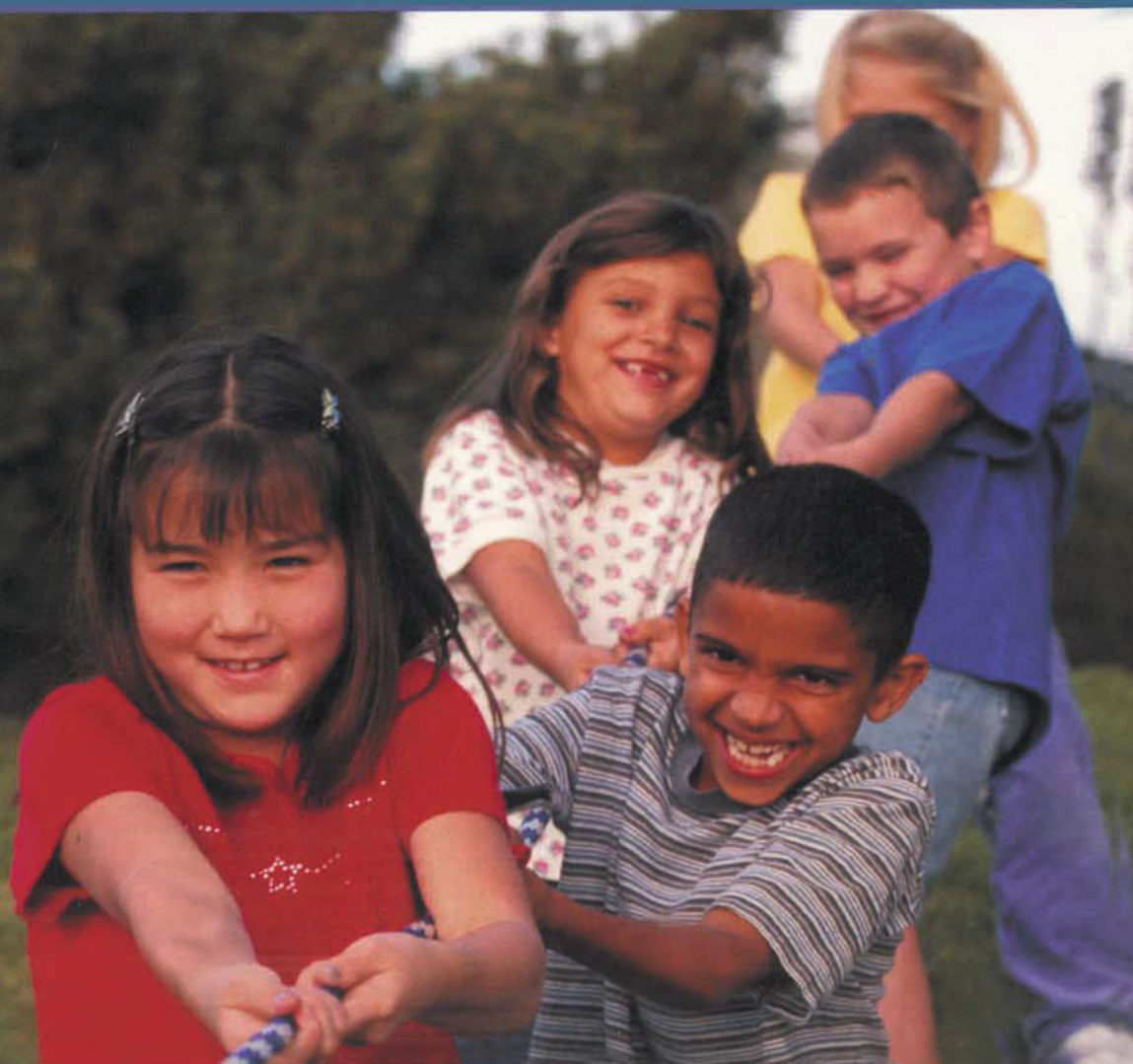


Handbook of

Resilience in Children

Edited by

Sam Goldstein and Robert B. Brooks



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For Allyson, Ryan and Janet. This volume is also dedicated to my uncle, Bernhard Goldstein. Despite an early childhood of significant adversity in World War II Europe, he found the strength and resilience to survive and make a life for himself in America.

S.G.

With love and appreciation to my wife Marilyn, my sons Rich and Doug, my daughters-in-law Cybèle and Suzanne, and my grandchildren, Maya, Teddy, and Sophia. You have all added much joy to my life.

R.B.

We would like to express our appreciation to Siiri Leelumus for her confidence that we could create the volume we envisioned. Thanks also to the many professionals world wide willing to share their wonderful theories, research and ideas. Finally, this is the nineteenth text Ms. Kathy Gardner has coordinated for the authors, our thesaurus has exhausted its alternatives for thanks, so thanks.

S.G.

R.B.

The world we have created is a product of our thinking. If we want to change the world, we have to change our thinking.

ALBERT EINSTEIN

We come into the world equipped with predispositions to learn how to cooperate, to discriminate the trustworthy from the treacherous, to commit ourselves to be trustworthy, to earn good reputations, to exchange goods and information and to divide labor. . . . Our minds have been built by selfish genes but they have been built to be social, trustworthy and cooperative.

MATT RIDLEY

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Preface

A five-year-old child watched helplessly as his younger brother drowned. In the same year, glaucoma began to darken his world. His family was too poor to provide the medical help that might have saved his sight. His parents died during his teens. Eventually he found himself in a state institution for the blind. As an African American he was not permitted to access many activities within the institution, including music. Given the obstacles he faced, one would not have easily predicted that he would someday become a world renowned musician.

