be embedded in a more general antisocial orientation. Straus and Gelles (1979), for example, posited that exposure to harsh physical parenting or witnessing interparental violence is likely to lead to a continuing cycle of violence in the family, but also that learning violence within a family context strengthens a generalized cultural and societal orientation to violent and coercive behavior.

At the core of much of the fine-grained research that attempts to understand the linkages between exposure to family violence and negative, antisocial outcomes is research conducted by Dodge and his colleagues on social information processing (e.g., Dodge et al., 1990; Lansford et al., 2007). Recently, Dodge and colleagues (Fite et al., 2008) considered whether social information processing mediated the relationship between being raised in a partner-violent family and subsequent violence in intimate relationships in early adulthood. Using longitudinal data and multiple reporters, Fite et al. (2008) found that exposure to parent IPV during childhood was directly related to subsequent IPV for the adult children in their intimate relationships. They also found partial support for social information processing constructs as mediators between exposure to IPV and their own current relationship violence.

Whereas it is quite well documented that exposure to maltreatment enhances the risk of delinquency, crime, and possibly relationship violence, maltreatment, and to a lesser extent, exposure to IPV have also been linked with other problem outcomes including mental health problems, substance use and abuse, and physical health problems (e.g., Widom, 2000b). A conceptually clear link justifies the "cycle of violence" argument when considering experienced or observed physical abuse and subsequent use of violence, but adolescent violence has not been found consistently to mediate the impact of childhood physical child abuse on subsequent IPV (Herrenkohl, Mason, Kosterman, Lengua, Hawkins, & Abbott, 2004), although other studies have found adolescent antisocial behavior as a mediator (e.g., Capaldi & Clark, 1998; Ehrensaft et al., 2003). The issue of neglect also complicates the picture because neglect is not conceptualized as a form of violence, but it is clearly a form of maltreatment that is linked with antisocial outcomes (Widom & Maxfield, 2001). Thus, the cycle of violence is limited in explaining the diverse findings in family violence research despite its centrality for understanding mediating relationships between exposure to family violence and subsequent violence.

### **Attachment Theory/Relational Theory/Control Theories**

Perhaps the first theoretical perspective to link family violence and delinquency historically was psychoanalytic theory. In general, this perspective related maladaptive behavior in children to early experiences of traumatic events in family life, including parental loss and neglect (Simons et al., 2004; Widom, 1997). These experiences then led to attempts to manage anxiety and aggressive impulses deriving from the early developmental experiences, leading to disturbances in later primary relationships. Attachment theory later developed the relational hypothesis that when children cannot feel confident and secure in their early primary relationships, especially with mothers, they will not develop healthy “working models” of how to relate to others (Davies & Cummings, 1994; Rossman et al., 2000). Specifically

...on the basis of the tenets of attachment theory, children with a history of erratic or insensitive parenting are expected to develop impaired mental representations of self and interpersonal relationships. Consistent with this assumption, research indicates that experiences of maltreatment during childhood are associated with a reduced sense of self-worth and a more negative view of relationships (Milan, Lewis, Ethier, Kershaw, & Ickovics, 2004, p. 250).

Relational theories have been applied in particular to understanding younger children’s emotional dysregulation in reaction to adult conflict and violence (Cummings, 1998). Emotional dysregulation may then lead to reactive aggression unless more positive or protective experiences intervene (Lee & Hoaken, 2007). Toth, Manly, and Cicchetti (1992) considered insecure attachment as a mediator between childhood maltreatment and depressive symptoms with cross-sectional data and found, among children in late childhood, that insecure attachment acted as a moderator between maltreatment and depressive symptoms. However, when considering delinquency and crime as an outcome the focus tends to shift from attachment theory to control theories.

Control theories in criminology place primacy on bonding to parents as a mechanism to inhibit involvement in crime. Bonding, or attachment, tends to be operationalized along the lines of a multi-dimensional construct that includes constructs like supervision, positive involvement, and affective ties (Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1991). While a substantial body of empirical research exists on attachment to parents and delinquency, significantly less attention has been directed toward the possibility that the link between exposure to family violence and antisocial behavior may be mediated by absent or weakened attachment to parents. Recently, two longitudinal studies have in fact supported the notion that adolescents’ positive attachment to parents mediates the impact of earlier maltreatment on later violence (Herrenkohl, Huang, Tajima, & Whitney, 2003; Salzinger, Rosario, & Feldman, 2007).

### **Stress, Frustration, Trauma, and Strain Theory**

A third broad theoretical possibility that links exposure to family violence and subsequent anti-social outcomes focuses on stress (strains), negative emotionality or negative affect, and coping with trauma as possible mediators. In considering the relationship between maltreatment and substance abuse, for example, Ireland and Widom (1994) outlined several possible reasons for the relationship between maltreatment and subsequent alcohol and drug use including maladaptive coping, escape from the traumas of maltreatment, self-medication, and self-destructive behavior. In addition, research has linked childhood traumas – specifically child abuse and neglect – with

a “chronic inability to modulate emotional and behavioral responses. In reaction to this inability, traumatized children learn to mobilize a range of age-appropriate behaviors in an attempt to help control intense *affective states*” (van der Kolk & Fisler, 1994, p. 167). Therefore, negative affective states appear linked to exposure to family violence and should therefore “be addressed when adopting a framework that seeks to understand the long-term consequences of trauma on delinquency” (Maschi, Bradley, & Morgan, 2008, p. 138).

General strain theory in criminology also focuses on the relationship between negative experiences in childhood and adolescence, negative affective states, and subsequent involvement in crime and delinquency (Agnew, 1992). Two recent longitudinal studies consider the link between family violence in childhood or adolescence and negative affect and delinquency. Feiring, Miller-Johnson, and Cleland (2007) modeled the consequences of CPS-determined child sexual abuse over three longitudinal assessments. They obtained data on 160 sexually abused children and found that internalizing symptoms (PTSD and depressive symptoms) were related to anger, and anger was directly and indirectly related to delinquency. Feiring et al. (2007) recognize that this is a “within” sample assessment of the consequences of child sexual abuse, but they provide a framework for considering negative affect as a mediator between exposure to family violence and subsequent delinquent involvement in the context of the trauma literature.

In addition, Brezina (1998) considered the relationship between harsh parenting during adolescence, negative affect in the form of anger, and delinquent involvement and hypothesized that social learning constructs, control constructs, and strain constructs (anger) would mediate the relationship between Time 1 harsh parenting and Time 2 delinquency. Generally, he found partial support for each of the mediating effects, including the finding that anger mediated the relationship between harsh parenting and subsequent involvement in delinquency.

So, it appears that experiencing sexual abuse and experienced physical abuse generate negative affect which in turn increases the risk of delinquency. However, neither of these two studies considers exposure to IPV or considers a more broadly defined notion of maltreatment that considers both physical abuse and sexual abuse as well as neglect. Maschi et al. (2008) drawing upon both the research on general strain theory and trauma research make the links between experienced childhood trauma in the form of maltreatment and exposure to IPV, negative affect, and subsequent involvement in delinquency. Using a national probability sample of cross-sectional data, Maschi et al. (2008) report that their measure of anger does, in fact, mediate the relationship between exposure to family violence and self-reported offending. Therefore, like social learning and control perspectives in criminology, strain theory, as well as stress and trauma perspectives, also can be used to further our understanding of the pathways that link exposure to family violence to delinquency and crime.

## Biological Foundations

Biological perspectives are gaining ground in efforts to account for the family violence exposure–delinquency relationship. In particular, new research in neurobiology and the development of emotional regulation is relevant for understanding the impact of maltreatment, particularly on aggression. Biological research has underpinned the organizational/developmental theory perspective that has suggested that maltreatment in early life has cascading effects on the development of cognitive mechanisms (Cicchetti & Lynch, 1995). In particular, disruptions in cognitive development in early life may lead to deficits in high-order functioning through processes that

lead to “cementing” dysfunctional processes in neural wiring (Lee & Hoaken, 2007, p. 293). Mechanisms may include extreme vigilance and over-reactivity to potential interpersonal threat situations (e.g., hostile attribution bias, Dodge et al., 1990) and also deficits in emotional regulation, leading to inappropriate reactions to increasingly complex social situations (Lee & Hoaken, 2007). Genetic interactions may also be implicated. A longitudinal study (Caspi et al., 2002) examined the gene–environment interaction and established that maltreated boys with a high level of a particular neurotransmitter enzyme were less likely than those with low levels of this enzyme to develop conduct disorder and be convicted of a violent crime. Notably, 85% of the males with low levels of the enzyme developed some form of antisocial behavior. Thus, biological research may shed light on important processes that link family violence, trauma, and antisocial outcomes and provide clues for prevention.

### Complex Theoretical Perspectives

Although perspectives that focus on mechanisms mentioned above are important, in general, research supports the notion that a more integrated theoretical perspective is needed to understand the long-range impact of family violence. Such an integrated perspective addresses both multiple ecologies of risk and protection and also cumulative stress. The ecological risk perspective (e.g., Daro et al., 2004, Dutton, 2006; Widom, 2000b) draws attention to the notion that individuals who are victims of violence face common challenges or risks at multiple ecological levels. Although multiple risks may be present, protective factors can also exist at multiple levels, accounting for the fact that by no means all children who are victims of family violence are negatively impacted (Masten & Wright, 1999). Daro et al. (2004) propose to unify child maltreatment, domestic violence, and youth violence phenomena using a common ecological or integrated theoretical framework that takes into account common risk markers, multiple stressor ecologies, and available protective factors. “Over and above these shared risk and protective factors, a more coordinated examination of these three forms is justified by the frequent co-occurrence of these problems within individual families” (Daro et al., 2004, p. 285).

At this point it appears that multiple risks and multiple systems are involved in vulnerability to family violence. There is also conceptual support for a transactional risk model, suggesting that multiple systems are mutually influencing over the course of development, such that constellations of risk across systems set in motion consequences that perpetuate the risk of developmental damage (Cicchetti & Toth, 1995).

This approach, associated with developmental psychology and developmental psychopathology, has suggested that earlier exposures to family violence would be associated with worse long-term damage as consequences unfold in a number of developmental arenas. As indicated above, it is by no means clear that earlier experiences of family violence are more likely to lead to offending and antisocial behavior than violence experienced later, such as in adolescence.

A related complex perspective in criminology, developmental life-course criminology, provides an appropriate conceptual approach to understanding short-term and long-term consequences of risk factors for offending (see Farrington, 2003). The life course involves age-graded trajectories of development that are subject to transitions and turning points as new conditions emerge and as other avenues are closed off (Elder, 1994). The life-course perspective has been applied to the study of evolving behavioral trajectories including antisocial trajectories (e.g., Capaldi & Shortt, 2003; Ireland et al., 2002; Thornberry, Freeman-Gallant, Lizotte, Krohn, &

Smith, 2003; Thornberry & Krohn, 2001). This conceptual framework has been applied broadly to some extent in family violence research including that conducted in the RYDS (Ireland et al., 2002; Ireland & Smith, 2009; Smith et al., 2007), but specific life-course concepts, such as transitions and turning points, are barely incorporated in models to date. The focus on the adolescent life stage has been of particular interest, since this is a time when developmental turbulence promotes engagement in high-risk behaviors and associations (DiClemente, Hansen, & Ponton, 1996; Elliott, Avery, Fishman, & Hoshiko, 2002).

RYDS studies have also signified that earlier maltreatment, if not repeated, is not inevitably linked to adverse behavioral consequences like delinquency. Longitudinal research has revealed clearly that, although family violence has negative consequences, it does not consistently lead to negative adaptations among children facing this stressor (Jouriles, McDonald, Vincent, & Mahoney, 1998; Masten & Coatsworth, 1998; Margolin, 2005). For example, Kitzmann et al.'s (2003) meta-analysis of children exposed to IPV demonstrated that, although 63% of exposed children have worse outcomes than those not exposed, more than one-third do as well or better than those without this experience. The resilience perspective indicates that the life course can provide relief from stressors and new experiences and turning points that can act as protective buffers, although little research has considered resilience in relation to maltreatment specifically (for exceptions, see Herrenkohl, Herrenkohl, & Egolf, 1994; Kinard, 1998; DuMont, Widom, & Czaja, 2007). Protective experiences and opportunities, as well as the chance of further adverse experiences, may involve differential trajectories for different population subgroups and we turn next to a brief consideration of this issue.

### **Moderators Versus Mediators**

The discussion thus far has focused on empirical research as well as theoretically derived mediating pathways that advance our understanding of why family violence can be so developmentally disruptive to children who witness it or experience it. In the ecological or integrated models designed to understand the consequences of exposure to family violence, the context or setting in which family violence occurs may influence the consequences that flow from such experiences. Generally, there has been a limited examination of variables that moderate the impact of family violence on delinquency and offending. Again, this is not surprising, especially in view of the IPV literature, because the focus of research is still on forms of family violence and their prediction to outcomes, with some attention to pathways and processes. However, one explanation for somewhat inconsistent findings is the different sample compositions of related studies and the potential for hidden subgroup differences (Foshee, Ennett, Bauman, Benefield, & Suchindran, 2005). While race/ethnicity (e.g., Foshee et al., 2005; Lansford et al., 2007) and age (e.g., Ireland et al., 2002) have been considered on occasion as potential moderators of the relationship between exposure to family violence and crime, overall gender as a moderator has generated the largest body of research.

Some early research studies suggested that boys and girls were affected differently by family violence and that different developmental experiences and coping strategies might be implicated in their adaptation (Bourassa, 2007; Widom, 1997). Some studies have indicated that boys exhibited more externalizing symptoms in association with exposure to IPV (Jaffe, Wolfe, Wilson, & Zak, 1986) and girls exhibited more internalizing symptoms (Holden & Ritchie, 1991). However, others showed that marital violence was positively associated with boys' conduct problems (and



internalizing problems), but was not associated with girls' behavior (Porter & O'Leary, 1980; Reid & Crisafulli, 1990). Other studies have indicated that family violence is linked with more conduct problems, violence, and offending among girls than boys (Bourassa, 2007; Yates et al., 2003). It should be noted that in meta-analyses of the impact of marital violence (Kitzmann et al., 2003) and marital conflict (Buehler et al., 1997), the impact of these variables on youth problem behavior did not vary by gender; both genders were equally affected. Studies included were, however, primarily cross-sectional. No such meta-analysis of maltreatment effects was located.

Focusing on prospective studies, Cummings found females at a higher risk than males for showing behavior problems following exposure to marital violence (Cummings, 1997, 1998). Similarly, a recent study exploring the longitudinal impact of both maltreatment and exposure to IPV on adolescent conduct problems found that girls who experienced family violence exhibited more problems, according to both mother and child reports (Sternberg et al., 2006). Herrera and McCloskey (2001) also hypothesized gender-differentiated mechanisms in links between both maltreatment and exposure to IPV and arrest. They found that, while exposure to parental violence predicted referral to court and violence in both boys and girls, child physical abuse emerged as a significant risk specific to girls' violent offending; girls who had a history of physical abuse were over seven times more likely to commit a violent offense than the girls who had not. These researchers have also supported their hypotheses that sexual abuse exerts a unique influence on self-reported offending and violence for girls, compared to exposure to IPV and physical abuse (Herrera & McCloskey, 2003), again suggesting different developmental experiences. Widom's research has indicated some differential gender responses to maltreatment, with males more likely to have antisocial personality diagnoses and females more likely to experience alcohol problems (Widom, 2000a; Widom, Schuck, & White, 2006). She has also found that maltreated girls are more likely to have a violent arrest than maltreated boys (Widom & White, 1997). In the end, while research generally supports the claim that direct (maltreatment) or indirect (witnessing parent violence) exposure to family violence has significant negative developmental consequences, the pathways (mediators) and contexts (moderators) that either increase or decrease risk need more systematic research before ideas about risk and resilience become clearer.

## CONCLUSION AND DIRECTIONS FOR RESEARCH

The research on direct and indirect exposure to family violence over the past 30 years or so has been prolific. However, as we indicated at the outset, establishing definitive conclusions about the antisocial consequences of such exposure remains hampered by a number of methodological limitations. While much research in the maltreatment arena has addressed the methodological limitations of earlier studies, such is not the case for studies considering the consequences of being raised in a partner-violent family. Research is emerging, but longitudinal, prospective studies are needed that assess both maltreatment and exposure to IPV over developmental timeframes. In addition, we await studies that consider the intergenerational (dis)continuity of exposure to family violence with longitudinal, prospective data. Recently, the intergenerational continuity of IPV has been examined by Fite et al. (2008) and Ireland and Smith (2009), and both find an intergenerational link between relationship violence in two generations. We expect that intergenerational studies on the continuity or discontinuity of maltreatment to be forthcoming.

Future research will pursue a more refined picture of the mechanisms through which family violence affects the susceptibility of children to delinquency and crime over the life course. What is clear is that criminology has much to offer with theory building and testing of pathways or trajectories that unfold over the life course and increase or decrease the risk for negative developmental consequences. While much of the research and theorizing has occurred outside the traditional parameters of criminological research, family dynamics, and particularly violence experienced in the family, should be much more central to the development of theories designed to understand criminal and violent behavior in adolescence and adulthood.

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## CHAPTER 24

# Hate Crimes: Perspectives on Offending and the Law

RYAN D. KING

The study of crime motivated by prejudice or bigotry, now commonly known as hate crime, constitutes a recent and still nascent area of social science inquiry. Only in the past 15 years has a definable corpus of research in this area emerged, and like any developing body of work, this research has experienced some growing pains. Conceptually, scholars disagree on a singular definition of “hate crime.” Theoretically, it remains debatable whether research is better informed by theories of prejudice or theories of crime and punishment. Methodologically, research is plagued by a dearth of reliable data, and no clear consensus has emerged on the meaning of government hate crime statistics. Some scholars, for instance, view hate crime statistics as reliable measures of offending (Medoff, 1999), while others treat precisely the same information as more accurately measuring law enforcement attention to the issue (McVeigh, Welch, & Bjarnason, 2003). The goal of this chapter is to illuminate these and related debates in the study of hate crime and to suggest avenues for future research.

Extant work in this realm largely falls into one of two camps – hate crime *law* and hate crime *offending* – and this chapter is divided along the same lines. Thorough literature reviews on each aspect have been published recently (Green, McFalls, & Smith, 2001; Jenness, 2007), and my objective is to build on these contributions by reviewing recent influential work and drawing explicit attention to issues that appear unsettled in extant research.

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## HATE CRIME LEGISLATION

The category of offending known as hate crime generally refers to “illegal acts involving intentional selection of a victim based on a perpetrator’s bias or prejudice against the actual or perceived status of the victim” (Craig, 2002, p. 86). As a legal construct, the defining features of hate crimes vary from one jurisdiction to the next, although one element appears constant – the offenses occur “not because the victim is *who* he is, but rather because the victim is *what* he is” (Lawrence, 1999, p. 9, original emphasis).<sup>1</sup> This type of conduct has undoubtedly occurred in the United States for centuries, yet a body of legislation explicitly addressing offenses motivated by hatred only emerged in the last 30 years (Petrosino, 1999). That is not to suggest that laws prohibiting offensive conduct entailing bigotry were altogether missing prior to this wave of legislation. In the wake of race rioting in the early 1930s, for instance, Illinois passed a “group libel” statute that punished those who make defamatory remarks against others because of their race or ethnicity (Levin, 2001, p. 725). Around the same time, and concurrent with the Ku Klux Klan’s resurgence and racially motivated violence in the 1920s, several states took aim at the extremist group by passing anti-masking laws and banning the group from congregating or parading (Walker, 1994). These and related laws arguably served as forerunners to modern hate crime statutes, although hate crime law itself is rightly considered a “modern legal invention” (Jenness, 2007, p. 142).

Indeed, state hate crime statutes were rare in the early 1980s. However, once a few states penned these laws into their penal codes, the movement proved contagious and by 2005 only five states were without some form of hate crime legislation. In this regard, the United States parallels the trajectory of other Western countries that, in the post WWII era, have increasingly regulated hate speech (Defeis, 1992) and prescribed penalties for crimes motivated by hatred or political extremism (Greenspan & Levitt, 1993). Still, while many states and nations have hate crime laws or their functional equivalent on the books, the content and scope of these laws vary considerably. Some countries explicitly restrict “hate speech” (e.g., Belgium) while others continue to privilege free expression (e.g., the United States). Within the United States, some statutes include sexual orientation as a protected category (e.g., California) while others omit this classification (e.g., Mississippi). With respect to enforcement, hate crime prosecutions appear to be more frequent in some places (e.g., Maryland) than others (e.g., Louisiana).<sup>2</sup> Such intra- and international variation in the timing, content, and enforcement of hate crime law has fueled a sizeable and expanding body of research.

<sup>1</sup> Hate crimes are also commonly referred to as “bias crimes.” The two phrases are typically used interchangeably in existing research, although technically the difference is not merely semantic. Bias crime is a broader concept that includes crimes where a victim is selected because of membership in a particular group, for instance based on race, religion, or sexual orientation, even if outright hatred is not the primary motive (e.g., robbing a gay man because he is perceived as less likely to fight back, even if the offender shows no animus toward his sexual orientation). Hate crime is a more specific construct that necessitates bigotry or hatred as a salient element of the offender’s motivation.

<sup>2</sup> According to the 2001 National Survey of Prosecutors, 90% of Maryland counties prosecuted one or more hate crimes compared to 25% in Louisiana.

## Types of Hate Crime Law

At a rudimentary level, hate crime laws can be categorized into two types. One class of laws is administrative in nature and typically mandates data collection or police training. A notable example of an administrative statute is the federal Hate Crimes Statistics Act (HCSA), signed into law by former President George H. W. Bush in 1990. The HCSA requires the US Department of Justice to acquire and publish data about crimes that manifest prejudice based on certain group characteristics. Specifically,

the Attorney General shall acquire data, for the calendar year 1990 and each of the succeeding four calendar years, about crimes that manifest evidence of prejudice based on race, religion, sexual orientation, or ethnicity, including where appropriate the crimes of murder, non-negligent manslaughter; forcible rape; aggravated assault, simple assault, intimidation; arson; and destruction, damage or vandalism of property (Public Law 101–275, section b(1)).

Four years later, the HCSA was amended to include disability among the protected categories (Public Law 103–322) and was to be carried out “for each calendar year” instead of “the succeeding four years” as part of the Church Arson Prevention Act (Public Law 104–155).

A second fundamental type of hate crime law prescribes penalties for crimes motivated by prejudice or bigotry, often but not always based on a victim’s ascribed characteristics (e.g., race or ethnicity). For example, in 1994, President Clinton signed into law the Hate Crimes Sentencing Enhancement Act (Public Law 103–322), which increased penalties for federal crimes if the victim was selected because of his or her race, color, religion, national origin, ethnicity, gender, sexual orientation, or disability.<sup>3</sup>

As hate crime legislation transitioned from the exception in the 1980s to the rule in the 1990s, legal scholars and social scientists became increasingly attentive to the issue. Early work was often normative in orientation and largely advanced arguments about the utility, constitutionality, and even the necessity of such legislation (e.g., Gellman, 1991, Jacobs & Potter, 1998; Lawrence, 1999; Lee & Fernandez, 1990). Social scientists also contributed to this area of inquiry by examining two related questions about the genesis and diffusion of such legislation. First, why did hate crime laws emerge as a viable policy issue during the late 1970s and early 1980s? And second, why are some laws more encompassing with respect to protected statuses and behaviors than others?

## Timing

Scholars often credit the initial passage of hate crime laws to the work of social movement organizations, particularly the collaboration of civil rights and victims’ rights advocates during the 1970s. With civil rights on the national political agenda and a burgeoning punitive movement continually gaining steam, the political environment was ripe for those seeking protected status under penal law (Jenness & Broad, 1997, Chapter 2; Maroney, 1998).

<sup>3</sup> In addition to these laws, some scholars also consider the Violence Against Women Act (Public Law 103–322) as a type of hate crime law. This law, among other provisions, declares that persons have a right to be free from crimes motivated by gender (see Jenness, 2007, p.148, for an overview).

A number of social movement and advocacy organizations pushed for hate crime legislation,<sup>4</sup> and their success partly hinged on their ability to document and disseminate information on violence motivated by bigotry. The Southern Poverty Law Center, for instance, began the Klanwatch project to track hate-motivated violence, and organizations such as the National Gay and Lesbian Task Force and the Anti-Defamation League of B'nai B'rith (ADL) systematically collected data on anti-gay and anti-Jewish hate crimes, respectively. These efforts had a significant effect on policy in at least three ways. First, documenting and disseminating information on alleged crimes of bigotry gave credibility to suggestions of a "hate crime epidemic" (Jacobs & Henry, 1996). The ADL, for example, cited its own data to verify claims of an upsurge in anti-Semitic attacks during the 1980s and early 1990s. Such data collection efforts, in concert with narratives and media coverage of particularly heinous acts of bigotry, played an important role in legitimating claims that hate crimes were a serious and perhaps worsening social problem, irrespective of the actual veracity of such arguments (Jacobs & Henry, 1996; Jenness, 1999; Jenness & Broad, 1997). As Jacobs and Henry (1996) note, "Whatever the actual number of hate crimes, these groups' assertion of a hate crime *epidemic* effectively gains them political support" (p. 368, original emphasis).

Second, these data collection initiatives demonstrated the feasibility of systematically collecting information on crimes of bigotry. When a federal data collection law was proposed, for instance, skeptics questioned whether law enforcement could reasonably incorporate such a mandate into its existing structure. Legislators favoring the law, in turn, pointed to advocacy organizations that had successfully catalogued offenses. As Senator Simon remarked during a hearing on the pending Hate Crimes Statistics Act, "If Mr. Schwartz over here with the ADL can collect data on this kind of problem, we ought to be able to do it in the Department of Justice" (quoted in Jenness & Grattet, 2001, p. 53).

Third, these organizations provided guidance, and even a template, on how states could tailor hate crime legislation in a way that would likely pass constitutional scrutiny. The ADL's model hate crime statute was particularly influential in this regard. As Maroney (1998) notes, "the concept of a comprehensive legislative response to bias crime came into vogue in 1981 after [the] ADL released a model hate crime statute 'intended to assist state and local governments which would like to enact hate crime laws'" (pp. 589–590). Following the ADL's publication, several states passed hate crime legislation based on the ADL model.

While social movement organizations put a spotlight on the issue of hate-motivated crime, political and institutional factors also became salient as this policy domain expanded. With respect to politics, states with more Democrats in the legislature adopted hate crime laws earlier than Republican-dominated states (Soule & Earl, 2001). States that have historically been at the forefront of civil rights law and those with a history of "policy innovation" also crafted legislation significantly earlier (Grattet, Jenness, & Curry, 1998). In addition to these political factors, a state's position in the interstate system partly determined whether and when a hate crime law was enacted. Grattet and colleagues (1998), for instance, illustrate how the diffusion of hate crime laws in the United States moved at an uneven pace. They point to an apparent "learning curve" (p. 297), where pressure to create hate crime laws increasingly mounted over time. In this respect the criminalization of hate followed a familiar path of institutionalization in

<sup>4</sup> See Jenness and Grattet (2001, Chapter 2) for a listing and description of key social movement organizations.

which pressures to comply with a norm mount over time and a dominant policy model rises to the top (cf. DiMaggio & Powell, 1983).

## Content

A canvassing of hate crime statutes in the United States and equivalent policies abroad reveals marked variation in the content of existing laws. For example, gender is protected at some times and places, but not others. The same can be said for sexual orientation and disability, among other status characteristics. Once again, social movement organizations, interest groups, and the political climate are salient for understanding such variation. Haider-Markel (1998) demonstrates that interest group presence had a sizeable effect on the scope and breadth of state hate crime legislation in the United States. Jenness (1999), employing a different methodology, also indicates that social movement pressure was a notable, although not determinative, factor in receiving protected status under federal hate crime law. A particularly insightful aspect of Jenness's research is that social movements apparently matter more in the early stages of the law-making process. Race, religion, and sexual orientation, for instance, were all categories represented by movement organizations and each of these groups was included in the federal Hate Crime Statistics Act (1990; Public Law 101–275) and the Sentencing Enhancement Act (1994; Public Law 103–322). Groups without movement representation, such as union members and police officers, were not protected under the statutes. Yet, two groups later protected under the laws – gender and disability – had little social movement mobilization directly on their behalf. These two categories, Jenness notes, were already protected under federal anti-discrimination law and were thus incorporated into hate crime law even in the absence of social movement representation.

Prior work thus demonstrates the importance of social movement organizations in the making of hate crime law, although related work notes two contingencies. First, movements *against* hate crime policies can be equally influential. For instance, sexual orientation is less likely protected under hate crime law where the Christian Right is well represented (Earl & Soule, 2001).<sup>5</sup> Second, the association between social movements and legal responses to hatred may be contextual. Where civil society is strong and the state is weak, such as in the United States, interest and advocacy groups have been at the forefront of the anti-hate movement. Yet, Savelsberg and King (2005) show that Germany has maintained an elaborate and robust equivalent to US hate crime law despite little indigenous social movement activity. In explaining such nation-specific nuances, the authors draw attention to collective memories of past violence motivated by bigotry in tandem with nation-specific patterns of political decision-making.

The political environment also appears influential, although prior research disagrees as to how and why politics matter. Some work indicates that hate crime laws are more expansive in Democratic strongholds (Earl & Soule, 2001). Haider-Markel (1998), on the other hand, finds

<sup>5</sup> The Christian Right has long opposed protection of sexual orientation under hate crime laws. For a sampling of published opinions by Christian Right organizations on this issue, see the Family Research Council's "'Hate Crime' Laws Mean Unequal Protection" (*In Focus* #247, <http://www.frc.org/get.cfm?i=IF02F1>) and a special report by the Traditional Values Coalition, "Hate Crime Legislation: Unequal Treatment Under Law," which explicitly views such legislation as "homosexual-instigated" ([http://www.traditionalvalues.org/pdf\\_files/HateCrimes.pdf](http://www.traditionalvalues.org/pdf_files/HateCrimes.pdf)).

that “the level of [political] party *competition* has the strongest influence over the scope and coverage of hate crime laws” (my emphasis), presumably because politicians in competitive environments must be more responsive to a variety of constituencies in order to retain power (p. 78).

Taken together, prior work shows that social movement organizations effectively put hate crime on state and federal legislators’ radars, and facets of the policy and political environment have influenced the timing and content of state hate crime laws. With few exceptions, and despite very different methodologies and theoretical approaches, extant work shows considerable continuity with respect to research findings. Still, scholars interested in hate crime law might tackle a few questions that remain insufficiently answered. First, there is a paucity of cross-national comparative work on hate crime law. Some research nicely describes legislation in various countries (e.g., Commission of the European Communities, 1993; Greenspan & Levitt, 1993; Nier, 1994), but little work has systematically investigated the criminalization of hate-motivated offending cross-nationally (Savelsberg & King, 2005). Second, practically no research has framed the study of hate crime law in theories of the punitive state. Hate crime laws are unique in that they entail aspects of both civil rights and criminal punishment, yet prior work has privileged the former. It remains unknown whether explanations of the timing and content of hate crime law gain any leverage by drawing on theories of punishment. To that end, research has largely focused on which groups are protected while comparatively less work, if any, has focused on the punitiveness of state criminal codes. Third, the literature could benefit from greater attention to the historical antecedents of hate crime law. Extant work has examined histories of civil rights innovativeness and the role of collective memories, but the role of past conflict on current policymaking is not fully fleshed out, and several hypotheses appear tenable. For instance, one might hypothesize that states with a history of lynching will implement hate crime laws to atone for past abuses and thereby “right old wrongs” (cf. Galanter, 2002). Alternatively, intergroup hostility may die hard, and places with lengthier histories of intergroup conflict may shun hate crime law because it is perceived as granting minority groups special protection. Fourth, to what extent is hate crime law simply a symbolic gesture to appease interest groups? Both classic law and society scholarship and sociologists of law argue that a disjuncture between policy and practice, or a gap between “law and the books” and “law in action,” is likely if not inevitable. I surmise that this “gap,” itself, is variable, but whether or why that is the case is an open and empirically testable question.

Research on the above issues would thus contribute to the hate crime literature. Yet, scholars of hate crime law would be remiss to focus solely on legislation. The appellate courts have also weighed in on this issue and have played a salient role in determining the limits of hate crime law.

## Constitutionality

As the concept of hate crime legislation moved from social movement discourse to actual penal codes, debates about their constitutionality graduated from law school cafeterias to the appellate courts. As Jenness (2007) points out, “As quickly as hate crime laws were proposed, adopted, and analyzed, constitutional concerns about the validity, and thus legal viability, of hate crime law emerged” (p. 149). For critics, the idea of eliminating prejudice was laudable, but they argued that hate crime laws ultimately sanctioned one’s viewpoint and thus violated provisions of the



First Amendment. The US Supreme Court has long protected speech that might be regarded as offensive or even hateful, so long as the words are not so invidious that their very utterance causes an immediate breach of the peace (so-called fighting words; see *Chaplinsky v. New Hampshire*, 1942). It follows from this line of First Amendment jurisprudence that hate crime laws essentially chill free speech and are therefore patently unconstitutional. As Jacobs and Potter (1998) concisely put it,

The case for unconstitutionality is as follows: Generic criminal laws already punish injurious conduct; so recriminalization or sentence enhancement for the same injurious conduct when it is motivated by prejudice amounts to extra punishment for values, beliefs, and opinions that the government deems abhorrent (p. 121).<sup>6</sup>

Proponents of hate crime law disagreed with this logic on at least three grounds.<sup>7</sup> First, hate crime laws in no way prevent anyone from holding or expressing an opinion, so long as the opinion is disconnected from a sanctioned behavior. That is, the laws preclude no one from being an overt racist, homophobe, member of the Nazi party, or expressing any other potentially offensive viewpoint. Second, and closely related to the previous point, hate crime laws ultimately sanction *conduct* and not *speech*. The latter point is noteworthy because it clearly distinguishes hate crime laws from college hate speech policies that were deemed unconstitutional by the appellate courts (see Gould [2005] for review of the constitutionality of hate speech policies). Third, hate crime law proponents maintain that crimes of bigotry are inherently more severe and are particularly apt to instill fear in both the immediate victim and members of the victim's community. The severity of the punishment thus reflects the gravity of the crime, a concept that poses no constitutional quandary.

Such academic disagreement about the constitutionality of hate crime law was paralleled by challenges in the United States appellate courts, which reviewed 36 cases pertaining to hate crime law during the 1980s and 1990s (Phillips & Grattet, 2000). Early court decisions generally validated their constitutionality, although discrepancies between state court decisions became increasingly pronounced during the early 1990s (*ibid.*). For instance, while the Oregon Supreme Court was affirming the constitutionality of a hate crime statute (*State v. Plowman*, 1992) the Wisconsin and Ohio High Courts were striking down very similar laws (*State v. Wyant*, 1994; *State v. Mitchell*, 1992; see Jacobs & Potter, 1998, pp. 122–123, for discussion of these cases). With such inconsistent rulings by state appellate courts, the United States Supreme Court intervened and delivered two definitive opinions on hate crime laws in consecutive years.

In the first of these cases, *R.A.V. v. St. Paul* (1992), the Court deemed a St. Paul, Minnesota, city ordinance unconstitutional. This case was prompted by an incident where a juvenile offender

<sup>6</sup> In addition to criticisms stemming from the First Amendment, critics have also challenged hate crime laws on Fourteenth Amendment grounds. From this angle, hate crime laws are either void for vagueness because it is unclear what qualifies as "hate motivated," or they allegedly violate the Equal Protection Clause because some groups purportedly receive greater protection than others. While a nontrivial number of appellate court cases have dealt with such Fourteenth Amendment challenges, the lion's share of legal literature and the largest number of appellate court cases have been grounded in First Amendment jurisprudence (see Jenness & Grattet, 2001, Chapter 5 and Phillips & Grattet, 2000, for a nice elucidation of appellate court arguments and changes over time).

<sup>7</sup> For elaboration on these and related constitutional issues, see Abramovsky (1992), Gellman (1991), Gellman and Lawrence (2004), Gould (2005), Jacobs and Potter (1998, Chapter 8), and Lawrence (1999). For a sociological analysis of court cases dealing with hate crime, see Phillips and Grattet (2000).

burned a cross on the lawn of a black family. The offender was subsequently charged with violating the city's Bias-Motivated Crime Ordinance that declared,

Whoever places on public or private property, a symbol, object, appellation, characterization or graffiti, including, but not limited to, a burning cross or Nazi swastika, which one knows or has reasonable grounds to know arouses anger, alarm or resentment in others on the basis of race, color, creed, religion or gender commits disorderly conduct and shall be guilty of a misdemeanor (*R.A.V. v. St. Paul*, 1992).

The defendant argued for the charge to be dismissed because the city ordinance was overly broad and prohibited the expression of a viewpoint, thus infringing on constitutionally protected speech. On appeal, the Minnesota Supreme Court ruled that the statute only prohibited fighting words as outlined in *Chaplinsky*, which are not protected under the First Amendment, and thus the city ordinance was perfectly constitutional. However, the state court's decision and the rationale behind it was overturned in a unanimous decision by the United States Supreme Court in *R.A.V.* The majority opinion, written by Justice Scalia, reasoned that the St. Paul statute applied the "fighting words" doctrine to some types of expression, such as that based on race or color, while disregarding fighting words based on other group-defining characteristics (e.g., sexual orientation). The ordinance thus violated the First Amendment because it discriminated based on viewpoint.<sup>8</sup>

For a short time after *R.A.V.* it appeared that hate crime laws were in peril. As two leading scholars in this area later stated, "The Supreme Court's unanimous decision in *R.A.V.* . . . seemed to sound the death knell for hate crime laws" (Jacobs & Potter, 1998, p. 129). However, a year later the Court again delivered a unanimous opinion and found a different type of hate crime statute to be constitutionally permissible. In *Wisconsin v. Mitchell* (1993), the Court considered a Wisconsin statute that enhanced the maximum penalty for offenses where the defendant selects the victim "because of the race, religion, color, disability, sexual orientation, national origin or ancestry of that person." The case was prompted by an incident where a group of young African American men discussed a scene from the movie "Mississippi Burning" and, in an apparent bout of frustration, beat a white passerby. Mitchell argued successfully before the Wisconsin Supreme Court that the penalty enhancement statute punished offensive speech. Moreover, Mitchell maintained that allowing a defendant's prior and permissible speech as evidence in hate crime cases would effectively silence people from expressing views that could be perceived as offensive for fear of later prosecution, thus making the statute overly broad. The Supreme Court disagreed on all accounts. Chief Justice Rehnquist reasoned that the Wisconsin statute addressed conduct, not speech, and in no way did the law preclude or prevent free speech that was disassociated with the offense. Moreover, the notion that the statute would chill the free speech of others was viewed by the Court as overly speculative. *Mitchell* was ultimately the definitive ruling on hate crime law and, thereafter, the remaining lower court cases dealt with peripheral issues such as what types of evidence could be marshaled to prove the hate motivation (Phillips & Grattet, 2000).