This man's name was Ray Charles. His life story, similar to many other individuals who faced great emotional, physical, and environmental adversities exemplifies that some can and do survive and in fact thrive. Yet, many others who encounter similar patterns of problems struggle to transition successfully into their adult lives, often finding themselves adrift in poverty, despair, and psychiatric problems.

A comparison of individuals who overcome numerous obstacles with those who do not invites several intriguing questions. What exactly do the survivors do that enable them to succeed? How do they think? What kinds of experiences do they have that may be absent in the lives of those who are not successful? Are some of these experiences unique to surviving in the face of adversity? How much of their survival can be predicted by genetics, parenting, education, mentoring, temperament and/or mental health? In a world in which stress and adversity appear to multiply almost exponentially from one generation to the next, the answers to these and related questions have become increasingly important. This edited volume reflects our efforts to address these questions.

We met by chance at a national conference ten years ago. The first author was speaking about childhood disorders, including Attention-Deficit/Hyperactivity Disorder and Learning Disabilities. The second was discussing his increasing focus on the qualities that appeared to help children at risk overcome adversity. There was an instant connection as we realized after a combined fifty years of clinical practice that the best predictors of children's functional outcome into adulthood lay not in relief of their symptoms but rather in an understanding, appreciation, and nurturance of their strengths and assets.

In the past ten years, our initial connection has evolved into a very close professional and personal friendship. We have spent countless hours elaborating ideas about the importance of a strength-based approach in our work and our lives. We have coauthored three books focusing on the process of resilience across the life span, two texts incorporating the resilience model to help parents of children with problems such as anxiety, learning disability and anger, and numerous trade and professional articles. We have developed a parenting curriculum for nurturing resilience in children and created an award winning documentary. Throughout this work we have come to realize the importance of thinking, feeling, and behaving in certain ways as a means of successfully and happily negotiating life.

Increasingly, these qualities of success have found themselves under an umbrella of resilience. A resilient mindset, the ability to cope with and overcome adversity is not a luxury or a blessing possessed by some but increasingly an essential component for all. This emerging field of study, which once focused only upon those who confronted and overcame adversity, has found universal appeal as researchers and clinicians examine how the qualities of resilience may be applied to all individuals, even those who have not experienced significant adversity.

What we have learned and still must learn from studying children who have overcome great hardships can be applied to enhance the life of all children. It is not difficult to understand and accept that helping individuals develop such characteristics of resilience as dealing effectively with stress and pressure, coping with everyday challenges, bouncing back from disappointments, adversity and trauma, developing clear and realistic goals, solving problems, relating comfortably with others, and treating oneself and others with respect are important ingredients to a satisfying life. As this volume will attest, numerous scientific studies of children facing great adversity in their lives support the basic premise that resilience is an important and powerful force, worthy of the attention it is receiving. Resilience appears to explain why some children overcome overwhelming obstacles, sometimes clawing and scrapping their way to successful adulthood while others become victims of their early experiences and environments. Yet, as you will read, there is still much to be understood about the process that mediate and shape resilience.

As we have written elsewhere, our belief as well as the belief of others in the significance of resilience emerged slowly. This slow recognition resulted in many children and their families not being helped as effectively as they might have had a strength-based model been in place. Reflecting on our years of clinical practice, we realize that many children suffered because well-meaning parents and professionals expended time and energy to fix deficits rather than giving at least equal weight to building assets. The focus of parents, clinicians, and educators on fixing children's problems is not difficult to understand. As professionals we came by this bias honestly. It is how we were trained. We were taught to identify that which is different in a negative way and prescribe interventions to reduce symptoms or problems.

The professional field has come to increasingly realize that this "deficit model" is fine for identifying how and why individuals are different, even for prescribing strategies to improve those differences. However, we now believe and are setting out to scientifically demonstrate, that our highest goal, namely, to improve the future of all children, is best accomplished by identifying and harnessing their strengths and shaping resilient qualities. The deficit model has fallen far short in helping to achieve this goal. Symptom relief has simply not been found to be robustly synonymous with changing long-term outcome. We have come to appreciate the qualities of resilience examined scientifically in this volume can in fact protect and insulate not only children at risk but all of us.

We are extremely honored by the interest and willingness of our authors to contribute to this volume. They represent a great diversity of backgrounds and research interests but share a vision of the importance of understanding and harnessing the power of resilience. Part I begins with eight background chapters. We offer a basic overview of resilience and reasons why resilience should be studied. Other authors describe resilient processes, the basic concept of resilience, and the processes of resilience differentially between genders. Margaret Wright and Ann Masten provide a comprehensive review of the study of resilience and its advancement through three major waves of research over the past three decades. Kirby Deater-Deckard and colleagues offers an integrated review of the resilience literature, offering a biopsychosocial perspective. This theme is exemplified in a translational framework in Chapter 12 as Shadi Houshyar and Joan Kaufman provide an

overview of resilience in the maltreated child. Bill Pollack and Judy Jordan provide an overview of resilience in males versus females. We are exceptionally pleased that Emmy Werner, one of the earliest and most renowned researchers in the area of resilience, provides an overview of what we have learned from large scale, longitudinal studies about resilience. Finally, Part I concludes with a chapter by Jack Naglieri and Paul LeBuffe bringing their expertise in discussing the current science in measuring resilience and the prospective future of evaluating resilience in clinical practice.