<sup>8</sup> Justice Scalia's majority opinion was accompanied by three concurring opinions. These opinions, delivered by Justices White, Blackmun, and Stevens, reached the same end by different means. Justice White, for instance, argued that the statute was overbroad because it encompassed speech that was clearly protected by the First Amendment. Justice Stevens went so far as to disagree with the logic of Scalia's majority opinion, but ultimately agreed that the statute was unconstitutional because it clearly overreached and prohibited protected speech.

The consequence of the Court's rulings in *R.A.V.* and *Mitchell* is that hate crime statutes are constitutionally permissible, although the legislation must be framed carefully. Laws that criminalize expression are on shakier ground than laws that punish conduct, or as Gould (2005) succinctly puts it,

public bodies may not punish a man for a racist tirade, but if the same person attacks another because of his race – and, more particularly, if the aggressor confirms his intentions by spewing racial epithets during the attack – the defendant may face a heightened penalty on account of his racist motives (p. 185).

With the constitutional question put to rest, the academic study of hate crime law increasingly shifted from questions of permissibility to inquiries about feasibility. That is, would hate crime laws actually be enforced?

## IMPLEMENTATION AND ENFORCEMENT

In their influential work on hate crime law, Jacobs and Potter (1998) suggest that “it is one thing to enact hate crime laws and another thing to implement and enforce them. . . It is not clear whether society really wants to divert significant investigative resources to these offenses or punish them as serious crimes” (p. 109). Indeed, as of the year 2000 a number of police departments, mostly in the Midwest and Southern regions, failed to regularly comply with the federal Hate Crimes Statistics Act (King, 2007). Other scholars were more sanguine in their projections, suggesting that the laws were entirely enforceable (Levin & McDevitt, 1993, p. 174) and implementation was gaining momentum (Jenness & Grattet, 2001). Whether the laws are enforced is ultimately an empirical question, and one that has been the subject of much recent research.

Scholars have approached the enforcement and implementation issue from numerous angles and multiple units of analysis, with work generally falling into one of four domains: hate crime policy creation by law enforcement agencies; hate crime reporting; the role of frontline personnel in identifying hate crime; and prosecution. The conclusions and implications of this research vary, yet scholars generally agree that “law in the books” does not easily translate into “law in action.” Furthermore, demographic, political, and organizational characteristics of local law enforcement agencies influence the enforcement of hate crime laws.

### Law Enforcement Policies

Sociologists Valerie Jenness and Ryken Grattet, two leading scholars of hate crime policy, provide a useful set of concepts for understanding variation in policy implementation. The authors observed that law enforcement agencies in California exhibited tremendous variation in their definitions of hate crime despite working with a common set of state laws (Grattet & Jenness, 2005). There was, indeed, a “surplus” of available definitions from which to choose, although the decisions made at the local level reflected patterns that are often observed in the study of organizations and policy implementation (e.g., DiMaggio & Powell, 1983). Many policing agencies reconciled this uncertainty by mimicking other agencies or state guidelines, others sought guidance from professional organizations, and still others simply responded to local concerns about crime and bigotry (“actuarial conditions”). These observations by Grattet and Jenness are significant for at least three reasons. One, they effectively demonstrate that hate crime is a fluid concept,

particularly at the implementation stage. Two, local law enforcement policies are strongly influenced by other actors in their institutional environment. And three, policing agencies largely “mediate between law-on-the-books and law-in-action” and thereby “reconstitute law at the local level” (Grattet & Jenness, 2005, pp. 934–935).

In related work, these authors further suggest that structural characteristics of police organizations partly determine whether police implement a policy. Hate crime policies are more likely implemented when organizations are more “pervious,” which is “an organization-environmental condition characterized by *both* susceptibility to environmental influence and the alignment of the policy innovation with existing organizational culture and practices” (Jenness & Grattet, 2005, p. 344).<sup>9</sup>

### Hate Crime Reporting

A second body of work on implementation and enforcement draws attention to variation in hate crime reporting by police. Research has long suggested that crime statistics are fallible and, to some extent, socially constructed (Black, 1970; Kitsuse & Cicourel, 1963). Hate crime statistics could easily be the poster child for this school of thought. For instance, 2001 FBI data indicated more hate crime in Northfield, Minnesota, a small town of 17,000 (seven hate crimes reported) than in the states of Arkansas, Alabama, and Mississippi combined (six hate crimes; population of nearly 10 million). In addition, Arkansas reported zero hate crimes in 2002 (Federal Bureau of Investigation, 2002, Table 11) compared to 177 in 2003. Was there really more hate crime in Northfield than in the Deep South? And did Arkansas experience a hate crime wave in 2003? The weight of available evidence indicates neither is true, and that hate crime data might better reflect variation in the behavior of law enforcement agencies than the behavior of hate crime perpetrators. To that end, prior work has endeavored to explain variation in hate crime reporting, often by evaluating some measure of participation in the FBI’s hate crime data collection program.

One line of research in this vein understands hate crime reporting as a policy outcome and, accordingly, derives hypotheses from various political science and sociological explanations of policy implementation. This research suggests that social movement presence and political partisanship are independently or conjointly associated with higher levels of hate crime reporting. Political scientist Donald Haider-Markel (1998), for instance, analyzes the percentage of a state’s population covered by police departments submitting hate crime incident reports to the FBI and concludes that states with more interest group activity, greater media coverage of hate crime, and political party parity are more likely to comply with the HCSA. McVeigh and colleagues (2003) draw on sociological theories of social movement mobilization to reach similar, although not entirely consistent, conclusions in their work on the number of hate crimes reported across US counties. The authors argue that hate crimes reported by police do not necessarily reflect the actual prevalence of criminal acts motivated by bigotry. Rather, they interpret each hate crime report as evidence of a successful social movement outcome because “each reported incident represents a deliberate choice made by local authorities to take positive action on legislation

<sup>9</sup> The concept of perviousness is largely measured by community policing and engagement with community groups.

that endorses the validity of claims and demands asserted by various civil rights organizations” (McVeigh et al., 2003, p. 847). Like Haider-Markel, McVeigh and colleagues find that more hate crimes are reported where there is greater competition between political parties as measured by the difference between votes cast for Democratic and Republican presidential candidates. Yet, political partisanship is to some extent contingent on the degree of civil rights activity in a county. Hate crimes are reported with greater frequency in Democratic strongholds *if* the county also has a large number of resourceful civil rights organizations. It is thus the joint presence of resourceful civil rights organizations and liberal politics that result in higher levels of hate crime reporting, presumably because civil rights discourse resonates with liberal politicians.

In addition to politics and civil rights organization, the racial composition of geographic areas is also consequential. An established line of empirical work in the study of criminal punishment suggests that black population size is positively and causally associated with punishment, particularly types of punishment that disproportionately affect minority populations (e.g., incarceration). Following that line of scholarship and working in the racial threat tradition, King (2007) suggests that if black population size increases law enforcement actions that adversely affect blacks, then it should decrease the enforcement of laws that are protective of blacks. Indeed, King finds that compliance with the Hate Crimes Statistics Act is inversely associated with black population size, although the association is largely isolated to policing agencies in the south. In addition, and building on Jenness and Grattet’s (2005) notion that hate crimes receive greater attention by law enforcement agencies that are more susceptible to community pressures (“organizational perviousness”), King (2007) also finds that compliance with federal hate crime law is generally higher among agencies engaged in community policing.

### Identifying Hate Crimes: The Role of Frontline Personnel

A third body of research on hate crime law enforcement moves the unit of analysis from policing agencies to police officers. How, for instance, do frontline law enforcement personnel deal with vague, visible, and contentious hate crime laws? It is not always clear whether an inter-group crime is truly motivated by hatred (Bell, 2002), and this problem persists even when reporting guidelines are in place. As Martin (1995, p. 323) observes, “often perpetrator motivations are unclear, the role of ‘hate’ is ambiguous, incidents may be the results of provocation and mutual conflict, and community consensus may be lacking. As a consequence, what is defined as ‘bias motivated’ is arbitrary and results in statistical reports that are uninterpretable and may be misleading.” This line of work suggests that hate crimes are inherently difficult to identify because law enforcement officers must not only determine what happened, but try to decipher *why* it happened as well (Bell, 2002). To that end, three factors appear particularly important: officer beliefs about the laws, police department policies, and police-community relations.

Police officers are not uniformly supportive of hate crime laws (Balboni & McDevitt, 2001). Boyd, Berk, and Hamner (1996) report that “a few officers [that they interviewed] expressed the belief that hate crimes should not be considered crimes at all,” and some dismissed them as “overkill,” “mostly bull,” and “media hype” (p. 827). Related ethnographic work also indicates that members of police hate crime units and frontline police officers are skeptical of hate crime laws (Bell, 2002, e.g., p. 115). These attitudes are consequential because failure to identify bias motivation in offenses subsequently affects the reliability and validity of hate crime data and

can reduce the likelihood of eventual prosecution. Indeed, one study finds that individual police officer attitudes about hate crime account for some of the variation in hate crime identification and reporting (Nolan & Akiyama, 1999, p. 125).

Still, even when officers grant hate crime laws minimal legitimacy, they are apt to comply with department hate crime policies and are generally influenced by the climate of their specific units (Balboni & McDevitt, 2001; Nolan & Akiyama, 1999). The latter points are nicely reflected in Boyd et al.'s (1996) ethnography of a large police department. Even within the same organization, the authors note, various divisions develop different protocols for identifying and responding to hate crimes, and policies and leadership within divisions influence what front-line officers view as "normal hate crimes." That is, officers have in mind particular features that they deem indicative of a "true" hate crime, and they assess whether a given incident fits this mold. The work of Boyd et al. is noteworthy in at least two regards. First, state or local hate crime laws can be undermined to the extent that police officers' visions of "normal hate crimes" deviate from those envisioned by politicians and lawmakers. Second, officers' decisions about hate crimes are not easily divorced from the institutional arrangements of policing agencies (Boyd et al., 1996, p. 848). The use of discretion is, in part, a function of the larger bureaucracy.

Just as police officers are influenced by police department structure, policing agencies are affected by their larger communities. Survey research reveals that police department policies and practices concerning hate crime are intimately connected with community factors (Jenness & Grattet, 2005), but ethnographic work arguably paints a more complete portrait of how community norms affect the enforcement of hate crime laws. Bell's (2002; see Chapter 5) work on Center City (a pseudonym) is particularly illuminating. She describes a traditionally white community (Gertown) where hate crimes repeatedly occur. Police investigations of these crimes are routinely stymied by Gertown residents who vehemently detest the police department's Anti-Bias Task Force (ABTF). By refusing to cooperate and by obstructing investigations the community hampers law enforcement's ability to effectively respond to hate crimes in that part of the city. Moreover, some police officers with ties to the Gertown area disliked the unit and its stated objectives, thereby minimizing cooperation *among* police officers in the context of hate crime cases. The community thus plays a non-trivial role in hate crime law enforcement.

## Prosecution

While a sizeable body of research has investigated hate crime policing, comparatively less work exists on hate crime prosecution. Early work in this area was rather descriptive and based on limited empirical data (Chorba, 2001; Hernandez, 1990; Jacobs & Potter, 1998, p. 101; Levin & McDevitt, 1993). More recently, scholars have relied on ethnographies, interviews, and surveys to better understand hate crime prosecution. Bell (2002), for instance, illustrates how resistance to hate crime law within a community has implications for charging and prosecution. Since police "controlled the range of cases that other actors saw" (Bell, 2002, p. 180), their work inherently influenced the likelihood of prosecution. Moreover, Bell nicely spells out how detectives in the ABTF weeded out cases to move forward for potential prosecution as hate crimes. The hate crime label was typically dropped if crimes were *intragroup* instead of *intergroup*, if they involved juveniles, if no spoken language during the offense evidenced a bias motive, or if victims lacked

credibility. Related work shows that prosecutors anticipate reactions by judges and prospective jurors when deciding whether to charge offenses as hate crimes (McPhail & Jenness, 2005). Consistent with work on policing (Boyd et al., 1996), McPhail and Jenness suggest that prosecutors have images of “normal” hate crimes in their minds, and these images are invoked to assess the probability of conviction.

In a comparative analysis of hate crime law and its enforcement in Germany and the United States, Savelsberg and King (2005) illustrate how national culture and nation-specific political institutions influence prosecution. Congruent with prior research, US prosecutors appear concerned with the ability to prove a case before a jury, yet Savelsberg and King also find evidence that localized interest group activity and hate crime training may influence prosecutors’ depictions of “normal” hate crimes. Moreover, the First Amendment in the United States partly constrains the types of cases that can be brought forward for prosecution (cf. Bell, 2002) and US prosecutors had little reason to consider international audiences. Prosecutors in Germany, by comparison, were organized differently and viewed other criteria as pertinent for prosecution. For instance, German prosecutors were often housed within specialized “state protection units” (*Staatsschutz*), reflecting the belief that these crimes present a threat to the democratic state, and training appeared to be more standardized. German prosecutors were also more attuned to international press coverage of right-wing extremism in Germany. Moreover, German law enforcement was more organized and intensive in this area, partly due to the legacy of Germany’s role in the Holocaust.

Most recently, King (2008) assessed the community-level determinants of hate crime prosecution in the United States. Starting from the premise that the predictors of minority group protection should be the inverse of minority group persecution, King suggests that vast variation in the number of hate crime prosecutions is partly explained by racial demographics, religion, and political partisanship. He finds, on average, that hate crime prosecutions are less frequent in politically conservative districts and where the concentration of Christian fundamentalists is high. With respect to race, few hate crime prosecutions are found where the black population is very small, likely because few hate crimes occur where very few minorities reside. Yet, there are also few hate crime prosecutions where the black population is quite sizeable (e.g., 30% or more), presumably as a response to racial threat (cf. King, 2007). King’s research also assesses variation in district attorneys’ offices’ hate crime policies. Consistent with work on policing, prosecutors are more likely to implement policies where the office has more links to the community, although unlike police department policies, policies in district attorneys’ offices are not statistically associated with prosecutions. King suggests that policies are sometimes crafted as a show of compliance with an institutionalized norm, but they are ultimately decoupled from actual prosecution. Such decoupling appears particularly likely in politically conservative jurisdictions.

While empirical work on hate crime prosecution is mounting, data are scarce and many questions remain unanswered. Few studies have systematically assessed case-level variation in hate crime charging, likely because data are difficult to collect. Research on the role of hatred at the sentencing phase is also scant. Moreover, existing work has yet to assess whether characteristics of victims or offenders, or type of bias for that matter, are associated with the likelihood of receiving a penalty enhancement. Research on prosecution at the case-level of analysis would thus make a valuable contribution to the hate crimes literature. Indeed, case-level studies of prosecution and sentencing represent the most understudied facet of hate crime law enforcement.

## HATE CRIME OFFENDING

Research on hate crime law is complemented by an emerging research agenda on hate crime offending. The latter, however, is noticeably more diffuse and appears complicated by several factors. For one, scholars assume a variety of definitions of the subject matter. The phrase “hate crime” is largely an American neologism used to describe behavior motivated by bias or bigotry, but the specific parameters of what actually constitutes hate crime offending are variable and subjective (Green et al., 2001). Definitions of hate crime differ with respect to applicable target groups, forms of conduct, and type of motivation (*ibid.*, see p. 481), and thus two studies of hate crime offending could conceivably describe very different conduct. For instance, if research on hate crime follows statutory definitions then the conceptualization of hate crime would vary across states and countries. For this reason some scholars have criticized statutory definitions as too limiting (Perry, 2001) and remedy this shortcoming by proposing their own definitions of hate crime. By expanding the domain of behavior, however, multiple subjective understandings of hate crime might further increase conceptual ambiguity.

A second complication concerns the reliability of hate crime data. Data generally come from one of two sources: government agencies and interest group records. The FBI provides data on offense characteristics and the National Crime Victimization Survey (NCVS) has recently collected data on hate crimes as perceived by crime victims. The upshot of FBI data is that they rely on a standardized definition and allow for geographic breakdowns of the prevalence and types of offending, akin to UCR data used in the study of crime rates. However, participation in the hate crime reporting program is variable and non-random (King, 2007), and whether cities that report more hate crimes are truly bastions of bigotry or simply direct more attention to hate crime policing is difficult to discern.

Two types of data that might be used for comparison are from victimization surveys and advocacy organizations. Victimization surveys are useful in that they capture the “dark figure,” offenses not reported to police, but a victim’s ability to accurately assess motive is questionable. Moreover, differences between the FBI and NCVS estimates are astounding. The latter reports more than 190,000 hate crime incidents in the United States between July 2000 and December 2003, while the FBI data catalogue closer to 30,000. The typical characteristics of offenders and offenses also appear to differ between the two sources. The same could be said for interest group data, such as the ADL’s audit of anti-Semitic incidents or the National Gay and Lesbian Task Force’s tally of crimes against gays and lesbians. Victims may misperceive the motivation of the offender, some victims may choose not to report incidents, and interest groups may have a vested interest in reporting more incidents to buttress their claims for government action (Jacobs & Potter, 1998).

Arguably a third difficulty in the study of hate crime concerns the proper starting point for theoretical development. On the one hand, Perry (2001) suggests that “criminology has failed to provide a coherent framework for understanding the diverse phenomenon that we refer to as ‘hate crimes’” (p. 31). On the other hand, Green et al. (2001) suggest that “those seeking to understand the nature and origins of bigoted violence are likely to be disappointed by extant scholarship on prejudice, racism, and discrimination” (p. 479). As these quotes illustrate, scholars have been critical of the utility of theories of prejudice and crime in the study of hate crime. At a more general level, the question is whether hate crime is more about “hate” or “crime”? The following sections review work that directly or indirectly speaks to this question, and provides an overview of research on the characteristics of hate crime offenses and offenders.



## A Typology of Offenses

Levin and McDevitt (1993) and McDevitt, Levin, and Bennett (2002) suggest four classifications of hate crimes. *Thrill-seeking hate crimes* allegedly represent a sizeable proportion of offenses and their defining feature is that assailants crave the “exhilaration and the thrill of making someone else suffer” (Levin & McDevitt, 1993, p. 65). Victims of thrill-seeking hate crimes are generally chosen at random, so long as the offense will satisfy a psychological desire to dominate an out-group member. In contrast, *reactive hate crimes* are typically perpetrated in response to a triggering event and offenders assume a protective or defensive posture against an out-group member encroaching on the wrong turf. The archetype for this type of offense would be a person of color entering a traditionally white neighborhood, such as the 1986 Howard Beach incident in New York or the Bridgeport incident in Chicago in 1997. *Mission hate crimes* are perhaps the rarest (Levin & McDevitt, 1993, p. 89) but arguably the most ghastly offenses. Mission offenders seek to rid the world of a group they view as less than human. These offenders feel a moral or religious obligation to destroy a group before that group destroys them. Finally, McDevitt et al. (2002; see also Garofalo, 1991) describe some hate crimes as *retaliatory*. These crimes are committed to vent a grievance, or as payback for a prior perceived or actual hate crime.

## Offense and Offender Characteristics

Analyses of available data suggest that most hate crimes are motivated by animus toward a victim’s race. According to one study based on the FBI’s National Incident-Based Reporting Program (NIBRS), 61% of incidents were motivated by race, while 14% were motivated by religion, 13% by sexual orientation, 11% by ethnicity, and only a small proportion of cases involve other motivations such as disability (Strom, 2001). Of hate crimes motivated by race, blacks and other non-whites are about four times more likely to be the victim of a bias-motivated assault than whites (Messner, McHugh, & Felson, 2004), while anti-Jewish sentiment is the modal category among hate crimes entailing religious motivation. Moreover, and relative to non-hate crimes, hate crime offending disproportionately involves multiple offenders and the victims are especially likely to be strangers as opposed to acquaintances (Martin, 1996; Garofalo & Martin, 1993). Hate crime offenses are also more likely than comparable crimes without the bias element to entail alcohol use (Messner et al., 2004). Research is less definitive, however, with respect to crime severity and physical injury to victims. Some work posits that hate crimes are particularly violent (Levin & McDevitt, 1993) while others provide evidence against this claim (Martin, 1996).

Taken together, research suggests that hate crime *offenses* entail a number of unique characteristics. But to what extent are hate crime *offenders* unique? Messner and colleagues (2004) identify two possible models to explain hate crime offenders. A *specialization model* posits that prejudice, more than any underlying criminal propensity, is the primary motivation behind hate crimes (akin to mission or reactive hate crimes discussed above). The idea of a hate crime specialist also agrees with images of offenders as seeking to dominate subordinate groups (Perry 2001) and as planning their crimes in advance, or what Dunbar (2003) refers to as “instrumental” hate crimes. A competing *versatility model* (Messner et al., 2004, p. 589) suggests that hate crime offenders are hardly unique and that hate crime offenses are largely committed by everyday criminals who commit an occasional hate crime. The archetype here would be the thrill-seeking

hate crime discussed above. Some evidence seems to align with the latter model. Hate crime and non-hate crime offenders alike are disproportionately male (Strom, 2001) and tend to have histories of substance use, criminal records, and spells of unemployment (Dunbar, 2003), consistent with the idea of a versatile offender. Messner et al.'s (2004) analysis of data from the National Incident-Based Reporting System generally supports the versatile offender model. As they conclude, "The similarities between bias and conventional offenses. . . suggest that the role of bigotry as a motivator of bias crime is more limited than often suspected" (Messner et al., 2004, p. 609).

Interestingly, micro-level research on hate crime offenses and offenders rarely invokes traditional criminological theories, such as control, learning, or strain theories. Some work discusses the potential relevance of criminological theories for the study of hate crime (Perry, 2001, see Chapter 2) and others hint at the importance of peer association (Pinderhughes, 1993). Yet, the study of hate crime has generally taken theoretical guidance from the study of prejudice. As discussed in the next section, the same might be said for research on hate crime at the aggregate level.

### Ecological Correlates of Hate Crime Offending

Perhaps due to the paucity of individual-level hate crime data, much research is conducted at the state, city, or community level of analysis. This body of work is largely guided by theories of intergroup conflict and tends to focus on three variables purportedly associated with hate crime offending – economic conditions, racial demographics, and social integration. As discussed below, research is increasingly suggestive of political factors as well.

**ECONOMIC FACTORS.** The respective literatures on crime and prejudice both point to the economy as a likely determinant of hate-motivated offending. Scholars of prejudice find that poor or deteriorating economic conditions are associated with elevated levels of prejudice (e.g., Quillian, 1995; Taylor, 1998), while research on crime and violence cites economic conditions as a correlate of offending (e.g., Levitt, 2001; Morenoff, Sampson, & Raudenbush, 2001; Raphael & Winter-Ebmer, 2001; Shaw & McKay, 1942). If both crime *and* bigotry are to some extent correlated with economic conditions, it follows that crimes *of* bigotry would increase as economic conditions worsen. Indeed, several recent attempts to theorize hate-motivated offending posit such a correlation. Levin (2002, p. 57) suggests that hate crime perpetrators often have an economic motivation, where racial and religious minorities purportedly serve as scapegoats during times of economic turmoil (see also Levin & McDevitt, 1993, e.g., p. 52, p. 232). Likewise, Levin (2002) surmises that intimidation, arguably an inherent component of hate crimes, is used to eliminate or reduce competition for scarce resources (p. 68). Consistent with these accounts, rational choice models also posit that strategic crime or violence against out-groups would be more likely during economic stagnation (Medoff, 1999), much like voting for extremist candidates is associated with material self-interest (Brustein, 1996). Despite these theoretical reasons for implicating the economy as a primary correlate of hate crime offending, however, extant work yields mixed results and research increasingly suggests that *macroeconomic* circumstances are irrelevant. I make this claim based on analyses of two types of data: past lynching and current hate crime reports.

Although not typically thought of as hate crime, research on lynching is instructive because it represents a type of violence that was largely interracial and motivated by animus (Tolnay & Beck, 1995). In addition, data on lynching events are of reasonable quality and can be analyzed at the state or county level of analysis. Early studies noted an inverse correlation between measures of economic performance, notably the price of cotton in the American South, and the frequency of anti-black lynching (Hovland & Sears, 1940). Later studies using higher quality data on lynching reached comparable conclusions (Tolnay & Beck, 1995). In this same vein, one empirical analysis of hate crimes reported in the United States in 1995 concluded that hate crimes increase with the unemployment rate (Medoff, 1999).

Recent research, however, casts doubt on the purported association between the economy and hate crime. In a reassessment of lynching data, Green, Glaser, and Rich (1998) concluded that “one sees a connection between lynching and economic conditions only if one uses one particular measure of economic conditions for one particular time period for one particular transformation of the dependent variable” (p. 84). The association evaporates with even slight adjustments to measurement or method of analysis. In addition, the purported link between macroeconomic conditions and contemporary hate crime offending appears tenuous. Consider Medoff’s (1999) work mentioned above. He analyzes FBI data on hate crimes and assumes no systematic inaccuracies in hate crime reporting (see Medoff, 1999, endnote #6). Yet, a cursory review of police participation in the hate crime reporting program during that year shows considerable underreporting in many states.<sup>10</sup>

Research that confines the data to single police jurisdictions, thereby standardizing the propensity to report hate crimes, does not support an economic explanation of hate crime. For example, Green, Strolovitch, and Wong (1998) find no evidence that hate crimes are more prevalent in economically depressed areas of New York City. Lyons (2007), in some models, even finds that “antiblack incidents are . . . *more* common in economically affluent communities” (p. 847, my emphasis). This conclusion from a US setting is congruent with research in Germany, where economic conditions do not significantly affect right-wing violence net of other control variables (e.g., number of foreigners; see Krueger & Pischke, 1997; McLaren, 1999; see also King & Brustein, 2006, for related findings).

The balance of available research thus points to no robust effect of economic conditions on hate crime offending and a tenuous association with analogous behaviors such as past lynching. Yet, the lion’s share of this research examines *macroeconomic* indicators, and it remains uncertain whether hate crime *perpetrators* are disproportionately unemployed or from working class families. Pinderhughes (1993) finds that white youth expressed concerns about competition with blacks in his ethnographic research in New York City, which he cites as a contributing factor to racially motivated violence. One might infer from this work that concerns about economic competition with other races partly motivate hate crimes regardless of general economic conditions. One worthwhile endeavor for future research is to assess the economy-hate crime nexus at the micro-level, a task that is more difficult given data limitations. Alternatively, economic conditions may be consequential for hate crime offending, but they could be mediated by political

<sup>10</sup> For example, policing agencies in Alabama did not submit any hate crime data that year, and only a small percentage of law enforcement agencies in several other states submitted hate crime reports (see United States Department of Justice, 1995, Table 1).

elites or organizations that attribute blame to a particular minority group (Green, Glaser, & Rich, 1998), much like labor unions did with blacks and immigrants (Olzak, 1989). Little research to date has examined the nexus of economics, local politics, and hate crime offending in the contemporary era. Finally, much research is based on cross-sectional comparisons. Research on analogous behaviors from non-US settings indicates that temporal *changes* in economic conditions, as opposed to static circumstances, influence patterns of offending (see Falk & Zweimüller, 2005, on right-wing extremism in Germany).

**SOCIAL INTEGRATION AND DEMOGRAPHIC FACTORS.** As with economic conditions, the respective literatures on prejudice and crime suggest an association between racial heterogeneity, social integration, and hate crime offending. Classic social disorganization theory (Shaw & McKay, 1942) posits that crime rates increase with racial heterogeneity. Like poverty and residential mobility, heterogeneity inhibits the development of effective informal social controls that buffer against crime and delinquency. To the extent that hate crime rates positively correlate with general crime rates, social disorganization theory would predict more hate crime offending where heterogeneity is high and informal social control is low. Theories of prejudice are also instructive here, although various perspectives yield different predictions for hate crime offending (see Green, Strolovitch, & Wong, 1998, esp. pp. 373–378, and Lyons, 2007, esp. pp. 818–826, for instructive discussions). One line of thought in the tradition of Blalock's (1967) seminal work on power threat predicts increasing discriminatory behavior by the majority group as minority group size increases, particularly when minorities can viably compete for political power. Prior work showing that lynching in the American South increased with the percent black in the county (Beck & Tolnay, 1990) is largely consistent with this account. Alternatively, a "power-differential hypothesis" anticipates more discriminatory behavior, such as hate crime, in *homogeneous* areas where majority group members "may be emboldened to attack by the perception that law enforcement officials and the majority of those living in the neighborhood are unsympathetic to the victim's group" (Green, Strolovich, & Wong, 1998, p. 375). From this perspective there is safety in numbers.

Although the above-mentioned perspectives are entirely tenable and should partly guide future work, the two most definitive statements to date on the ecological correlates of hate crime offending align with an alternative "defended neighborhoods" explanation (Green, Strolovitch, & Wong, 1998; Lyons, 2007). This perspective draws on the ethnographic work of Suttles (1972) and emphasizes race, identity, and territoriality as inspiring out-group animus. Mostly white neighborhoods purportedly seek to maintain their racial composition and will rely on discrimination, harassment, and presumably racially motivated crime to threaten, exclude, or even eject minority group members. It follows that hate crimes would occur most frequently in homogeneous neighborhoods that experienced a recent influx of minority group members. To test this, Green, Strolovitch, and Wong (1998) examined racially motivated hate crimes in New York City using hate crime reports from the NYPD's Bias Crime Unit between 1987 and 1995. They find that hate crimes perpetrated by whites against three minority groups – blacks, Latinos, and Asians – occurred most frequently in mostly white neighborhoods that experienced an influx of minorities. More recently, Lyons (2007, 2008) analyzed hate crimes reported to the Chicago police department to assess neighborhood variation in levels of anti-white and anti-black hate crimes. Arguably the greatest novelty of Lyons's work is that he incorporates data on community

social cohesion and informal social control from the Community Survey of the Project on Human Development in Chicago Neighborhoods, which allows for a more complete test of the defended neighborhoods thesis. His insightful analysis concludes that anti-black hate crimes are more prevalent in white neighborhoods with high levels of informal social control that experienced an influx of blacks in recent years. Lyons (2007, p. 847, original emphasis) concludes that “antiblack hate crimes are most numerous in relatively organized communities with *higher* levels of informal social control, and *especially* in internally organized white communities undergoing the threat of racial invasion.” The findings are notable and perhaps counterintuitive because general violent crime rates tend to be the lowest in areas characterized by substantial informal social control, suggesting that the antecedents of anti-black hate crime are not only unique, but completely the opposite of the correlates of non-bias crime. Stated differently, crime is associated with social disorganization, but hate crime against minorities is associated with social organization.

The respective work of Green et al. and Lyons arguably represents the most authoritative set of statements to date on the community-level correlates of hate crime offending. Still, some questions are left unresolved and future research could build on these studies in several ways. For instance, it is not entirely clear why the defended neighborhoods theory does not predict hate crimes by minority group members against whites. According to Lyons (2007), anti-white hate crimes are more prevalent in socially disorganized neighborhoods, particularly those with high population turnover. Is it that African Americans in the United States, unlike whites, have few neighborhoods that they “own”? That is, groups are unlikely to defend turf when they claim no ownership of it. Or perhaps anti-black hate crimes, particularly those perpetrated by whites, are disproportionately defensive while anti-white hate crimes are more frequently attributable to strain and frustration. Lyons (2007) alludes to this possibility by suggesting that whites may act out of prejudice, while blacks may be more criminally versatile. One possible method of testing this hypothesis is to evaluate the criminal histories of white versus non-white hate crime offenders. Other questions also arise from this body of work. What is the role of retaliation, both direct and vicarious, and are whites and blacks equally likely to commit crimes out of retaliation? Some experimental work suggests this tendency is more likely among blacks (Craig, 1999), a finding that aligns with informed speculation by other scholars (e.g., Lyons, 2007, p. 849). In addition, does the defended neighborhoods thesis adequately explain crimes motivated by contempt for a victim’s religion, gender, or sexual orientation? And, do the findings appear isolated to the United States? Research on crimes motivated by animus in Germany seems to complement this line of work. For example, hate crimes increased dramatically when foreigners settled in East Germany following the collapse of the Berlin Wall (Krueger & Pischke, 1997). Finally, to what extent is political power an intervening or conditioning factor in the association between race, integration, and offending? As suggested in the following section, there are reasons to implicate the political environment in the study of hate crime.

**POLITICS.** Relative to research on the economic and demographic correlates of hate crime offending, empirical work on political factors is limited. There are, however, reasons to investigate political power in the study of hate crime. The literature on prejudice and discrimination, particularly work situated in the group threat tradition, frequently invokes the concept of political threat. This notion refers to the actual or perceived loss of political clout by a demographic group. Many whites, for instance, express concern about black political gains (Bobo

& Hutchings, 1996; Pinderhughes, 1993), and legislative bodies have attempted to dilute black political power to hinder the ability of blacks to participate in elections (Behrens, Uggen, & Manza, 2003). It follows from the literatures on violence and discrimination that hate crimes may, in part, constitute a reaction to either perceived loss of political clout by majority groups or a form of grievance expressed by minority groups to vent feelings of alienation and political powerlessness (cf. Jacobs & Wood, 1999). One could reasonably hypothesize that political gains by a given group incites resentment among other groups, and this resentment manifests in hate-motivated crime (cf. Levin & McDevitt, 1993, Chap. 4).

The above hypothesis has not been directly tested for the case of hate crime, although extant work on related topics such as lynching and right-wing violence is consistent with this political model. For example, lynching of blacks was more frequent when the Populist political movement challenged the established white supremacy in the South (Olzak, 1990), and the presence of black mayors increases white-on-black killings (Jacobs & Wood, 1999). Pinderhughes's (1993) work on racially motivated violence is also congruent with a political model. He illustrates how the election of NYC mayor David Dinkins, an African American, ignited prejudice in some of his interviewees. As one youth lamented, "My father told me that [as a result of the new black mayor] they are going to fire all the white construction workers in the city and hire all black guys" (Pinderhughes, 1993, p. 484). More recently, King and Brustein (2006) show that major violent episodes against Jews in pre-WWII Germany increased with political support for leftist political parties, where Jews were disproportionately represented. Following this research, one could hypothesize that some members of the majority group are increasingly violent and discriminatory when they perceive a loss of political power, and thus hate crimes are apt to increase.

Still, such a "political threat" hypothesis is balanced by an equally tenable suggestion that hate crimes can only flourish in an enabling political environment (Levin & McDevitt, 1993; Perry, 2001, p. 179). The latter notion implies that people act on their prejudices when the political environment turns a blind eye to discrimination or when right-wing parties have significant political clout. The veracity of such claims remains uncertain, as these and related hypotheses have yet to receive much attention in the study of hate crime.

## CONCLUDING POINTS AND SUGGESTIONS FOR FURTHER RESEARCH

The sheer number of studies on hate and bias crime has grown quite rapidly in the previous two decades, yet research continues to work through various conceptual, theoretical, and methodological issues. These problems appear more pronounced in research on hate crime *behavior* relative to existing work on hate crime *law*. Arguably, the study of hate crime law entails less conceptual ambiguity because such legislation is rather easily definable, recognizable, and thus measurable. Relative to work on hate crime offending, one could say that scholars of hate crime law generally agree on the dependent variable. Moreover, and undoubtedly related to the previous point, research on law and law enforcement includes a number of well-established findings that are replicated in multiple studies. To name a few, scholars largely agree about the role of social movements in creating early legislation; that police and prosecutors create images of "normal hate crimes" that guide subsequent decision-making; and that a community orientation by law enforcement is associated with policy implementation and enforcement activity. The study

of hate crime offending certainly includes some settled findings as well, as illustrated by Lyons's (2007) and Green, Strolovitch, and Wong's (1998) work on the defended neighborhoods thesis. Still, the boundaries of research on offending remain quite fluid, the theories employed are rather diverse, and the empirical findings are generally more diffuse (cf. Green et al., 2001).

So what lies ahead for the study of hate crime? With respect to research on offending, four issues seem pertinent. First, I argue that it would be futile for work in this vein to get bogged down in debates about the proper definition of hate crime. Much like the study of law has progressed without agreement on a singular definition of law (Posner, 1996), a research agenda on hate crime can evolve without a common definition of hate crime. I echo Green and colleagues' (2001, p. 484) suggestion that definitional and conceptual issues be expressed as empirical questions. To the extent that research findings are consistent using various definitions of hate crime, greater confidence can be placed in the results. And where results vary with the scope of behavior under consideration, more attention should be given to theoretical interpretation than to questions about conceptual accuracy. Second, future work at the individual and aggregate levels of analysis might further assess the viability of criminological theories for explaining hate crime. Recent aggregate-level research suggests that hate crimes by majority group members against minorities have unique ecological correlates that might indicate specialization (Lyons, 2007), while offense-level data show that hate crime offenders are quite versatile (Messner et al., 2004). An important question thus persists – what is the place of criminological theory in the study of hate crime? Third, research should further inquire about the predictors of minority-on-majority hate crime and endeavor to explain why the causal factors in these situations might be unique. Fourth, a surprising number of hate crimes motivated by race appear to be *intragroup*. According to NIBRS data for the years 1995–2000, over 30% of racially motivated incidents with white victims also had white offenders, and 6% of black victims were attacked by black offenders.<sup>11</sup> Yet, we know little about the nature of such intragroup hate crimes.

The literature on hate crime would also benefit from additional methodological studies and greater attention to data reliability. In the absence of greater clarity on whether government hate crime data reflect law enforcement sensitivity to the issue or actual levels of offending, it is difficult for research to make significant headway. Two strategies appear promising for research at the aggregate level. First, research should assess variation *within* cities (e.g., comparing neighborhoods) as opposed to *across* cities. To the extent possible, research on offending might also try to assess (1) change over time within cities where (2) police have had a consistent policy for recording hate crimes that (3) includes follow-up investigation to evaluate the veracity of the original report and, if possible, (4) utilize data from policing agencies that initiated data collection efforts independently of the HCSA. Given the substantial variability in hate crime reporting practices by law enforcement agencies, the above guidelines would likely increase the accuracy of offending data. Second, research could more frequently look to analogous behaviors from other times and places that, in contemporary American society, would constitute hate crimes. As discussed above, lynching represents one type of offense. Other scholars have used archival and newspaper sources to generate datasets on offenses motivated by right-wing extremism (Koopmans & Olzak, 2004) and historical violence against religious minorities in Europe (King & Brustein,

<sup>11</sup> Percentages were generated by the author using NIBRS data accessed at <http://www.as.wvu.edu/~jnolan/accessingdata.html> (May 21, 2008).

2006). These types of behavior are very consistent with current conceptualizations of hate crime, yet they provide a different methodological angle for investigating the correlates of hate crime offending.

Finally, do hate crimes have enduring effects on communities, and if so, what are the consequences? Research indicates that victims of hate crime experience heightened psychological distress (Barnes & Ephross, 1994; Herek, Gillis, Cogan, & Glunt, 1997), although these studies are based on convenience samples and generally lack suitable comparison groups to definitively make causal claims. Others assume that singular hate crime incidents can ignite community unrest (Barnes & Ephross, 1994) and have enduring effects on the victim's group more generally (*Wisconsin v. Mitchell*, 1993). Yet, these arguments are speculative, based on limited data, and alternative hypotheses appear equally tenable. From a Durkheimian perspective, for example, acts that shock the conscience might increase cohesion and consolidate disdain for the act, at least in the short term (cf. Wortley, Macmillan, & Hagan, 1997). Accordingly, investigations of how communities affect hate crime offending would be nicely complemented by future research on how hate crime incidents, in turn, influence communities.