Part II continues with a section on environmental issues, including poverty, domestic violence and mental illness in parents, families as contexts for children's adaptation, and children as victims. Part III applies resilience as a phenomenon in more traditionally defined clinical disorders, including delinquency and other disruptive disorders, depression as it relates to learned helplessness, learning disability, and youth with impaired self-control. Jane Gilliam, Karen Reivich, Tara Chaplin, and Martin Seligman discuss their work at the University of Pennsylvania and the increasing focus on resilience as a means of creating an optimistic mindset and effective functioning in the face of stress. Part IV represents our efforts at beginning to create an applied psychology of resilience. A number of authors focus on the ways in which resilience theory can be used to enhance parenting, build self-esteem, provide educational opportunity, reduce school wide violence, and improve effective thinking. Emily Winslow, Irwin Sandler, and Charlene Wolchik describe a program to build resilience in all children through a public health approach. Maurice Elias, Sarah Parker, and Jennifer Rosenblatt describe a model to facilitate educational opportunity as a means of strengthening resilience. Jennifer Taub and Melissa Pearrow describe schoolwide violence prevention programs as a means of strengthening resilient outcomes.

This volume will address which and by what processes variables within the child, immediate family, and extended community interact to offset the negative effects of adversity, thereby increasing the probability of positive development rather than dysfunction. Some of these processes likely reflect genetically inherent phenomena. Others, involve the interaction of genetics and immediate environment, while still others reflect the impact of the extended environment. Some of these processes may serve to protect against the negative effects of stressors while others may simply act to enhance development independent of the presence of stress.

It is our intent that this is the first of many volumes to change the foundation of applied psychology. It is our hope that this volume will provide readers with new ideas and theories, and a more precise way of understanding and helping children. As we wrote in our first jointly authored text, *Raising Resilient Children* (2001), our worries for our children and their future are well founded. Yet there is reason to be optimistic about counteracting the negative influences in their lives. The new millennium offers unlimited possibilities and unimagined advances. However, we believe strongly the future lies not in technology but in our children, children instilled by their parents, teachers, educators, and other adults with the resilient qualities necessary to help them shape a future with satisfaction and confidence.

S.G.
R.B.

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I

OVERVIEW

1

Why Study Resilience?

Sam Goldstein and Robert B. Brooks

The study of resilience traces its roots back a scant 50 years. Early on, the field of study was not extensive and the number of researchers devoting their careers to the examination of this phenomenon was fairly small. The field, as Michael Rutter noted in 1987, reflected not so much a search for factual phenomena but “for the developmental and situational mechanisms involved in protective processes” (p. 2). The interest was and is not just on what factors insulate and protect, but how they went about exerting their influence. Resilience studies were reserved for high-risk populations with a particular focus on those youth demonstrating resilience or the ability to overcome the emotional, developmental, economic, and environmental challenges they faced growing up.

The study of resilience has expanded significantly over the past 20 years. It is with a greater sense of urgency that resilience research has accelerated. There are a number of reasons for this phenomenon. First, as the technological complexity of our society increases, the number of youth facing adversity and the number of adversities they face is increasing. More youth are at risk. Second, there has been an accelerated interest in not only understanding risk and protective factors and their operation, but in determining whether this information can be distilled into clinically relevant interventions that cannot only increase positive outcomes for those youth facing risk, but can also be applied to the population of children in general in an effort to create, as Brooks and Goldstein (2001) point out, a “resilient mindset” in all youth.

The importance of such a mind-set goes hand-in-hand with the perception that no child is immune from pressure in our current, fast-paced, stress-filled environment, an environment we have created to prepare children to become functional adults. Even children fortunate to not face significant adversity or trauma, or to be burdened by intense stress or anxiety, experience the pressures around them and the expectations placed upon them. Thus, the field has increasingly focused on identifying those variables that predict resilience in the face of adversity and developing models for effective application.

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The belief then is that every child capable of developing a resilient mind-set will be able to deal more effectively with stress and pressure, to cope with everyday challenges, to bounce back from disappointments, adversity, and trauma, to develop clear and realistic goals, to solve problems, to relate comfortably with others, and to treat oneself and others with respect.

A number of longitudinal studies over the past few decades have set out to develop an understanding of these processes, in particular the complex interaction of protective and risk factors with the goal of developing a model to apply this knowledge in clinical practice (Garmezy, Masten, & Tellegen, 1984; Luthar, 1991; Rutter, Cox, Tupling, Berger, & Yule, 1975; Rutter & Quinton, 1994; Werner & Smith, 1982, 1992, 2001). These studies have made major contributions in two ways. First, they have identified resources across children's lives that predicted successful adjustment for those exposed to adversity; and second, they began the process of clarifying models of how these protective factors promote adaptation (Wyman, Sandler, Wolchik, & Nelson, 2000).

Whether these processes can be applied to all youth in anticipation of facing adversity remains to be demonstrated. Masten (2001) suggests that the best recent evidence indicates that resilience processes are not only effective but can be applied, as demonstrated in the recovery to near-normal functioning found in children adopted from institutional settings whose lives are characterized by deprivation. The positive outcome for many Romanian adoptees appears to reflect this process (Masten, 2001). Rutter and the English and Romanian Adoptees Study Team (1998) document a significant degree of developmental catch up cognitively and physically in many of these children.

The process of creating a clinical psychology of resilience must begin with an understanding of the relevant variables and an appreciation and acknowledgment of certain key phenomena. The process of resilience first and foremost, for example, represents a biopsychosocial process. Such a process takes into account a range of biological, psychological, and social factors, each with multidirectional influence contributing to adequate functioning over time (Sameroff, 1995; Sroufe, 1997). Such a model must also begin with a basic foundation that examines and appreciates the concept of wellness. In 1991 Emery Cowen, writing on the concept of wellness in children, suggested that a comprehensive approach to the promotion of wellness included four basic concepts: competence, resilience, social system modification, and empowerment. Cowen suggested that although wellness at the time continued to reflect an abstract concept, the pursuit of research in each of these four areas held promise in developing a scientific, reasoned, and reasonable model to ensure psychological health. In 1994, elaborating further on the concept of wellness, Cowen again emphasized the importance of resilience within the broader concept of wellness. For Cowen a wellness framework assumes the development of healthy personal environmental systems leading to the promotion of positive well-being and the reduction of dysfunction. A wellness framework emphasizes the interaction of the child in the family and academic settings, with adults outside the home and with peers. Clearly Cowen suggests a person-environmental interaction, one that ultimately predicts the strength and power of an individual's resilience in the face of adversity.

Additionally, the absence of pathology does not necessarily equate with psychological wellness. This concept continues to represent a challenge for many mental health disciplines (Lorion, 2000). Mental health professionals are trained to collect data through a variety of means to measure symptoms. Such symptoms are equated with poor adaptation, inadequate adjustment, distress, and life problems. Emphasis on the negative equates with the perception that symptom relief will ultimately lead to positive long-term outcome. In fact, the accepted nosology of the mental health system is a model that reflects assessment

of symptoms and severity packaged into what at this point are weakly factor-analyzed frameworks. Still unavailable, however, is a nosology and system to measure adaptation, stress hardiness, and the qualities necessary to deal successfully with and overcome adversity. Yet in clinical practice, it is increasingly recognized that these phenomena, rather than relief of symptoms or the absence of certain risk factors, best predict adaptation, stress hardiness, and positive adult adjustment.

As Cowen pointed out in 1994, mental health as a discipline must expand beyond symptom-driven treatment interventions if the tide of increasing stress and mental health problems in children are to be averted. There must be an increased focus on ways of developing an understanding of those factors within individuals, in both the immediate environment and in the extended environment that insulate and prevent emotional and behavioral disorders. Understanding these phenomena is as important as developing “an understanding of the mechanisms and processes defining the etiological path by which disorders evolve and a theory of the solution, conceptual and empirically supported or supportable intervention that alters those mechanisms and processes in ways which normalize the underlying developmental trajectory” (p. 172).

Meta-analytic studies of preventive intervention effectiveness have generated increasing evidence of the ability to reduce the numbers of youth with certain emotional and psychiatric problems through an understanding of the forces that shape life outcomes. As Werner and Smith (1992) point out, “beating the odds” is an attainable goal. Researchers have made an effort to address the complex biopsychosocial phenomena that influence the incidence and prevalence of emotional and behavioral problems in youth with an eye toward developing a “science of prevention” (Coie et al., 1993).

Resilience is suggested as but one of a number of constructs that protect or reduce vulnerability. Lösel, Bliesener, and Köferl (1989) suggested that other protective factors include hardiness, adaptation, adjustment, mastery, good fit between the child and environment, and buffering of the environment by important adults in the child’s life. As Sameroff (2000) points out, a transactional view of development suggests that a combination of factors within the child and the environment are mutually interactive over time. With appropriate responsive and adequate care taking and an environment in which mutual adaptations can occur, the odds favor a good outcome (Campell, 2002). In such a model, development is assumed to be discontinuous, characterized by qualitative change and reorganization. Children are viewed as active organizers of their experiences, and their interactions with others are viewed as bidirectional. Children’s responses to adult behavior further influence that behavior. This model is consistent with artificial intelligence researcher Gary Drescher’s observation, suggesting that human beings are “choice-machines.” That is, they act partly in response to genetically driven imperatives but generate reasons for acting as they do. These reasons are not hard wired but are responsive and modifiable to the environment and help guide future behavior (Dennett, 2003).

Finally, with a strong genetic influence, children consistently move toward attempting to develop normal homeostasis. In this model, a single potential traumatic experience would not be expected to lead to a chronically poor outcome. Instead it would be the cumulative, persistent, and pervasive presentation of stressors that promote risk. Within this type of conceptualization, risk falls within three dimensions: (1) external risk as opposed to protection, (2) vulnerability as opposed to invulnerability, and (3) lack of resilience as opposed to resilience (Greenbaum & Auerbach, 1992). Within such a model, a number of assumptions are made. These include: (1) early nurturing and age-relevant stimulation that provides protection by decreasing vulnerability and (2) risk-protection factors that are

interactive. That is, factors within the child will interact and augment factors within the environment. This is likely true for risk factors as well: (3) vulnerability can be reduced and resilience increased by the introduction of additional protective factors; (4) risk and protective factors can interact with a number of variables such as length of exposure, time of exposure, contributing to outcome; and (5) limited exposure to risk can increase but not guarantee stress hardiness. Within these theoretical models, all of which will be discussed and reviewed in this book, the concept of resilience appears to play a major role. Within a wellness model, therefore, it is deserving of identity and a field of study.