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## CHAPTER 25

# Cybercrime

GRAEME R. NEWMAN

### INTRODUCTION

The word cybercrime, an invention of the late twentieth century, is popularly thought of as crime that occurs in cyberspace, a strange, virtual world populated by mysterious comic book-like characters who have magical powers, abilities to manipulate reality in ways that ordinary mortals cannot. Cyborgs (half-man half-machine) fight humans, transform themselves into strange creatures, and move effortlessly through time and space. Only superheroes of magnificent proportions can fight such crime. The practical result of this view is to imagine that cyber criminals are brilliantly talented hackers who can sneak into our homes via our personal computers and steal or vandalize our personal information. Like all myths, there is a little truth to this conception, but on the whole the reality of cybercrime is that it is not a new phenomenon, but simply traditional crime with a different face. In fact, crime constantly changes in response to evolving technologies; it is new to the extent that technologies are new. However, it is also “virtual” (as the prefix cyber suggests) to the extent that our everyday lives are virtual. As it turns out, the virtual nature of our everyday lives is considerable – and has been for thousands of years.

The virtual history of everyday life is the story of technology constantly changing how information is stored and transmitted. Taking as a given the evolution of human speech and language, this process began with the invention of writing, itself dependent on the invention of the tools with which to draw representations of everyday life. Why this occurred in the early formation of civilizations is a matter of conjecture (some argue, for example, that it arose as a result of the necessity of rulers and other powerful individuals to count or keep track of their property); it is

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enough for our purposes to acknowledge the events that caused much of everyday life to become virtual. A simple example drives home the point. Observe the drawing below. What is it? It is not a chicken. Rather it is the representation of a chicken. In fact it is the cuneiform that was first used in Egyptian hieroglyphics to represent a particular sound in speech. As we know, alphabets evolved from these early pictorial representations of objects, to representations of speech sounds, to simplified symbols to represent language.



Not a chicken, not a bird

As I type this chapter in my computer, I reap the advantages of the technology that began with writing. Now, the characters that I type are transformed into electronic impulses and stored on disks as magnetized particles (depending on the technology). This technology is the result of a long evolution in the improvement of the tools for storing information (stone tablets, walls, papyrus, metal for etching, then to paper and books) and for condensing information (the invention of alphabets and tools to imprint them such as quills, pens, and pencils to typewriters and computers) and techniques for efficiently transmitting information (from smoke signals and drum beats to typesetters, printing presses, and telecommunications such as Morse code, telephone, radio, television, and now the Internet). This powerful process, built on representation of real-life objects as symbols, collections of symbols, and transmitted with lightening speed, stored in ever more compressed and dispersed locations makes up the world of cyberspace – but it is also our everyday world. A colleague of mine stubbornly resisted using a computer throughout the 1990s. He proudly sat at his desk tapping his IBM typewriter, resisting the evil technology that had taken offices by storm. But it was inevitable that he would give in, since with each tap of his typewriter he acknowledged the virtual nature of everyday life that began many thousands of years ago. That he should have been overcome by the advance of technology is not surprising, since the rate of technological change has increased rapidly over the last century, especially in regard to telecommunications which laid the groundwork for what is today called globalization, also a significant element of cybercrime, as we will see shortly.

In sum, we know that cyberspace has evolved through a logical sequence of technological advances and there is nothing mysterious about this process. Or, if there is something mysterious – that is the virtual nature of our everyday lives that sit on the changing forms and transmission of information – we at least know how we got to where we are. In any case, the dominant feature of this process is change. And it follows from this that if the virtual nature of our everyday lives has changed in such radical ways, so has crime. The reader will recognize that this is the simple argument of routine activities theory. The central question that faces us in understanding cybercrime is, therefore, the relationship between crime and innovation that is the driving force of technology.

## INNOVATION AND CYBERCRIME

Technological change brings with it all kinds of conveniences to our everyday lives, such that it is mostly embraced with alacrity. But it also offers new opportunities to would-be offenders, and the speed with which offenders take advantage of them is quite breathtaking (Pease, 2001). Figure 25.1 displays the crime rates of automobile theft immediately after the appearance of the automobile and soon after it became a mass marketed product. The steep rise in auto theft did not begin immediately upon its inception, but suddenly once it became widely used in everyday lives. Its ubiquitous presence created new opportunities for theft, and once these opportunities were recognized the offender response was rapid.

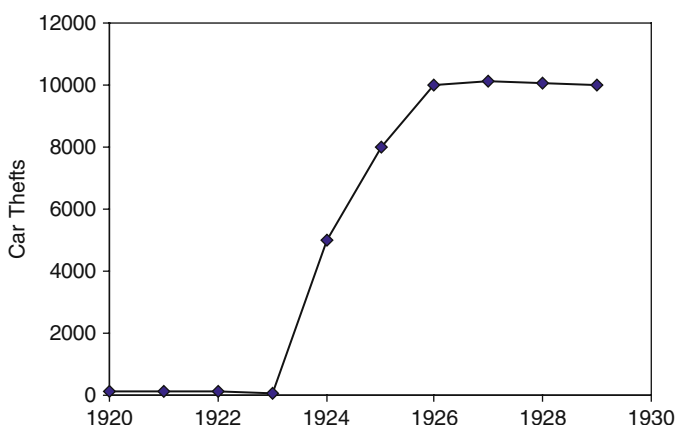


FIGURE 25.1. Auto Thefts in Los Angeles, 1920–1930 (includes attempts). Sources: Thomas (1990), supplemented by Los Angeles Police Department: <http://www.lapdonline.org/index.htm>.

We can see similar patterns of offending with regard to computers and the Internet. Figure 25.2 shows how the reported hacking incidents followed closely the spread of computer technologies and their mass availability. In 2003, the agency collecting this information ceased to do so, stating that the statistics had become meaningless because of the vastly different kinds of incidents that were reported.

We can see in Figure 25.3 that the data collected by the Federal Trade Commission on identity theft – a crime that more than any other has signified the onset of cybercrime in the twenty-first century – roughly continue where the hacking curve of Figure 25.2 leaves off. Identity theft begins in 2000, following the “discovery” of identity theft, rises steeply and begins to flatten out in more recent years (for a variety of reasons as we will see below, though probably because the data are somewhat more reliable than hacking incidents).

The swift response of offenders to technological innovation is quite striking, but it is not a new phenomenon. The history of many kinds of crimes demonstrates how old and well established the innovatory response of offenders is. The history of money and the crimes it has spawned is a good example, especially given its intrinsically virtual nature; its value having evolved from specific amounts of precious metal in the coin, to something else that transcends the coin itself, indeed it was eventually transformed into paper (hence the saying “not worth the paper

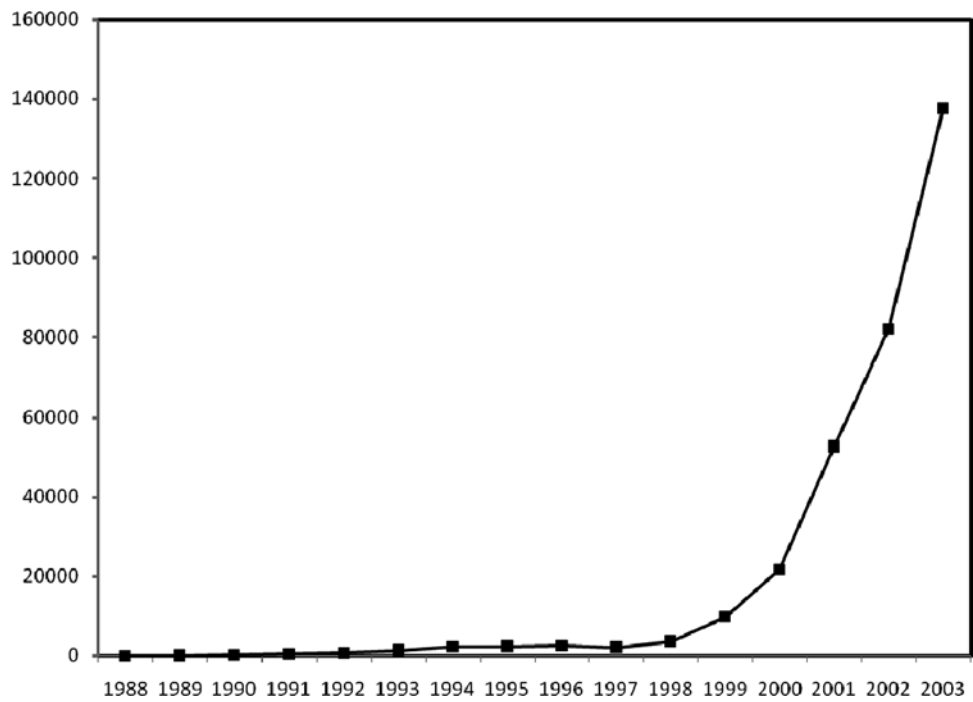


FIGURE 25.2. Reported Hacking Incidents, 1988–2003. Source: CERT/CC. Carnegie Mellon University repository of reported hacking incidents. [http://www.cert.org/stats/cert\\_stats.html](http://www.cert.org/stats/cert_stats.html).

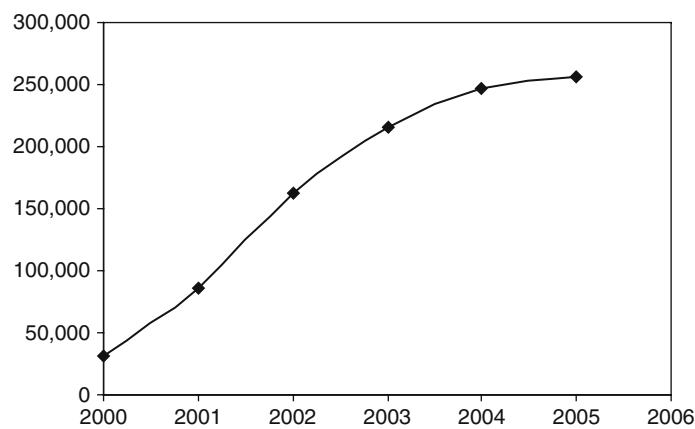


FIGURE 25.3. Identity Theft Clearinghouse Complaints, 2000–2005. Source: Federal Trade Commission Identity Theft Clearing House. Find at <http://www.ftc.gov/bcp/edu/microsites/idtheft/reference-desk/national-data.html>.

it's written on"), then to electronic impulses in online bank accounts and transactions.<sup>1</sup> A rough timeline of changes in currency and typical offender responses to it is shown in Table 25.1.

Perhaps the most interesting part of Table 25.1 is the last column, which displays some typical responses to offender exploitation of the opportunities provided by the new technologies of money. These can be defined as a mixture of (a) technologies designed to overcome the offence such as serrated edges that would clearly reveal a forgery, (b) laws prescribing punishments presumably to deter offenders, (c) special organizations for catching the offenders, and (d) procedures for authenticating individuals' identities to ensure that the instrument of money, such as a credit card, was theirs. We will examine each of these later in this chapter, but here an observation concerning the last response is appropriate because it reveals a very significant change in the role of money in society that has occurred in just the last 50 years, one ordained by technology.

The great attraction of money in the marketplace has always been that its users were able, in principle, to remain anonymous. Adam Smith marveled at the ways in which markets worked so well when they were driven by individuals pursuing their own interests and even remaining complete strangers to those with whom they dealt – that is, so long as the money was real, the identity of the person using money to pay for a good or service was irrelevant. Early attempts to establish money exchanges on the Internet violated this principle of anonymity in the marketplace and some businesses failed as a result. It was not until PayPal came up with a business model that guaranteed anonymity, but at the same time collected personal information from its subscribers, that the business model worked. However, the onset of credit cards which began in the early 1960s in the United States clearly signaled that even when anonymity was not guaranteed, if the technology provided conveniences to users (and it certainly did since one can buy goods and services even if one does not actually have the money to pay for them), then such a technology would win out. Today, close to half of all transactions in America are by credit card. So it is little wonder that one of the major forms of cybercrime is credit card fraud and one of the major ways of overcoming credit card fraud focuses on authenticating the identity of the user.

In sum, cyberspace is the product of changes in technologies and the routines surrounding their use, the further transformation of the everyday necessities and conveniences of life (of which money is but one) into information, the speed at which information can be transmitted across vast distances and the enormously increased capacity to store information in smaller and smaller spaces. Cyberspace is "virtual" only to the extent that our everyday lives are, and always have been, virtual. Cybercrime, therefore, is just as real as any other kind of crime. And what makes it really real are the opportunities that are provided by the technologies of cyberspace for individuals to take advantage. So from now on, we will mostly avoid

<sup>1</sup> In fact, economists and students of money are generally unable to agree on its definition (Hollander, 2007, pp. 2–3). They observe that it has taken on many different practical forms, often existing side by side. This fact, however, supports the proposition underlying this chapter that, even though much of our everyday lives sit on assumptions that are virtual in nature, because we are so familiar with their exterior utility, we rarely have to pause and consider their virtual existence, leading of course to musings about our own virtual existence – a conundrum that great economist Alan Greenspan (2007, p. 41), arguably the world's expert on money, faced in his youth when debating with Ayn Rand. So the distinction between virtual and real is, for most purposes, including the Internet, not relevant to everyday life.



**TABLE 25.1. Timeline of Opportunities Provided to Offenders by the Innovations in Money and Some Common Responses of Control**

Period	Event	Offender response	Responses to offenders
Ancient Egypt (pre-money period)	Building of banks (storage facilities)	Large storage facilities needed; commodities difficult to conceal or carry away; short life	Special doors and access control as in protection of Egyptian tombs
Ancient Rome	Coining of silver denarii Coin debasement <sup>a</sup>	Clipping of coins by moneyers Clipping by governments when short of money	Burn offender at the stake; capital punishment
Alexander the Great, and wars in general	Use of money becomes widespread, especially to pay soldiers	Fouree coins – base metal inside coated with silver <sup>b</sup>	Serrated edges of coins to prove pure silver inside
England: from Elizabeth I to George II	form of currency	Washing, rounding or filing, “impairing, lightening, diminishing” “coloring, gilding, or casing over a coin to make it look like another of higher value, or casing over base metal” <sup>c</sup>	Called treason; punished by £500 and branded with letter “R” (for “robber”); various lengths of imprisonment and fines double the value of the offence
Seventeenth to eighteenth centuries	Banks and paper money	Meteoric rise in embezzlement	New legislation
Eighteenth to nineteenth centuries in United States	During civil war, 1,600 state banks printed their own notes	During revolution more than half continental currency counterfeited by British government. During civil war about 7,000 varieties of bank notes in circulation	In 1862, Congress establishes national currency. US secret Service created in 1865 to enforce this law. Use of special inks and paper
Money in the twentieth century	Checking accounts  Credit card accounts	Check forgery  Credit card fraud and theft	Innovative check printing; ID authentication procedures  Holograms and other innovative card technologies
Money in the twenty-first century	Online banking and retailing; ATMs	Robbery at ATMs; identity theft; theft of personal information databases; online credit card fraud	Bank cards with PINs; Identity theft legislation; changes in policing policies; privacy laws, special financial/Internet fraud investigation teams

<sup>a</sup>Debasement of coins by governments from Roman times through the sixteenth century throughout Europe and England provided ideal opportunities for counterfeiters since if the quality of the original coin was so poor, copies would be less easily identified (Davies 2002, pp. 1700–1703).

<sup>b</sup>*Fouree* coins are silver-plated imitations of a silver denarius, to be distinguished from *limes* which were cast copies of the original coins.

<sup>c</sup>Three methods could be used to make money off coins, especially by those who manufactured them. The first was to make short-weighted coins, this making the precious metal content of the coin go further (rather like printing more money); the second was to clip pieces from the coins over a period of time, and eventually end with more precious metal taken from the coins; and the third was to “sweat” the coins by shaking them violently in a leather bag such that they prematurely aged, and gold or silver dust rubbed off and could be collected from the bag (see Chown 1994, p. 13). Sources: Blackstone (1853, p. 63); Chown (1994, pp. 11–13, pp. 52–53); Davies (2002, p. 111, p. 139); Hall (1935, pp. 64–69), McNally and Newman (2008).

the term cyberspace, and use a more practical sounding expression to describe the environment of opportunity in which cybercrime occurs, which is the information technology (IT) environment. After all it is not an imaginary space, but a real environment filled with many specific opportunities.

## CYBER OPPORTUNITY

Cybercrime is a term used broadly to describe activity in which “computers or networks are a tool, a target, or a place of . . .criminal activity” (Wikipedia, 2009). These categories are not exclusive and many activities can be characterized as falling in one or more categories. This is a very useful definition, which is reproduced in Figure 25.4 in graphic form. The reader acquainted with routine activities theory will recognize that this triangle could apply to almost any kind of crime and it is similar to the widely applied “crime triangle” of problem-oriented policing. It is a shorthand way of representing the opportunities to commit crime by offenders or potential offenders that are provided by the IT environment.

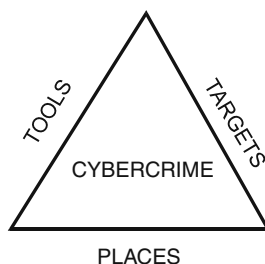


FIGURE 25.4. The cybercrime opportunity triangle.

The IT environment increases the attractiveness of targets; it facilitates the implementation of crime by the new tools (technologies and networks) it provides and the unique places it generates where crimes may be committed. Indeed, it changes dramatically what we mean by “place” in criminology. Let us look at these three criminal opportunity enhancements in turn.

### Target Attractiveness

Newman and Clarke (2003) in their analysis of e-commerce crime argued that the “hot product” of the information age is information itself. They show how information rates at the extreme end of all the attributes they identify in a product as attractive to thieves, characterizing the hot product of information with the acronym **CRAVED**.

**CONCEALABLE.** Information can be easily hidden when stolen, since it is mostly in electronic form and can be tucked away in untraceable computer files.

**REMOVABLE.** In many cases, information does not have to be removed, simply copied. Huge amounts of employee records can be removed by taking a single disk or USB drive the size of a little finger or less.

**AVAILABLE.** In the IT environment information is everywhere and readily available. From bank accounts to pornography, it is there for the taking. Indeed, it offers up many more targets that were heretofore unavailable or inaccessible, such as, for example, children in chat rooms as the targets of pedophiles.

**VALUABLE.** Credit card and bank account files are a rich source of money. Thieves now prefer to steal information rather than tangible products. The 2004 British Crime Survey has reported a clear decline in burglary, a decline which is reasonably attributed to two factors: (1) small household items like electronic goods such as VCRs are too cheap to steal and (2) those that are valuable such as TVs are too big to steal. Instead, credit cards and wallets have become more popular targets of burglars even more than the traditional target of jewelry (*Economist*, 2004).

**ENJOYABLE.** Hackers pride themselves in breaking into computer systems. Users enjoy the movies and songs they download illegally.

**DURABLE.** Unlike the typical “hot product” which a thief has to dispose of quickly, information is durable. Stolen bank account information may be used to generate false credit cards; stolen identities can be used for months if not years before they are discovered.

### **Tool Enhancement**

The IT environment not only enhances the attractiveness of targets but it provides new tools for offenders that facilitate their access to targets, especially with the promise of never getting caught. A bank robber’s dream would be a bank in which he would become invisible and simply pass by the tellers, and sneak money from the safe, and even leave counterfeit money in its place so that the crime would not be discovered until he was long gone. Newman and Clarke (2003) argue that the Internet environment, which includes both hardware and software, and the enhanced networking that they provide reproduce such a dreamworld for the thief and other offenders. The characteristics of this dreamworld are summarized by the acronym **SCAREMN**.