The concept of resilience is fairly straightforward if one accepts the possibility of developing an understanding of the means by which children thrive emotionally, behaviorally, academically, and interpersonally either in the face of risk and adversity or not. Such a model would offer valuable insight into those qualities that likely insulate and protect in the face of wide and varied types of adversities, including children experiencing medical problems (Brown & Harris, 1989), family risks (Beardslee, 1989; Beardslee & Podorefsky, 1988 [I include Beardslee since he is one of the top researchers in the area of family risks and resilience]; Hammen, 1997; Worsham, Compas, & Ey, 1997), psychological problems (Hammen, 1997), their parents' divorce (Sandler, Tein, & West, 1994), loss of a parent (Lutzke, Ayers, Sandler, & Barr, 1999), as well as school problems (Skinner & Wellborn, 1994). Competent, appropriate parenting, for example, that which provides a democratic or authoritative model, parental availability, monitoring, and support, is a powerfully protective factor that reduces the risk of antisocial behavior (Dubow, Edwards, & Ippolito, 1997; Masten et al., 1999). In fact, it appears to be the case that youth functioning well in adulthood, regardless of whether they faced adversity, may share many of the same characteristics in regards to stress hardiness, communication skills, problem solving, self-discipline, and connections to others. Though the earliest studies of resilience suggested the role of "exceptional characteristics" within the child that led to "invulnerability" (Garmezy & Nuechterlein, 1972), it may well be that resilience reflects very ordinary development processes that explain adaptation (Masten, 2001; Masten & Coatsworth, 1998). Though, as noted, a focus on symptoms and symptom relief, which is one assessing risk alone, might be satisfactory for identification of immediate needs and diagnoses within a psychopathology model, such data are necessary, though not sufficient, to improve future functioning. It has been well documented that not all children facing significant risk and adversity develop serious adolescent and adult psychiatric, lifestyle, and academic problems. Risk factors also do not appear to be specific to particular outcomes, but relate more to broad developmental phenomena. It is likely that there is a complex, multidimensional interaction between risk factors, biological functioning, environmental issues, and protective factors that combines to predict outcome.

Within this framework, resilience can be defined as a child's achievement of positive developmental outcomes and avoidance of maladaptive outcomes under adverse conditions (Wyman et al., 1999). Within a clinical framework, a resilient mind-set can be defined as the product of providing children with opportunities to develop the skills necessary to fare well in the face of adversity that might lie in the path to adulthood for that individual. The study of resilience has overturned many negative assumptions in deficit-focused models about "the development of children growing up under the threat of disadvantage and adversity" (Masten, 2001, p. 227).

Finally, within the broader framework, the incorporation of resilience research into clinical practice can be based on four key assumptions as described by Benard, Burgoa, and Whealdon (1994). First, resilience helps to build communities that support human

development based upon caring relationships. Second, resilience meets youth's needs for belonging and stability. Third, resilience is supported in the lives of known practitioners as well. Fourth, resilience validates the wisdom of the heart or an intuitive, innate set of practices to guide clinical intervention.

A CASCADE OF RISK

Though children by their very nature have been vulnerable to a variety of risks throughout recorded history, perhaps advanced technological societies create new and different risks for children. Poverty, for example, has likely been a risk factor for children throughout history, yet the manner in which it impacts children can be different as times change. Beginning with the work of Pavenstedt (1965), examining children reared in poverty, and well-articulated by Garmezy and Nuechterlein (1972), researchers have questioned the processes by which individuals at risk for psychiatric conditions might be buffered or insulated from developing these conditions or experiencing them to a greater degree of severity should they present. Epstein (1979) wrote of children exposed to trauma in the Holocaust, examining the variables that helped some survive. In many of these studies, positive, yet unexpected outcomes were considered interesting anomalies but not necessarily important data. Over time came growing recognition and acceptance that the ability to remain competent under adversity is not a random occurrence but one that can be investigated, understood, and instilled in others (Garmezy & Rutter, 1983).

Researchers have identified two distinct types of risk factors facing youth. The first kind reflects the at-risk status of the general population, such as a child raised in a family with a depressed mother or absent father. The second kind of risk includes those factors that distinguish more or less positive outcomes among either groups with specified risks or those with seemingly little risk. In every case, each risk factor must be studied, understood, and then placed within a context of other risk and protective variables. It is for this reason that the scientific research of resilience is so complex. This too is perhaps a consequence of a complex, technologically advanced culture. A quick review of multiple risk statistics makes a strong case for developing a clinical psychology of resilience.

According to the Centers for Disease Control Youth Risk Behavior Surveillance System (2002), at least 12% of students have considered suicide, with suicide being the third-leading cause of death between the ages of 15 and 24, rare but increasing between the ages of 10 and 14. Three million teenagers struggle at any given time with depression, yet only one-third receive mental health services.

According to the Centers for Disease Control and Prevention (2002) and the Substance Abuse and Mental Health Services Administration (2002), one half of teenage motor vehicle accidents are associated with alcohol and drugs. Thirty percent of adolescent suicides are associated with alcohol and drugs. Further, children and teens who abuse alcohol and drugs engage in a variety of risk-taking behaviors at a significantly higher rate than the general population.

According to the National Center for Children of Poverty (2002), 37% of children in the United States live in low-income families. This comprises 21 million children. Forty percent of children under the age of 6 live in homes with an income below \$27,000 per year for a family of four. Sixteen percent of children, or over 11 million, live in homes that are below the federal poverty level. Six percent of children, or 5 million, live in extreme poverty. Finally, the poverty rate is highest among African Americans (30%) and Latinos (28%).

According to the Centers for Disease Control and Prevention National Household Survey of Drug Abuse, homicide is the second-leading cause of death for all 15- to 24-year-olds. It is the leading cause of death for adolescent African Americans and the second-leading cause of death for Hispanic youth. More than 400,000 youth in 2000 between the ages of 10 and 19 were injured as a result of violence. Over 800,000 children were documented victims of child abuse nationwide.

According to the Children's Defense Fund (2002), an American child was reported abused and neglected every 11 seconds. Over a half million children in the United States are in foster care. An American child is born without health insurance every minute. Millions of children are reported to lack safe, affordable, quality child care and early childhood education while their parents are at work. Seven and one-half million children are at home alone without supervision after school, and almost 80% of children living at or below the poverty level are in working households (U.S. Department of the Census, 2000).

The Committee for Children at the National School Safety Center (2002) reports that one out of every seven children reports being bullied at school. In an average classroom there are at least three to four victims or bullies. Many victims report self-imposed isolation in response to bullying.

According to Child Trends (2002) and the Youth Risk Behavior Surveillance System at the Centers for Disease Control (2002), births to girls ages 15 to 19 have steadily declined in the past decade, but sexually transmitted diseases among teenagers have increased. These statistics, only a sample of an emerging trend, make a strong case for the need to develop a clinical psychology of resilience.

TOWARD DEFINING A CLINICAL PSYCHOLOGY OF RESILIENCE

Within the materials sciences, resilience is defined as the ability of a material to resume its original shape or position after being spent, stretched, or compressed. In part resilience within this framework is defined by those properties that contribute to the speed and amount of possible recovery after exposure to stress. As previously discussed, the initial application of resilience into the clinical field focused on the absence of clinical diagnoses or psychiatric problems over time in the face of stress and adversity (Radke-Yarrow & Brown, 1993). Rutter (1990) suggested that within the clinical realm resilience and vulnerability may be at the opposite ends of a continuum, reflecting susceptibility to adverse consequences at one end and neutral or positive consequences upon exposure to risks at the others. This concept was further echoed by Anthony (1987). As Ann Masten (2001) notes, "Early images of resilience in both scholarly work and mass media implied there was something remarkable or special about these children, often described by words such as invulnerable or invincible" (p. 227). One of the first popular press articles dealing with resilience appeared in the *Washington Post* on March 7, 1976. The headline read, "Troubles a Bubble for Some Kids." Thus, within the clinical realm, the idea of resilience reflected a process that was not necessarily facilitated through traditional psychotherapeutic or related intervention but rather was reflective of children who faced great adversity and in some internal way were special or remarkable, possessing extraordinary strength to overcome adversity. The belief was that these internalized qualities were somehow absent in others. Yet as Masten notes, resilience may be a common phenomenon resulting in most cases from the operation of "basic human adaptational systems." When these operate,

development is successful even in the face of adversity. If these systems are impaired, children struggle.

Masten and Coatsworth (1998) suggest that resilience within a clinical realm requires two major judgments. The first addresses threat. Individuals are not considered resilient if they have not faced and overcome significant adversity considered to impair normal development. The second assumption involves an inference about how one assesses a good or an adequate outcome in the face of adversity. This continues to be a complex issue that is just now being addressed empirically (Masten, 1999). It continues to be the case that most clinical practitioners define resilience on the basis of a child meeting the major requirements of childhood successfully (e.g., school, friends, family) despite facing significant life stress. Yet one must also consider that a child facing multiple developmental adversities who does not develop significant psychopathology but who may not demonstrate academic or social achievements may be resilient as well (Conrad & Hammen, 1993; Tiet et al., 1998).

Bronfenbrenner and Crouter (1983) describe a functional model for understanding the process of resilience that can lend itself well to building a foundation for the clinical psychology of resilience. Their model contains four domains of influence and two transactional points between domains. The four domains reflect: (1) the acute stressor or challenge; (2) the environmental context; (3) an individual's characteristics; and (4) the outcome. Points of interaction reflect the confluence between the environment and the individual as well as the individual and choice of outcome. These authors raise questions as to the exact mechanisms by which stressors or challenges interact with the environment, the internal set of characteristics, both genetic and acquired, of the individual, and the short-term processes individuals use to cope with stress and adversity. Interestingly, these processes most likely reflect skills learned by the individual through gradual exposure to increasing challenges or stressors. This "stress inoculation model" (Richardson, Neiger, Jensen, & Kumpfer, 1990) reflects Brooks and Goldstein (2001, 2002) concept of building stress hardiness by helping children develop a "resilient mindset."

Within clinical populations, three types of protective factors emerge as recurrent themes in most studies (Werner & Johnson, 1999). The first reflects dispositional attributes of the individual that elicit predominantly positive responses from the environment (e.g., easy temperament of the child within a family facing significant stress). The second reflects socialization practices within the family that encourage trust, autonomy, initiative, and connections to others. The third reflects the external support systems in the neighborhood and community that reinforce self-esteem and self-efficacy. Werner and Smith (1993) point out from their longitudinal work the large number of variables, such as age, birth order, ages of siblings, family size, and gender of the child, that must be taken into account when assessing the relative vulnerability or resilience of an individual growing up in a family context of psychopathology or other risk. Such protective factors "moderate against the effects of a stressful or stress situation so that the individual is able to adapt more successfully than they would have had the protective factor not been present" (Conrad & Hammen, 1993, p. 594). Protective factors thus represent the opposite pole of vulnerability factors.

As discussed, the concept of resilience has not traditionally encompassed the potential of individuals to survive risks should they arise. Anthony (1987) and Brooks and Goldstein (2001) suggest that some individuals may appear resilient because they have not faced significant vulnerability, while others can be assessed for their potential to be resilient if they were to face adversity. Defining risks and protective factors is not a simple process. They are likely variable in their presentation and in their impact on specific individuals. Cicchetti and Garmezy (1993) point out that it is difficult at times to distinguish between factors that

place an individual at risk and factors that happen to distinguish between good or poor outcome but have no clear causal significance. These authors caution, for example, that “a child with a mother who has been depressed will not necessarily experience poor quality of care giving” (p. 500). Competent youth differ from those lacking competence, regardless of the level of adversity faced. Thus, even though resilient and maladaptive groups can experience similar life histories of severe negative life experience, the outcome for those who are resilient appears more similar to those who have not faced adversity (Masten et al., 1999).