**STEALTH.** Thieves, in fact anyone, can make themselves invisible on the Internet, a perfect condition for carrying out a crime (Denning & Baugh, 2000). They can even take on another identity.

**CHALLENGE.** The literature on hackers is replete with one primary motivation: to “beat” the computing system (Clough & Mungo, 1992; Wall, 2007). Taking on a pseudoidentity adds even more to the thrill of the crime.

**ANONYMITY.** Anonymity is a common way of doing business, such as when one pays for an item with cash in a retail store. But there is also research evidence linking anonymity to deindividuation, a psychological condition that allows individuals to act irresponsibly or criminally when they think that they are just one of a crowd, without an identity (Gackenbach, 1998; Wortley, 1997). (That offenders may be mistaken about their anonymity is another matter to be discussed later in this chapter.)

**RECONNAISSANCE.** Perhaps the most important element in the choices that a criminal makes in carrying out a crime is the choice of a suitable target. The Internet makes it possible to scan thousands of web servers and even millions of personal computers that are connected to the web, looking for “holes” or gaps in security. Fraudsters can peddle their scams to millions of e-mail users for virtually no cost (though legislation in the United States has increased the penalties for spamming).

**ESCAPE.** The crime-inducing aspects of the IT environment of deception and stealth combine to make it extremely difficult for law enforcement to link the crime to the individual perpetrator, especially when the crime itself may never be detected, even by its victims (Ahuja, 1997). Since physical presence at the location of the crime is unnecessary in many cases, the problem of escape becomes irrelevant.

**MULTIPLICITY.** A traditional theft, such as a bank robbery, is a relatively finite act. However, if an offender hacks into a bank’s files, this one crime can be multiplied exponentially, since it makes available to the offender a huge number of new opportunities to commit crime by exploiting access to the bank’s accounts which include personal and financial information.

**NETWORKING.** Extending the communications power provided by the telephone, the IT environment provides, as never before, the possibility of offenders working together in various forms of organization, from small family groups to mobs and sophisticated networks of computers and people whose efforts can be coordinated into effective attacks on Internet sites and operations (Rege, 2008). Mobile phones, as they converge with the Internet and other technologies, can only enhance the opportunities for offenders to get organized.

### **Places of Cyber Opportunity**

Since we have identified information as *the* target in the IT environment, it should not be surprising that just about any place provides opportunity for cybercrime since information pretty

much exists everywhere. However, just as different kinds of suburbs, houses, or living places offer different opportunities for burglars, special kinds of places in the IT environment offer more enhanced opportunities for different kinds of cybercrime, whether to find particular targets or to enhance already existing tools as a means to reaching and exploiting targets. These are as follows:

**PLACES WHERE INFORMATION IS STORED.** Banks and retail stores are mostly physical places, but they also operate on the Internet, whether directly selling their products or services to customers, or whether communicating their customer and inventory information among their stores. In fact, a thief using a stolen credit card or other form of identity can purchase products or access bank accounts online. And there is always the possibility that a company's entire database of customer information could be stolen by a skilled hacker or a disgruntled employee. Before the IT revolution, employee records or customer databases were kept in very large rooms as physical files in filing cabinets. Now such databases are stored on computers and removable hard disks so they are easily removable and concealable.

**"PLACES" THAT NEUTRALIZE DISTANCE FROM TARGETS.** We know from much research that proximity to a target is by far the most important factor in an offender's choice of target (Clarke & Eck, 2000). Computer networks, especially the Internet, transcend physical places; in fact they make the world their "place." There are three significant features of this environment of opportunity. First, networks bring people, both strangers and acquaintances, much closer together which means that in cases of personal conflict, individuals who hold resentment, or some other motive to hurt another can do it via the Internet, without having to physically contact or speak to the victim. The telephone made this kind of contact possible, but the Internet, because of its environment of stealth makes it easier for individuals to say and do awful things to each other. If this seems far fetched, consider the case of the mother who precipitated a teenager's suicide because she and her daughter were feuding with her (Associated Press, 2008). Second, networks mean that, unlike a burglar who must break into each house on separate occasions, an Internet thief can, with the right skills, break into many homes via their computers and either steal valuable personal information or use those computers to commit other offences such as transmit viruses or attack particular web sites (see below). Third, networks transcend national boundaries, which facilitates the trade in such commodities and services as pornography, human trafficking, gambling, body parts, and the functioning of crime networks to support these activities all of which exist on the fringe of illegality, criminalized in some countries and not or less so in other countries.

**PLACES WHERE INFORMATION IS TRADED OR EXCHANGED.** There are two major places on the Internet where information is exchanged. These are chat rooms and other web sites (such as YouTube, match-making sites) that facilitate the meeting of strangers by enhancing social networks and online auction sites that facilitate the buying and selling of goods and services. The former have obvious attraction to especially young people who are eager to make new friends or to make themselves known to millions (the daily opportunity for individuals to get their "one minute of fame"), but it also means that those who display themselves on the Internet

are made available to friends and foe alike. Furthermore, such sites make it possible for others to reveal secrets or embarrassing information about others, common targets being film stars or politicians. Of course, one may say that such victims are “fair game” but depending on the type of information, or misinformation, such activities may or may not be illegal or criminal.

**VIRTUAL PLACES THAT EXIST ONLY IN CYBERSPACE.** While all the above places are in some respects “virtual” they are very much a part of reality of everyday lives. However, the truly virtual places in the IT environment are those web sites that have invented a way for individuals to lead “second lives,” where a world of fantasy is constructed for users to invent themselves a new personality and to do in this fantasy world what they cannot do in their real lives, including rape and murder, fraud and theft. These cyber worlds mimic real life, have their own economies (including money), political structure, and social arrangements. The problem for cybercrime is that, because one must purchase fantasy dollars (in the fantasy web site *Second Life*, these are “Linden” dollars, see <http://secondlife.com/whatis/currency.php>) in order to purchase features to develop one’s character in second life, the money traded in the fantasy world gains a value of its own – not surprising since we already have observed the intrinsically virtual nature of “real” money. Thus, a serious “fraud” committed on *Second Life* recently bilked many users for thousands of Linden dollars, but in actual fact these were linked to real dollars, so it was actually a “real” fraud. But there are no real police in *Second Life* and no criminal code, so there was no way for the victims to retrieve their Linden dollars. In other words, these extreme virtual places do not operate according to the “rule of law.” They are supposed to be self-regulating. But we may reasonably say that of all the different kinds of cybercrime, crime that occurs in such virtual worlds is the only true cybercrime.

**PLACES WHERE COMPUTING AND NETWORK SERVICES ARE FREELY AVAILABLE.** These are, perhaps, the only truly *physical* places where cybercrime may be, at least, instigated or committed, in the sense that one may identify the particular computer among others in a particular room, in a particular place that was used by an offender. These places include public and college libraries, Internet cafés, airports, and office environments. These places serve three important purposes for offenders. First, they offer cheap (sometimes free), on the fly access to the Internet; second they ostensibly provide cover to the offender who can use the computer without it being traced to his or her home computer; third because there are several individual users in one room in close proximity to each other, there is an opportunity for an offender to obtain personal information from other users either by observing keystrokes to glean passwords or using software to uncover information that users may have left on the computer.

All the foregoing suggests that the gamut of cybercrime may cover just about all crime already represented in the criminal codes of most nations, but also new crimes that could not have been foreseen by past legislators. It is to the different types of cybercrime that we now turn.

## Types of Cybercrime

There are many ways to classify cybercrime (Yar, 2006, pp. 9–10), indeed crime in general, but these generally revolve around one or a combination of (a) types of cybercrime that are legis-

lated in criminal codes (Akdeniz, Walker, & Wall, 2000; Young, 1995), which tend to be not so much of a classification but a listing of crimes that have been enacted, usually in response to public or political pressure (the various identity theft laws, for example, see McNally & Newman, 2008);<sup>2</sup> (b) types of offender, probably the most common classification and which focuses on hackers, their talents, and motivations (Furnell, 2002, pp. 41–93; Young, 1995); and (c) types of hacking (Furnell, 2002, pp. 95–142) or cybercrime that emphasizes how the crimes are perpetrated (Newman, 2003, 2004; Wortley & Smallbone, 2006). The latter naturally focuses on the technologies involved, especially the opportunities for offending that they provide (Newman & Clarke, 2003). Wall (2007), following the approach of the UK Hi-Tech Crime Unit (Yar, 2006, p. 10), and others (Furnell, 2002, p. 22; Lilley, 2002, p. 24) generally classifies cybercrime into three kinds that emphasize the role of technology: computer-assisted crime, computer content crime, and computer integrity crime. The first may roughly represent the tool enhancements provided by the IT environment as outlined earlier in this chapter, although of course all cybercrime benefits from these opportunities; the second roughly coincides with the importance of the target attractiveness of the information that pervades the IT environment; and the third focuses on the more heroic cybercrimes by those who are thought to be highly skilled and motivated cybercriminals, the “Moriarties” of cybercrime. These three categories are clearly not exclusive, since some crimes, such as identity theft – itself a complex crime – could fit all categories and others such as gambling might fit both computer-assisted and computer content crime (Rege, 2008). Furthermore, violations of computer integrity, such as distributed attacks on a web site, may be used for purposes of extortion, or to gain entry into a secure web site for reasons of theft, which would fit the category of computer-assisted crime. The classification that follows broadens somewhat Wall’s classification to acknowledge the all-pervasive IT environment, especially emphasizing the network features of the IT environment that have become even more pervasive just in the previous year and continue at breakneck speed with the convergence of technologies (Grabosky & Smith, 2001; Wall, 2007, pp. 34–37).

**IT-ENHANCED CRIME.** Generally speaking, the crimes in this category are old crimes the opportunities for which are enhanced by the IT environment. The enhanced opportunities comparing the old and the new are summarized in Table 25.2. Some of the types of crime may or may not be crimes, depending on the jurisdiction, but many are probably reflected in the codes of most nations.

**MURDER.** “Murder by Internet” (Kirsner, 1998) – A 17-year-old boy in Vermont was killed by a bomb resulting from an Internet sale of CB radio items gone bad. The bomb was delivered by UPS. There are many other cases of murder, including the Columbine massacre where offenders used web sites and diaries published over the web revealing their intentions, sometimes urged on by others in chat rooms and blogs (Wright, 2000).

<sup>2</sup> This practice was first established by Jerome Hall (1935) who identified the changes in economies and market conditions, especially the introduction of banking and paper money, that forced Parliament to enact many new laws, creating, among other things, the crime of embezzlement.

TABLE 25.2. Criminal Opportunity: Old and New

Opportunity	New	Old
Tools	Electronic reconnaissance to find vulnerable targets Reproduction of web pages of respected online retailers Cheap mass mailing of scams via e-mail, spamming Computer networks and mobile phones Hacking software Internet auction sites to sell stolen merchandise	Staking out a car park to find a vulnerable victim, cruising in car. Elaborate[0] scams using false store fronts, forged letterheads, etc. Expensive mass mailings of scam letters via postal service; newspaper want ads; community notice boards. Telephones, telephone lists, and phone chains Safecracking tools Traditional fence for disposal of stolen merchandise
Targets	(a) Electronic information: personal records, credit card accounts, corporate records, online bank, and retailing databases. (b) Removable devices and services such as Ipods, mobile phones, laptops. (c) Any individual on the Internet for whatever reason (pedophilia, revenge, etc.). (d) Computer networks	Houses (traditional break-ins), banks (traditional robbery), individuals physically accessible (violence/abuse against intimates); products in retail stores (shoplifting) Train and coach robbery, piracy, targets of early networks Telephone and electrical services
Places	(a) Virtual: online chat rooms, online video games (e.g., Second Life), corporate or government web sites. (b) Physical: cyber cafes, libraries, chosen meeting places (enticing children), office IT environment (availability of information). (c) Virtual and physical: networks	Parks, schools, and playgrounds; shopping malls and car parks; bars and clubs; public transport; office environment

**SUICIDE.** In Japan, the Internet has been blamed for facilitating the rapid spread of a home concoction for committing suicide using hydrogen sulfide, resulting in many suicides, particularly among high school and college students (Arai, 2008). The most widely reported case in the United States is that of the mother who perpetrated a hoax on her daughter's classmate by sending her cruel messages including that the world would be better off without her. The 13-year-old girl hanged herself (Associated Press, 2008).

**KIDNAPPING.** Offenders obtain detailed personal information concerning families via databases on the Internet and other means, then phone the family and convince them that one of their family members has been kidnapped. These "virtual kidnappings" are widespread in South America, aimed at a very quick settlement in cash (up to thousands of dollars) before the victims discover that the family member had not been kidnapped at all (Lacey, 2008). These virtual kidnappings capitalize on instilling fear into victims and have commonly been committed in Mexico and Guatemala by jail inmates using cell phones.



**MUGGING.** Credit cards that are useful and easy for making online purchases are common targets of mugging. Experienced muggers turn the credit cards over swiftly before the victim has time to inform the credit card company of the theft (see the Consumerist web site <http://consumerist.com/> for many examples). Other networked items that are attractive to muggers are Ipods and cell phones.

**BANK ROBBERY.** Using various means (to be described in the section below on computer integrity crimes) offenders hack into bank networks and transfer money to their own designated accounts. The biggest attempt at bank robbery occurred in 2007 when offenders, using the rather simple technique of key stroke loggers to obtain the necessary passwords and user IDs, attempted to transfer over \$400 million from the Sumitomo bank to various bank accounts around the world (Steinen, 2006). These are often called “virtual” robberies, but they are real in their consequences, no different from robbing the bank’s safe in the traditional way.

**EXTORTION.** There are several different types of Internet extortion schemes (DeFlem & Hudak, 2008; Grabosky, Smith, & Dempsey, 2001). The most common and widely publicized types have been those where valuable databases were stolen from Internet web sites and offered for return on payment of large amounts of money. For example, a group of hackers tried (unsuccessfully) to extort several million dollars from Visa in return for credit card information they had stolen from their database, and another where a small group of hackers attempted to extort money from an online gambling web site the security of which they had violated (Bednarski, 2004). Another common form of Internet extortion is to threaten to disable web sites if the victim does not pay up. Well-known cases include the BetCris sports betting web site that takes in some \$2 billion in bets every year which received a threat to disable it unless the owners paid the extortioners \$40,000 (Menn, 2004); and the threat against Bloomberg’s business information network by a pair of Russians demanding \$200,000 (Salkever, 2000; Sullivan, 2000).

**DEFAMATION.** Internet defamation and slander have become commonplace. Whether they are criminal or even illegal is still being decided as cases make their way through the courts. Web sites such as TheDirty.com specialize in defamation of celebrities and seem even to thrive on being sued (Cherner & Weir, 2008).

**HARASSMENT.** Defamation and slander are also probable types of harassment. However, harassment can be much more aggressive. The SCAREMN features of the IT environment, especially those of anonymity and stealth allow an offender to masquerade as another person, often the target of harassment, and to track down a victim even to his or her place of residence. There are several different forms, techniques and motives of online harassment:

1. Sending unwanted, abusive, threatening including death threats, or obscene e-mails (the Internet version of obscene phone calls which may also be used in conjunction with e-mails).
2. Sending letter “bombs” – massive numbers of e-mails that swamp the victim’s Internet e-mail facility; spamming falls into this category.

3. Posting sexually explicit information about the victim on publicly available web sites and chat rooms. One well-known case is that of an offender who posted messages in an AOL chat room in the name of the victim announcing that she had an unfulfilled fantasy of being raped and included her name, address, and telephone number. Men visited her apartment and she received numerous phone calls.
4. Cyberbullying typically occurs among school children, in this case the spread of gossip, rumors, and embarrassing details of an individual who has been picked on because of some personal attribute (being fat, for example). Cell phones and small digital cameras combine to produce photographs that may then be efficiently circulated on the web (Paulson, 2003). This is a widely acknowledged issue of concern. A quick Google search returns 297,000 links to Internet bullying.

**STALKING.** The identification of stalking as a crime began as far back as the 1980s (Mullen, Pathe, & Purcell, 2001). Its main characteristic is that it involves repeated victimization of an individual (National Center for Victims of Crime, 2004). The traditional methods of stalking include watching and following, sending letters and “gifts,” contacting the victim’s family and friends and work mates, and now with the assistance of the Internet tracking the person’s interests and whereabouts, sending copious e-mails, in short, utilizing all the enhanced surveillance opportunities offered by the Internet. Celebrities were most commonly stalked prior to the Internet because the details of their lives were, and are, very exposed to the public. However, now that ordinary persons’ lives are much more exposed on the Internet, stalking has grown rapidly. It has been estimated that, in the United States approximately 8% of women and 2% of men have been stalked at some time (Tjaden & Thoennes, 1998, p. 10), and in the United Kingdom the British Crime Survey found that 8% of women and 6% of men had been stalked within the last year (Walby & Allen, 2004, p. vi). Stalking was originally criminalized because research and some ugly cases had shown that it often led to violence and even murder of the victims (Fritz, 1995). However, in recent years research has shown that stalking victims were more often victimized by former intimates (often linked to spouse and domestic abuse) rather than strangers. The extent to which such stalking is enhanced by the SCAREMN features of the Internet is unknown, though Yar (2006, pp. 122–133) provides an excellent overview of the entire problem.

**SEXUAL ABUSE.** Putting aside the sale and exchange of child pornography, which will be discussed in the following section concerning network content crime, online sexual abuse is a behavior that uses the opportunities provided by the Internet to find possible targets (children and teenagers in chat rooms, for example, or scouring YouTube or Myface for likely attractive sexual partners to contact). The well-known stages used by pedophiles in preparing children for sexual engagement are applied online by deft management of conversations designed to introduce sexual content into conversation, and the opportunity provided by the Internet to take on the identity of a likeminded child or teenager, thus getting the victim to converse more freely. A recent study of self-reported online sexually deviant behavior also revealed that such individuals were much more likely to say things to people online that they would never say offline, but that those who indulged in online sexual deviance were also more likely to explore sexually deviant behavior offline (Malatesta, 2007). But apart from the accessibility to possible human victims, there is a vast sea of opportunities for other kinds of sexual behavior and contact, simply because the Internet is an incredibly efficient place to buy, sell, or exchange just about anything.

## CRIMINAL OR ILLEGAL EXCHANGE OF GOODS AND SERVICES

*Child Pornography.* This is one product whose development has obviously benefited from innovations in technology, from the early invention of the photographic camera to the mass availability of small digitized cameras (Wortley & Smallbone, 2006). It also benefits greatly from the global nature of the Internet since child pornography is criminalized differently in many different countries, its legal definition the subject of much difficulty, such that successful prosecution of the crime is comparatively rare (Wall, 2007, pp. 105–115). Time and place are effectively neutralized because pornography can be made available instantly; it can be accessed anonymously and in one's own home without having to venture out to a sleazy adult magazine venue; it can be shared easily with others with similar interests via chat rooms, peer-to-peer web sites, and even specialized secure networks; digitized images can be compressed and stored in small spaces, communicated around the world; adjusted, changed, and manipulated at will; unlike paper photographs they do not decay, indeed even very old photographs can be easily restored and used over and over again; they are not limited to still photographs, indeed they can make the best use of video and audio, not to mention the interactive possibilities of the web. While this crime is the subject of much media hype and exaggeration, it is likely that its production and use is considerable. One offender in the United Kingdom, for example, was found in possession of 450,000 child pornography images (Carr, 2004), and that there may be between 50,000 and 100,000 organized pedophile rings operating globally (Jenkins, 2001). The trade in pornography has been estimated to be worth some \$3 billion annually (Yar, 2006, p. 113).

While various typologies of users and purveyors of child pornography have been constructed (Taylor & Quayle, 2003), because it is also apparent that they come from all walks of life, a typology that focuses on type of offending, rather than offenders, is probably the most useful. The following classification is based on Krone (2004):

1. Accidental browsers: Offenders may respond to spam or accidentally come across pornographic web sites through pop-ups or while searching for something else. Their use of the opportunities for obtaining pornography on the Internet is minimal.
2. Trawlers: Offenders who actively seek child pornography on the web through open browsers. They may employ few security strategies.
3. Private collectors: Offenders who create digital images of their own offline for private use and do not network with others.
4. Non-secure collectors: Offenders who seek child pornography in chat rooms and other online venues that do not employ security barriers such as passwords and user IDs. Their networking is extensive, but the number and nature of the images they can collect is limited because of the insecure nature of the open web sites they visit.
5. Secure collectors: Offenders who are members of a closed newsgroup and engage in high levels of networking using sophisticated security measures. Networking is extensive and there are essentially no limits to the number and "quality" of the images they may collect.
6. Groomers: Offenders who develop online relationships with children and send pornography to children as part of the grooming process.
7. Physical abusers: Offenders who sexually abuse children and for whom an interest in child pornography is just part of their pedophilic interests. They may or may not network.
8. Producers: Offenders who record the sexual abuse of children for the purpose of disseminating it to others.

9. Distributors: Offenders involved in disseminating images. They may have a purely financial interest in child pornography, though the above offender types, with the possible exception of the private collector, could also be classified as distributors.

*Human Trafficking.* This crime involves a range of criminal activities including trafficking of individuals for the sex trade; illegal immigration, trafficking of individuals to work in sweat shops, and as quasi-indentured servants or domestics; and on the borderline of criminality the purchase of brides on the Internet from various match-making web sites (Hughes, 2004; Lloyd, 2000) or of children (advertised for sale on Craigslist, for example). While these activities have existed before the Internet, they are facilitated greatly by the opportunities for the cheap advertising of services and networking offered by the Internet and especially its global reach (Hughes, 2001). While these activities require considerable organization in order to recruit and transport the trafficked individuals to their destinations, the level of sophistication of organized crime rings varies from extensive, as in the international drug trade, to a rather simple setup of family or friendship groups who happen to have contacts in source and destination countries (Newman, 2006). The efficiency in communication and networking offered by the Internet makes it possible for such a wide range of sophistication in trafficking. Furthermore, because source countries often depend on the export of their citizens to other countries for a source of foreign exchange their trafficking is encouraged by those governments, and since trafficked individuals often send money back to their families in poor countries they are often “willing victims” who actively cooperate in keeping their victimization secret.

*Disposal of Stolen Products.* As noted earlier, one of the most important features of a “hot product” is the ease with which it may be disposed of by the thief (Clarke, 1999). Traditionally, this was achieved through “fences,” underworld characters who specialized in buying stolen property and then reselling. Pawnbrokers and second-hand dealers were (and continue to be) the main places offering these services. However, the availability of a plethora of free or almost free web sites that offer exchange and sale of goods and services (for example, Ebay, Craigslist) with the promise of Internet anonymity (though this is more apparent than real, see Reuters, 2007) makes these a popular way of selling stolen items of which there are many colorful anecdotal examples (Yar, 2006, p. 82). Of course, the Internet is even better at providing the facility for selling not only hot products but also hot information such as lists of stolen credit card numbers (Newman, 2003) and even the auctioning of information concerning security bugs of major online retailers and corporations such as WabiSabiLabi (<http://www.wslabi.com/wabisabilabi/home.do?>).

*Selling Illegal Products.* Primary among these products are counterfeited software, bogus or illegal drugs and alternative health cures (Wall, 2007, p. 93), and counterfeits of high-end products such as Rolex watches. All of these may be marketed through auction sites or by spamming, or even dedicated web sites. The sale of pharmaceuticals that are either not approved or are much more costly in particular countries across borders is particularly common (see, for example, <http://www.canadadrugs.com> and many others marketing internationally).

*Gambling.* Gambling occupies a place somewhere between the fuzzy border of illegal and legal, since many governments (state and local in the United States) approve of gambling and even conduct forms of it themselves through lotteries and various forms of licensing of betting agencies for sports of many kinds. The glitter and excitement of gambling, before the Internet, were largely beyond ordinary people, who in order to enjoy the excitement would have to travel some distance and expend money to stay close to casinos and gambling resort centers. The Internet has changed this completely by making gambling of all varieties available 24/7 on the Internet. And because of the global reach of the Internet online casino operators may locate their web sites in jurisdictions where gambling is legal. The size and growth of online gambling is truly remarkable, rising, according to a Merryll Lynch estimate, from an annual \$6.3 billion turnover in 2003 to \$83 billion in 2005 (Leyden, 2004). Perhaps the more interesting aspect of gambling is the associated crime that it fosters, probably because of its fuzzy status as a crime. This occurs with other similar borderline crimes such as prostitution. In the case of gambling this amounts to online fraud where gamblers attempt to obtain much needed money to pay off gambling debts (Wall, 2007, p. 83). Europay, the voice of MasterCard in Europe, has stated that one-fifth of losses due to online card fraud were due to gambling (Leyden, 2002) and PayPal, America's premium online payments service, no longer allows members to use PayPal to pay off gambling debts. And, again consistent with other types of borderline crimes, those who are users of the shady services are increasingly targeted as victims, most recently by phishing attacks (Leyden, 2008).

*Prostitution.* The netherworld of prostitution is captured clearly by the disclaimer offered by the UK's premier web site, Punternet (2009), of many thousands of reviews, assessments, and links to sex-related services:

This web site deals only with lawful activities involving consenting adults. Neither this site, nor any of its members or advertisers, are doing anything which is illegal under UK law. Nothing in this site should be construed as inducement to engage in any illegal acts. This webmaster will cooperate fully with the authorities in any matter regarding under-age persons or those forced to work against their will.

Anyone, including children can enter this site and read the often graphic reviews that clients give of their experiences. It is, indeed, an ethnographer's paradise (Sharp & Earle, 2003). The networking efficiency of the Internet also makes it very easy and cheap for individuals to find or sell the services they want. There is some anecdotal evidence that street prostitution, the most common way of prostitutes finding clients, is being replaced by online advertising which can be free, such as on Craigslist (Logan, 2008). Of course, the well-known high-end escort services have always found clients through advertising and telephone networks. However, the cheap and easy advertising that is available has opened up this avenue for the low end of prostitution services, whether by women who are managed by small-time pimps or even individuals acting alone. In the past this level of prostitution services had been limited to advertisements in local newspapers or postings inside telephone booths or kiosks (Laycock, 2006) and other public places.

**FRAUD.** Crimes within this group are best described by the techniques used by fraudsters to obtain goods, services, or money illegally. The ultimate targets are of course those con-

taining the most money or products that can be readily exchanged for cash. These are usually banks, retail stores, government agencies, and credit card agencies. However, often the techniques used to gain access to these valued targets are directed to individuals who may be customers of the banks or other organizations where the money is. Internet fraud usually involves a mixture of deception or innovative technologies to overcome security barriers and gain access to the desired target, which on the Internet will almost always be information that can be converted into cash or in many cases functions the same as cash, such as using stolen credit card information to purchase goods online. A sampling of the many techniques is as follows.

**IDENTITY THEFT.** One of the major techniques used to obtain access to bank accounts and credit cards illegally has been identity theft or fraud, itself now a crime in most states of the United States (Newman & McNally, 2007). Identity theft is a particularly useful technique because it enables the offender to adopt the identity of the victim and operate his or her bank accounts, open new accounts, and generate many other enabling documents that provide access to goods and services (McNally & Newman, 2008; Newman, 2004). As with stalking, identity theft in its most serious form also involves repeated victimization of the victim. There is a very wide range of techniques used to obtain the personal information of victims, some of which are as follows: “dumpster diving” – retrieving old bills and invoices from a person’s trash; diverting postal delivery, “shimming” (using binoculars or other means to watch as a person punches in a PIN); “spoofing,” see below; and many others (Newman, 2004). Many of these types of frauds are perpetrated by those who live in close proximity of others such as family members and college dorms where access to personal information such as birth date, mother’s maiden name, and even driver’s licenses may be easily accessible (Newman & McNally, 2007).

**PHISHING.** Millions of e-mails are sent purporting to be from a major bank or agency requesting the respondent to provide personal financial details, such as account numbers, user IDs, and passwords. Out of millions of respondents, the chances are that a small portion will be tricked into providing the information.

**FALSE INTERNET STORE FRONTS (“SPOOFING”).** Ranging from basic to sophisticated store fronts that look like legitimate businesses can be set up on the web, some even reproducing the web pages of reputable online retailers. Users can be induced to log in and divulge financial information.

**LOW-TECH DECEPTIONS.** The most common of these can be used to trick, extort, or purchase financial information from employees of companies who have access to staff and customer records. Similarly passwords and user IDs can be obtained from staff members by skilled con artists who are able to exploit human weaknesses and error (Koumpis et al., 2007). The infamous Kevin Mitnick broke through security barriers using this technique, requiring little actual computer hacking expertise (Mitnick & Simon, 2002).

**DIRECT INVESTMENT SCAMS.** These utilize convincing web site storefronts and entice individuals to invest money in non-existent funds, various investment products (“hot” commodities, for example), as well as various pyramid schemes, including “gifting” schemes that entice people to give up their hard-earned money thinking they are donating to charity (Wall, 2007, p. 86). It will be recognized that these are very old well-known scams, enhanced by the special capacity of the Internet to relay information with great efficiency to enormous numbers of people. Work-at-home plans are also commonly used scams to trick individuals into making an “investment” in the product or services they will use in their work-at-home business.

**MISINFORMATION SCHEMES.** The prime example is “pump and dump” which uses misinformation to push up the price of a stock, which is then quickly sold off (Wall, 2007, p. 87).

**BAIT AND SELL.** The simplest example is of sellers offering attractive items, such as drugs or other products, that are not easily available and just not delivering the product. Deceptive marketing and entrapment selling of products and services are enhanced by the Internet. These include offering a free “gift” (e.g., mobile phone) for a new subscription to a service that may be inferior or non-existent, money-back guarantee if cancellation is done within the first month, which many do not manage to do (Wall, 2007, p. 89).

**ONLINE AUCTION FRAUD.** The United States National Fraud Information Center (2005) reports that this is the most common type of fraud reported making up 42% of all reported frauds. The technique used in these frauds is to misrepresent goods or not ship them to the buyer and to bypass the internal security procedures of the auction site by enticing buyers to make their deals outside the auction web site facilities.

**SPYWARE AND SURVEILLANCE.** Software can be surreptitiously installed on users’ computers, including spyware and cookies that record keystrokes and other information the user inputs into the computer when logging in to web sites or purchasing online. This information can be mined to take over the victim’s credit card and bank accounts. Key stroke tracking hardware can also be installed in an office environment where an individual has access to the computers in use.

**ORGANIZED CRIME.** Grabosky and Smith (1998) have argued that the new digital technologies provide important tools for organized crime. (1) They facilitate planning and coordination; (2) they facilitate marketing and distribution of illegal goods and services, most commonly drugs, for example, the Cali cartel; (3) because communication is efficient and cheap, constant contact helps sustain the organization itself; and (4) because they allow for the storage of potentially incriminating records which any large organization must keep, they can be more easily hidden away in encrypted electronic files rather than in large filing cabinets that occupy physical space. To this we can add one more (5) that telecommunications, especially mobile phones, allow for frequent updating of plans and last minute changes in the field should operatives come up against unforeseen circumstances. Rege (2008) assesses the wide variety of cybercrime organizational networks.

**TERRORISM.** In some respects terrorism is similar to organized crime, in fact it may be defined as “organized crime with a political motive” (Clarke & Newman, 2006). Ability to change plans and procedures at the last minute is essential to terrorist organizations for whom the resolution of the often unpredictable conditions on the ground during a mission may be crucial for a successful outcome (Clarke & Newman, 2006). In any event, as far as cybercrime is concerned, terrorism takes on two distinct forms: (1) The facilitation of “regular terrorism” which is the traditional range of terrorist activities, such as planning attacks, recruiting new members, and disseminating propaganda (Newman & Clarke, 2007) and (2) What has come to be called both popularly and legally “cyberterrorism” which is attacks against the Internet and other closed networks (such as governmental and military) with a view to undermining the infrastructure of a country, such as disrupting power grids, the Internet itself, or air traffic control, and many other essential services upon which modern communities rely (Yar, 2006, pp. 51–52). The techniques used in cyberterrorism attacks are described below under network integrity crime.

## NETWORK CONTENT CRIME

*Piracy.* Although software piracy has been commonplace, the many techniques used by software manufacturers such as hologram tags on disks and packages and requiring online registration of software have made it increasingly difficult for their products to be counterfeited or pirated. However, the most common targets of piracy are digital video and audio products. Because these products are very easily copied and transmitted via the Internet, the spread of media piracy has been nothing short of phenomenal, keeping step with the rapid spread of fast Internet connections in many households around the world. While attempts to clamp down on file sharing web sites such as Napster.com<sup>3</sup> have been partially successful in stimulating the music industry to make deals with such web sites so that a small price is now commonly charged for each download, there are still many free “peer-to-peer” web sites and services that allow individuals to exchange directly with others’ songs and videos, all of this in violation of copyright laws of various countries – though the illegality is fuzzy when it comes to some countries that do not recognize international copyright laws. The sheer scope of the problem is difficult to comprehend. One estimate has it that 81.5 million people illegally downloaded music in 2003 and that 350,000 illegal downloads of movies occur everyday (Yar, 2006, p. 66). Just as striking is the finding of a survey of professionals that over 20% saw nothing wrong with downloading music “in principle.” The numbers for the young are particularly high. Surveys in the United Kingdom and the United States have repeatedly revealed that close to half of 8- to 18-year-olds have illegally downloaded music (Yar, 2006, p. 69). The easy sharing and copying of songs and videos has forced a new debate concerning the very basis of property rights that occurred throughout the Enlightenment period in England and Europe.<sup>4</sup> Today, an ongoing battle ensues between the owners (creators and marketers) of digital media products and its consumers, and this will

<sup>3</sup> See for example <http://w2.eff.org/IP/P2P/Napster/> for a review of the several lawsuits brought against Napster and the list of appeals.

<sup>4</sup> The caustic Thomas Hobbes was very clear that private property was created by the State and existed only because of the State. Of course Locke, Rousseau, and others had different views. See Newman and Marongiu (2009).



probably expand to include books and other types of intellectual property. Yet, while this tussle between the “rights” of each party continues, there is some evidence that the copying and sharing of these products has actually increased sales of music and video products. So it is not altogether clear whether the industry is in fact losing the millions of dollars it claims, since the market may be expanding because of the illegal sharing (Wall, 2007, pp. 96–102).

*Theft of Databases.* The content of the IT environment is information and while songs and videos are also information, databases deserve separate consideration because of the places in which they often reside, and their more traditional attractiveness to thieves who might otherwise be burglars or bank robbers. In 2005, Scott Levine was convicted of stealing 1.6 billion records of private individuals from a database company called Axcion (Associated Press, 2005). Increasingly, merchant databases of customer records including credit card numbers have been reported in the media, these often facilitated by insider access to these databases (Bucci & Steiner, 2007). Generally, the wholesale theft of a bank’s database is rare though it does occur, perhaps the most sensational case being that of the foiled Sumitomo Bank Robbery in 2005 in which offenders hacked into the bank’s network and attempted to transfer \$423 million to their bank accounts around the world. It seems that they used key logging software to learn passwords to get through the security system (BBC News, 2005). Theft of depositors’ bank accounts is more common. One 2004 survey reported that over 2 million bank accounts of Americans were stolen in the past year, using identity theft-related techniques, often targeting the customers of particular banks (Sullivan, 2004).

*Robbery at ATMs.* It may be objected that this kind of robbery is just like any ordinary robbery since strong-arm tactics may be used, as in ordinary street muggings. However, the cash that is locked inside these machines is released only by inputting the appropriate information, which is relayed to the respective bank to check on authenticity and availability of funds. (Of course, there have been some well-publicized cases of crooks stealing the entire ATM machine, but these are rare.) By far the most common are those that focus on the individual user of the ATM and ways to trick or extort the necessary passwords from the user (Scott, 2001). The careful physical placement and lighting of ATM machines has done much to prevent this crime.

**NETWORK INTEGRITY CRIME.** Clearly, much of the above also impinges on and assumes attacks on network integrity. However, the motives by and large of the above are by offenders who seek to gain some kind of advantage, whether over others as in stalking or in the marketplace as in various crimes of theft and fraud. The motives of those who purely aim to attack network integrity are less those of taking advantage and more an expression of personal superiority and assertion of “rights” (the Internet ethic that it should be non-commercial and free; see Cere, 2003; Levy, 1984). Many of those who attack network integrity also do it to simply show that it can be done; they respond to the challenge. The result is that a kind of “arms race” (Ekblom, 2002) is ongoing as network and software designers come up with new ways to protect their systems, only to be overcome by innovative hackers, which are then responded to and so on. Since these offenders do not undertake their activity for monetary

gain, there have of course been many speculations as to their personal motives. In addition to the above, these have included the need for peer respect, impressing employers, and revenge (Wall, 2007, pp. 62–65). One very important aspect of hacking-for-itself is the necessity to gain a great deal of skill and knowledge in order to be a successful hacker (see Wall, 2007, for an overview of their many hi-tech methods including denial of service, “bot wars,” and others). The Internet is an ideal venue for the dissemination of hacking skills, where trading in hacking software and problem solution is easily accessed through various chat rooms, blogs, and web sites devoted to the cause. These venues also provide the forum for hacker bragging and accolades (see Wall, 2007, pp. 65–67, for an excellent example taken from a hacker chat room). It should be added that there is no research indicating what portion of those who participate in hacker grooming and information exchange actually use their skills to compromise network integrity. Finally, some have suggested that there may be a continuum from hacking-for-itself (popularly called “hacktivism” and other kinds of isms (that is, ideological motivations)), which would naturally include politics and religion (Yar, 2006, pp. 45–62). Certainly, cyberterrorism that aims at network integrity breakdown may benefit from a hacker with expert knowledge and skills; so also do the many web sites supporting Al-Qaeda whose operators clearly have considerable Internet skills to be able to put up web sites quickly and hide their actual physical locations to avoid detection. In the case of the latter, however, where the spread of ideological messages is of prime importance, any cyber attacks that compromise networks would be to their own detriment, since it is in their interests to have access to a fast, efficient means of spreading their message and gaining new recruits, and the Internet is of course perfect for this.

### How Much Cybercrime Is There?

Asking this question is about as silly as asking how much crime there is. The foregoing review has demonstrated the enormous varieties of behavior that contribute to cybercrime, so that, even if one were able to collect data on each and every category, what would the aggregated number mean? Furthermore, the sources of data for each category when available come from very different kinds of agencies or research studies, such that they should not be added together, since it would be like adding apples and oranges. With this disclaimer, therefore, we can proceed to make some very rough guesses. The kinds of statistics that are used to report on the amount of cybercrime fall into roughly four types: (1) incidents reported by victims to an agency whether government or private; (2) incidents reported from surveys conducted by researchers; (3) incidents or dollar amounts of the costs of cybercrime reported by businesses; and (4) media portage.