Youth demonstrating high competence despite facing strong adversity, when compared to youth equally competent facing low adversity, as well as groups of youth with low competence facing equal adversity, reflect this process. Competent, low adversity as well as resilient youth appear to possess average or better academic outcome, conduct, and social histories. They appear to possess very similar psychosocial resources, including better intellectual functioning, parents of good mental health, parental availability, and more positive self-concepts. Though a heatedly debated phenomenon, strong intellect has also been found to be a protective factor (Hernstein & Murray, 1995). Intellectual aptitude appears to represent an important protective factor against the development of conduct problems for children growing up in highly disadvantaged settings or with high exposure to adverse life events (Masten et al., 1999; White, Moffitt, & Silva, 1989). However, there is no consensus on what defines intellectual ability (Masten, 2001). A strong performance on tests of intellectual functioning could reflect related neuropsychological factors, such as attention, memory, executive functioning, or, for that matter, motivation. A strong performance on intellectual tests, many of which are highly loaded on achievement, can also be attributed to the quality of the child-rearing environment.

A clinical psychology of resilience must also be capable of defining and understanding the multiple pathways by which outcome is achieved. Cicchetti and Rogosch (1996) describe this process through the concepts of equifinality and multifinality. Children may reach the same end point, in this case pathology or survival by different routes. Children with apparently similar risks and histories can have different outcomes. As Rutter pointed out in 1994, outcome is determined in part by the relative balance and interaction of risk and protective factors. The more risk factors present, the more likely the outcome will be adverse (Greenberg, Lengua, Coie, & Pinderhughes, 1999). It remains unclear, however, whether risk factors are equally potent in their adversity, or protective factors equally stress resistant in their presentation. We have yet to develop a science to explain the manner by which biological factors, such as stress during pregnancy, premature birth, and genetic variations leading to learning or related problems, interact with family risk factors, such as neglectful or harsh parenting and inconsistent child care, with physical phenomena such as poor nutrition and educational and community experiences. It has yet to be truly understood and defined how a child who grows up with a learning disability in a poverty-stricken home, in a high-risk neighborhood, with parents exhibiting mental illness can and does overcome these adversities and transitions successfully into adult life.

On a basic level it is still debated as to how nature and nurture interact. How do genes and environment influence each other? How might a child's genetically driven temperament influence parent behavior, thus in part forming the basis for a child's attachment and ultimately affecting parental behavior? Whether a continuous or discontinuous process, children's development is impacted by a host of phenomena. The study of a clinical psychology of resilience will allow for the examination of the means by which biological, environmental, and related factors interact. For example, children who are active or irritable temperamentally can be more likely to continue to respond maladaptively in the face of

ineffective parental behavior than children who do not demonstrate these patterns of temperament. Such children may be more sensitive to environmental risk factors (Belsky, Woodworth, & Crnic, 1996).

Finally, a clinical psychology of resilience must incorporate an understanding of the process of human development. Many of the great developmental theorists have assumed that human growth is in part driven by a need to cope, adapt, and develop a health homeostasis (Lorion, 2000). Across theoretical models resilience as encompassed within a wellness model is characteristic of positive adaptation. Thus, the absence of symptoms should not be equated with resilience or good functioning. Studies of youth who overcome a variety of unfavorable environmental phenomena confirm that resilience in fact operates for some but not for others. Some youth are in fact insulated or protected, seemingly invulnerable from risks likely to overwhelm others. It may be that these resilience qualities are the best predictors of positive adult outcome (Brodsky, 1996; Masten & Coatsworth, 1998).

THE SYNTHESIS OF A MODEL

In a review of successful prevention programs, Schorr (1988) suggests that effective programs for youth at risk are child centered and based upon the establishment of relationships with adults who are caring and respectful and who build trust. In writing about single mothers and their children, Polakow (1993) suggests that ultimately connections to people, interests, and to life itself may represent the key component in resilient processes. This phenomenon is well articulated by Hallowell (2001). As Michael Rutter has pointed out, "Development is a question of linkages that happen within you as a person and also in the environment in which you live" (as cited in Pines, 1984, p. 62). "The complexity of risk and resilience processes operating in multiple embedded systems of development in diverse contexts calls for the expertise of more than one discipline whether the goal is to advance empirical knowledge or to change the course of development through intervention" (Masten, 1999, p. 254).

Yet, if challenges are too severe, normal processes break down (Baldwin et al., 1993). Baldwin et al. describe resilience as "a name for the capacity of the child to meet a challenge and to use it for psychological growth" (p. 743). In their description of an applied resiliency model, stressors are life challenges that, if not balanced by external protective processes or resiliency factors within the individual, lead to a disruption in functioning. Flach (1988) suggests that this process is not unidirectional, but that individuals can recover and function better as risks are reduced and protective factors are introduced. It may well be, as Tarter (1988) noted, that vulnerability is "a characteristic that predisposes an individual to a negative outcome" (p. 78). Thus, a particular factor creates vulnerability but does not necessarily define the level of vulnerability experienced by a particular individual. Shared and nonshared environments likely also play moderating roles in determining risk and protective factors for particular individuals. Resilience perhaps is best understood as a product of phenotype-environment interaction (Tarter & Vanyukov, 1994). This phenomenon, referred to as epigenesis, likely offers the best understanding of the individual effects that risk and protective factors have in shaping resilience. Such a phenomenon must be understood if it is to be applied effectively in a clinical framework.

Given the complexity of the human species and the culture we have created, there is a need to view the accomplishment of wellness and resilience from a multifaceted developmental and dynamic perspective (Masten & Coatsworth, 1998). The behavioral and

emotional problems of children, the nature of our culture, risks such as emotional or physical abuse all present as significant challenges. None have single or simple etiologies or solutions. All appear to arise from a complex interaction of biological, environmental, and cognitive influences. All of these influences to some extent are idiosyncratic to the individual.