**REPORTED INCIDENTS.** Figures 25.2 and 25.3 reported incidents by two different agencies concerning two different kinds of cybercrime, those of any incident that violated computer integrity (Figure 25.2) and those that reported consumer complaints of identity theft (Figure 25.3). While the agencies are different (one a university-related organization as in Figure 25.2; the other a US government agency, the FTC, as in Figure 25.3), the accumulation of the statistics is the same, that is, they depend on individuals, presumably victims, reporting the incidents. This is not all that different from the common method of accumulating “official crime statistics” that individuals report to the police. The National White Collar Crime Center (2007), an organization

linked to the US Bureau of Justice Assistance and the FBI, collects complaints of Internet fraud that are submitted via a form on its web site. Since it began collecting these complaints they have risen from some 16,000 in 2001 to a peak of 231,000 in 2005, leveling off with a slight decline to 206,000 in 2007.

**SURVEYS.** In a survey of 530 public and private organizations by the FBI, 56% of respondents reported that some form of cyber attack against their computer systems had occurred within the past year (Yar, 2006, p. 15). Javelin Strategy and Research (2008) victimization surveys reported that 8.1 million individuals were victimized by identity theft in 2006, a slight decrease from 10.1 million in 2003. The National Crime Victims Survey found that 3.1% of all US households (3.5 million) were victimized by identity theft during a 6-month period in 2004 (Baum, 2006) and 5.5% of all US households (6.4 million) were victimized by identity theft between January and December 2005 (Baum, 2007). The British Crime Surveys conducted in 2002–2003 and in 2003–2004 found that just 2% of individuals reported they were victims of a hacking in the past year, but 21% reported receiving offensive e-mails (Allen, Forrest, Levi, Roy, & Sutton, 2005; Wilson, Patterson, Powell, & Hembury, 2006).

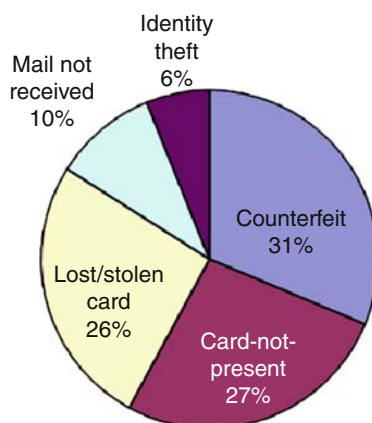
**BUSINESS REPORTING.** Spam, which affects business and individuals alike, provides an indicator of the all-pervasive nature of this type of cybercrime. In 1999, the average consumer received 40 pieces of spam. By 2006, it was estimated that over 40% of all e-mails was spam (Spam Filter Learning Center, 2009). Hotmail receives 4.5 billion e-mails a day of which 90% is flagged as spam (Baker, 2008). Table 25.3 shows a compendium of statistics on spam (illegal in some countries, not in others) derived from major ISPs (Internet Service Providers world wide) and the very good odds (8%) for spammers of hooking a fish.

Credit card fraud is probably the most widely reported fraud, though these statistics depend completely on what businesses choose to reveal. Figure 25.5 shows the types of credit card fraud and indicates the extent to which online environment has contributed to this kind of fraud. In general, the card-not-present fraud which occurs mainly online has increased substantially in recent years (Levi, 2008).

**TABLE 25.3. Spam in 2006, USA**

E-mail considered spam	40% of all e-mails
Daily spam e-mails sent	12.4 billion
Spam cost to all non-corporate Internet users	\$255 million
Spam cost to all US corporations in 2002	\$8.9 billion
US states with anti-spam laws	26
Users who reply to spam e-mail	28%
Users who purchased from spam e-mail	8%
Corporate e-mail that is considered spam	15–20%
Daily porn e-mails sent	2.5 billion
Most common spam categories	Products 25%
	Financial 20%
	Adult 19%

Sources: Table adapted from Spam Filter Review, available at: <http://spam-filter-review.toptenreviews.com/spam-statistics.html>. Sources include statistics from Google, Brightmail, Jupiter Research, eMarketer, Gartner, MailShell, and Harris.



**FIGURE 25.5.** Percent of card fraud loss by type of fraud, United Kingdom, 2003. Source: Adapted from APACS card fraud 2003 survey; available at <http://www.epaynews.com/statistics/fraud.html#20>.

Losses due to online fraud reported by businesses vary considerably. North American retailers lost 1.7% of their revenue in 2003 – a decrease from 3.6% in 2000 according to CyberSource/Mindwave Research (Epaynews, 2008). However, Celent Communications (2003) reports the total losses to credit card fraud in the United States to have been \$1.7 billion in 2002 and estimates that it will increase to over \$3 billion in 2007. One can find many, many other estimates and reports citing enormous loss figures to cybercrime. One in particular, estimated that the overall global loss to business to hacking to have been \$1.6 trillion in 2000 (Newman & Clarke, 2003, p. 55). How such a figure could be arrived at is difficult to imagine.

**MEDIA REPORTAGE.** The Norton Symantec web site (2009), one of the major purveyors of anti-cybercrime software, features a cybercrime “threat meter” in obvious parallel to the terrorism threat levels issues by the US Department of Homeland Security. How real is the threat? The web is bombarded with horrific stories of Internet abuse, from murder and cyber rape to spamming. Wall (2007, p. 18) argues that the levels of cybercrime are considerably less than they are made out to be by the media and other businesses that profit from high levels of cybercrime, such as antivirus software vendors. This view is generally supported by Yar (2006, pp. 3–4) and McNally (2008) on identity theft and by other sociologists concerning various social problems, for example, pedophilia (West, 2000). Of course, the Internet’s efficient communications system with its many different venues and personal networks makes the proliferation of rumors and panics incredibly swift – but also, possibly short in duration, since each rumor is quickly replaced by another (Grayson, 2004).

### Techniques for Cybercrime Prevention

As has been clearly demonstrated throughout this chapter, the variety of behaviors that are enhanced or made possible by the IT environment is immense, so much so that it would take an entire book, or even many books to cover all possible avenues to prevent or reduce the kinds of

crimes that now flourish in the IT environment. Ideally, particular techniques should be directed at very specific types of cybercrime. However, using the approach of situational crime prevention (Clarke, 1997) it is possible to outline a series of general approaches that might be adapted to the prevention of cybercrime. Situational crime prevention is particularly suited to this because of its orientation to situations in which crimes occur, and as we have seen the IT environment is a way of conceiving of these situations. In fact, this approach has been applied to e-commerce crime successfully (Newman & Clarke, 2003). Clarke's (2009) table of 25 techniques of Situational Crime Prevention can easily be adapted to cybercrime since his approach also focuses on targets, tools, and places. These techniques are arranged according to four general aspects of offending:

1. Increasing the effort the offender must make to complete the crime.
2. Increasing the risks of getting caught.
3. Reducing the rewards that result from the crime.
4. Reducing provocations or excuses that offenders may use to justify their crime.

Table 25.4 adapts some of these techniques to cybercrime with an example for each of the areas of opportunity. It is important to note that many of the techniques do not require hi-tech IT skills and knowledge. Rather, they are concerned with effective utilization and training of key personnel who may be the guardians (unwitting in some cases) of the networks and databases with which they work on a daily basis. Other techniques, such as, for example, firewalls, of course require hi-tech knowledge, which is beyond the scope of this chapter; but see Anderson (2001) for an excellent and detailed overview of the technical aspects of cyber-security.

**IMPLEMENTING THE TECHNIQUES.** These techniques of prevention must be applied to the specific situations in which they occur. This means that the guardians of the targets, the tools and locations of cyber space, must be exploited to implement them. These will range

**TABLE 25.4. Situational Crime Prevention Applied to Cybercrime**

<i>Increase the effort</i>	Firewalls
Harden targets and restrict access to tools and places	Encryption
	Require several forms of ID to obtain new ID or replacement
	Ban hacker web sites and magazines
	Card/password access to ID databases
	Traceable ID for users of online chat rooms
<i>Increase the risks</i>	Background checks of employees with access to ID databases
Harden authentication procedures	Photo, thumb print on ID documents, credit cards
	Require additional ID for online purchases
	Track keystrokes of computer users
	Cameras on ATMs and at point-of-sale
<i>Reduce the rewards</i>	No social security numbers on official documents
Remove targets and disrupt cyberplaces	Swift notification of stolen credit card
	Severe penalties for hacking
	Monitor Internet sites and spam
	Infiltrate teen chat rooms
<i>Reduce provocation and excuses</i>	Maintain positive management-employee relations
Avoid disputes and temptations	Do not boast of security features in software
	Post responsible use policy in colleges, libraries, and chat rooms

from private individuals who must install firewalls on their own computers, to large corporations (such as Microsoft) responsible for the design of operating systems that contain security flaws. In between these two extremes are organizations such as ISPs (Internet Service Providers, including corporate and university computing services) that must take steps to protect information that is valuable to hackers and others. The secure design of operating systems clearly is the province of experts and corporations who employ them. At this level, government must work with businesses in order to provide incentives and develop standards of security. Furthermore, as can be seen in the summary table, many, if not most, of the techniques to prevent cybercrime do not involve complex computing skills. This is because the majority of major cybercrimes on record were achieved not through the brilliance of a computer wizard, but through human weaknesses where individuals were either duped or coerced into giving up passwords or other access information to offenders. Training and education in security procedures of those who are the guardians of information are therefore crucial. Technological innovations that transfer security procedures from humans to computers are the ultimate, but difficult solutions (such as, for example, “smart credit cards”), but even here offenders have demonstrated their ability to adapt to and overcome new technologies.

## POLICING OF CYBERCRIME

The most interesting aspect of the policing of cybercrime is that there basically is not any. Not in the traditional sense, in which police maintain order by chasing down offenders, arresting them, and processing them through the criminal justice system; or sit by their telephones and respond to calls for service. In fact, their attempts to apply this traditional model of policing are obviously futile from the point of view of prevention or reduction of cybercrime. For example, in 2001, the FBI and other federal agencies managed to prosecute some 2,000 individuals for identity theft (Newman & McNally, 2007). In that year there were almost 100,000 identity theft complaints reported to the FTC (Figure 25.2). About 1,000 persons are arrested annually in the United States for child pornography-related offenses (Wortley & Smallbone, 2006), but one in seven youth experience unwanted sexual solicitations on the Internet and one in three are exposed to unwanted sexual material (Wolak, Mitchell, & Finkelhor, 2006). So the conventional interventions by the police cannot possibly make the slightest dent in these problems – and these statistics are probably similar in regard to other Internet-related offenses. Furthermore, it is apparent that victims or others who are touched by Internet-related crimes routinely do not call regular police to report the incidents (Wall, 2007, p. 165) so the important conventional role of police answering calls for service is apparently seen as irrelevant by the traditional users of police services. In sum, the crime problems revealed on the Internet are beyond the competency and possibly even the relevancy of conventional policing.

So the interesting sociological questions arises: why is the Internet so orderly? And surely it is orderly otherwise businesses would not have rushed to incorporate it into their operations, and the many new ways of interacting among people in everyday life would not have blossomed. E-mail dominates the lives of an increasingly huge number of persons; blogs and social networking flourish. And all of this on a system that is widely acknowledged as having democratized knowledge, lacking centralized control, built instead on “distributed systems” (that is, widespread clusters of computers that are loosely linked together, where the software instructions are distributed over a variety of physical and virtual places). There are two very interesting

reasons why this has occurred. First, there is much conscious self-regulation on the Internet. Second, perhaps the most important, is the demise of anonymity. Let us look at each of these in turn.

### Self-Regulation in the IT Environment

Wall (2007, pp. 167–183) has provided a comprehensive description of the regulation of cyber-crime on the Internet by non-governmental organizations. These include

1. Internet user groups (and even individual users) such as Cyber-Angels, Spambusters;
2. Online virtual environmental managers, such as managers of role-playing sites and chat rooms;
3. Network infrastructure service owners such as ISPs (Internet Service providers such as AOL, Google, Yahoo);
4. Corporate retailing sites such as Amazon.com, online banks, and stock traders which use special identity authentication security procedures for financial transactions on the Internet.

Of course those governmental entities such as military, justice, social security, and a host of others all have web sites and all must take precautions to protect their web sites for attack. However, this is not so much a contribution to order maintenance as it is self-protection, though the latter is certainly an essential element of order maintenance in regard to prevention of cybercrime as we will note further below.

However, as useful as Wall's outline of cyber regulation is, it is worth noting that this aspect of the IT environment is to date poorly studied, even though it represents a clinical example of how social order arises and functions – probably the most important question addressed by sociologists since the beginning of sociology. It is important for criminal justice as well, because it poses the question, very basic: are police really necessary? The means of order maintenance on the Internet are achieved through some very old and well-known methods, those we think of as operating in quaint villages of the past, such as, for example, the village of Salem Massachusetts of Erikson's (1966) *Wayward Puritans*. The basic elements of order maintenance are thus, the identification of transgressors, judgment of the accused, the imposition of sanctions, and a person or group of persons with authority and competency to impose those sanctions. Depending on the type of web site, the common sanctions are very familiar: public censure, restitution or compensation, and banishment (i.e., withdrawal of services). Much of the success of this order maintenance depends on individual users asserting themselves not only to identify transgressors but also to protect themselves from attacks.

The auction site Ebay offers an excellent example of this type of order maintenance. As Erikson revealed in his study of the witch trials, there is a perennial problem of being sure that the accused really did transgress. Ebay has a simple process for individuals to post their accusations (ratings of buyers by sellers and vice versa) and a complex procedure for compensation for their victimization (not being paid for sale of an item, for example). The possibility to post in a public forum comments and ratings on a transaction, also presents its own problems, because of course there is always the possibility of false accusations. These public ratings of each other are recorded and maintained so they produce a substantial profile of buyers and sellers. One can decide, based

on this publicly available information of a person's "cyber criminal record" (or lack of it, though few have a perfect record) whether one will enter into a transaction with this individual. The system is not perfect by any means, especially as it depends on users building up a history and therefore identity that can most likely be traced. One-time users could quickly enter to bring off a one-time sale (of stolen merchandise, for example) and then disappear.

**THE DEMISE OF ANONYMITY.** We saw earlier that an important feature of the IT environment is the feeling of anonymity, induced by the possibility to adopt another name and even identity depending on what one is doing on the Internet. However, anonymity on the Internet and in the IT environment generally is a myth, because those who are savvy in the workings of the Internet can usually track down the originators of web sites or offensive e-mails, etc. (though this is very much a cat-and-mouse game, particularly in regard to trying to track down owners or managers of terrorist-related web sites). But the decline of anonymity has been going on for some time now, certainly in recent times, since 1086 when the Domesday Book was commissioned by William, the Conqueror of England. It surveyed and recorded the landholdings and just about every other detail about property and persons in England at the time. This database later made it possible for postal systems, telephone books, and many other lists that we take for granted today, which, combined with the required recording of births and deaths, neutralize anonymity and make it possible for every person to be tracked not only by government entities but by ordinary individuals and businesses. It is difficult to imagine civilization without such tracking systems. And more recently, the increasing popularity of the plastic card in payment for purchases has all but erased the idea of anonymous purchase of goods with cash. Then there is RFID toll collection that can track wherever an automobile enters or exits a toll road, not to mention the proliferation of surveillance cameras that monitor both cars and people in most cities and villages in the civilized world. This loss of anonymity has led one of many societal critics to observe:

There is, in the end, a powerfully American reason to resist the establishment of a national surveillance network: the cameras are not consistent with the values of an open society. They are technologies of classification and exclusion. (Rosen, 2001, p. 9).

That "cameras are not consistent with the values of an open society" is a strange assertion. One would have thought that cameras in every place would make the society more open, not less so. The romantic idea of the attractive simplicity of village life where everyone knows each other's business, often in intimate detail, has been promoted by some of the great social critics of twentieth century life: the alienation of big city living, the "Lonely Crowd." It may be argued that the cameras are watched over by police and other government entities. But this hardly distinguishes it from the small village exposure of individual lives, since small villages also have their self-appointed busy-bodies and their elected or hereditary officials who help pass judgment or offer support for those in need or trouble. Indeed, as Rosen (2004) himself observes, we have before us in the IT environment not a lonely crowd, but a "naked crowd," where individuals, it seems millions of them, seek to expose their own lives on the Internet through such venues as YouTube, MyFace, and many others. So the intrinsic evil of surveillance of any kind is not altogether clear, and certainly when put up against the incredible conveniences that people enjoy because of many of the technologies that depend on the tracking of individuals' whereabouts and their likes and dislikes, it may be preferable to many – perhaps most, given the rapidly rising use of credit cards, for example. So those social critics who deplore the plethora of mutual surveil-



lance, must ask themselves whether they would intervene to protect individuals from themselves. The paternalism of such an approach is obvious.

**RESPONSIBILITY.** The new surveillance-related technologies have offered enormous conveniences to the everyday lives of individuals, offered new opportunities to connect with others, while dramatically increasing efficiency of the marketplace. They have also increased the extent to which individuals and organizations may protect themselves from victimization, especially through the use of various kinds of software that enhance firewalls, identify and eradicate viruses, and so on. So in large part, the question comes down to how much of the prevention of cybercrime is the responsibility of individuals to protect themselves (they do this everyday by locking the doors of their houses, locking their cars in parking lots). In the case of cars and houses, the traditional expectation has been that the existence of police who will arrest car thieves or burglars is enough to prevent such crimes. It is assumed that, because the threat of police action will deter offenders (depending on their approach, they probably do not, but that is another story) they have both the competency and the responsibility to do it. However, in the case of cybercrime it is clear that except in very circumscribed cases (dedicated task forces that go after child pornography rings, for example) the competency of police not only cannot be demonstrated, but is clearly seen as irrelevant both by non-governmental authorities and by individuals.

It follows that, since the Internet is inhabited by businesses and certainly its design and operation are made possible by some major corporations (the ISP providers, web site managers, software developers) businesses must take on the role of crime prevention which police cannot do. This offers a new challenge for crime prevention since businesses are generally unable to use the threat of arrest and prosecution that is available to the police since they conflict with their business models that generally try to put "customers first." Not that they have not tried, such as successfully lobbying for legislation that imposes heavy fines on spammers (the CAN-SPAM Act of 2003 in the United States and similar legislation in the United Kingdom and European Union). The effects of such legislation on spamming have probably been minimal, or at least only temporary, whereas the introduction of new software filters by major ISPs and e-mail service operators probably accounted for the decrease in spam after these legislative efforts (Wall, 2007, pp. 196–197). In conclusion, it is likely that the more effective direction to take in reducing and preventing cybercrime may be through redesigning technologies to make it more difficult for offenders to take advantages of the opportunities of the Internet. Strangely, Wall (2007, p. 197), after having convincingly shown that improved technologies were more effective in reducing spam than was legislation, then criticizes the situational crime prevention approach saying "... there is no reason to believe that purely 'technological' solutions can stem spamming behavior – they have merely reduced the number of spams received." This seems to be saying that spammers, since they are spammers, will continue to send spams to nowhere. And who would care?

In contrast, the approach outlined in the earlier section on cybercrime prevention takes the position that, when the opportunity is removed, so is the crime. The situation is similar to that of the automobile when it was first introduced as a mass market commodity. It was very easy to steal as it had no enclosed cabin, no locks, was easy to start without an ignition key, and so on. Today cars are much more difficult to steal because they have been designed to prevent theft, especially now with immobilizers that make them inoperative if started without the proper key. It took about 50 years to get to this point. Cyber offenders commit their

crimes because they can. It is the clear responsibility of businesses and other entities that design, sell, and provide IT services to make the IT environment one in which offenders cannot commit their crimes, by designing out of their products and services the opportunities that make cybercrime possible (Clarke & Newman, 2005). In other words, the responsibility for preventing cybercrime should lay with those most competent to prevent it. And it is not the police.

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