Many risk factors such as poverty or neighborhood adversity cannot easily be ameliorated. Though the process of resilience can reflect “the power of the ordinary” (Masten, 2001), there must be an increasing focus on understanding the protective variables that allow some children to function well in these environments and continue to function well in the future. Just as risk factors are not specific to particular adverse outcomes, protective factors can also not be equally specific. The “ordinary magic” that Ann Masten (2001) so eloquently writes about becomes an elusive phenomenon in the face of these risks. Masten notes that resilience does not appear to arise from rare or special qualities, but from “the everyday magic of ordinary, normative human resources in the minds, brains and bodies of children in their families and relationships and in their communities” (p. 235).

In 1993 Coie et al. provided a list of generic risk factors including those of family conflict and poverty. These researchers and others have noted a diverse set of protective factors that often relate to close relationships with prosocial and caring adults (Masten, Best, & Garmezy, 1990). Finally, there is increasing research reflecting primarily genetic-driven phenomena that either predispose individuals to stress hardness or risk in the face of adversity. These types of cumulative risk and protection models form the basis of what is hoped to be the future state of clinical psychology of resilience and treatment for youth at risk (Yoshikawa, 1994).

This volume addresses which and by what processes variables within the child, immediate family, and extended community interact to offset the negative effects of adversity, thereby increasing the probability of positive development rather than dysfunction. Some of these processes can serve to protect the negative effects of other stressors, while others simply act to enhance development regardless of the presence of stress. As Seligman has pointed out (1998a, 1998b), attending to those issues that are preventative and that create a resilient mind-set and wellness will require a significant paradigm shift in mental health professionals and the community at large. Seligman has suggested the shift will not be easy to make. Although professionals may be “ill-equipped to do effective prevention” (1998a, p. 2) at this time the development of a clinical psychology of resilience would appear to offer the best hope of forming a cornerstone for the development of a “positive social science.”

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2

Resilience Processes in Development

Fostering Positive Adaptation in the
Context of Adversity

Margaret O'Dougherty Wright and Ann S. Masten

How do children and adolescents “make it” when their development is threatened by poverty, neglect, maltreatment, war, violence, or exposure to oppression, racism, and discrimination? What protects them when their parents are disabled by substance abuse, mental illness, or serious physical illness? How do we explain the phenomenon of resilience—children succeeding in spite of serious challenges to their development—and put this knowledge to work for the benefit of all children and society? The scientific study of resilience emerged about 30 years ago when a group of pioneering researchers began to notice the phenomenon of positive adaptation among subgroups of children who were considered “at risk” for developing later psychopathology (Masten, 2001).

The resilience research pioneers led a revolution in thinking about the origins and treatment of psychopathology. The primary focus of earlier clinical research on children at high risk for psychopathology had been either to observe the consequences of adversity or the unfolding of risk processes accounting for the etiology of disorders. Research efforts were directed toward understanding pathology and deficits, rather than on how problems were averted, resolved, or transcended. The field of mental health at the time was dominated by psychoanalytic theory and a disease-oriented biomedical model that located the source of illness within the individual. However, the first investigators to explore the phenomenon of resilience realized that models based primarily on predicting psychopathology were limited in scope and usefulness, providing little understanding of how good outcomes were achieved by many of the children identified as at risk. Such information was vital to

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the goal of intervening to improve the odds of good developmental outcomes among children at risk. One of the great contributions of the early investigators was their recognition and championing of the idea that understanding positive developmental pathways in the context of adversity is fundamentally important for preventing and treating problems, particularly among children at risk for psychopathology.

The study of resilience has advanced in three major waves of research over the past three decades. In this chapter we highlight the concepts and findings resulting from these waves to date, as they have shaped an emerging resilience framework for research and practice. The first wave of work yielded good descriptions of resilience phenomena, along with basic concepts and methodologies, and focused on the individual. The second wave yielded a more dynamic accounting of resilience, adopting a developmental-systems approach to theory and research on positive adaptation in the context of adversity or risk, and focused on the transactions among individuals and the many systems in which their development is embedded. The third wave, now taking shape, is focused on creating resilience by preventive interventions, directed at changing developmental pathways.

THE FIRST WAVE: IDENTIFYING INDIVIDUAL RESILIENCE AND FACTORS THAT MAKE A DIFFERENCE

Initial research in this area was dominated by a strong cultural ethos in the United States that glorified rugged individualism—that Horatio Alger ability to “pick oneself up by one’s own bootstraps” and succeed solely through one’s own efforts. Early on, investigators as well as journalists referred to children who functioned well despite the odds as “invulnerable” (Anthony, 1974; Pines, 1975) and tended to focus on their personal traits and characteristics. Such children were thought to be impervious to stress because of their inner fortitude or character armor. As research extended across time and across types of trauma, the term of invulnerability was replaced by more qualified and dynamic terms such as stress-resistance and resilient. These concepts were thought to more appropriately capture the interplay of risk and protective processes occurring over time and involving individual, family, and larger sociocultural influences (Masten, Best, & Garmezy, 1990; Rutter, 1987; Werner & Smith 1982, 1992).

Key Concepts

During the first generation of research on resilience in development, these phenomena were studied in a variety of different contexts throughout the world (Glantz & Johnson, 1999; Masten et al., 1990). A consensus emerged on key concepts, though controversies continue to this day. *Resilience* typically refers to a pattern of positive adaptation in the context of past or present adversity. Two distinct judgments are required before a resilient pattern of adaptation can be identified. First, one judges by some criteria that there has been a significant threat to the development or adaptation of the individual. Second, one judges that, despite this threat or risk exposure, the current or eventual adaptation or adjustment of the individual is satisfactory, again by some selected set of criteria.

There has been considerable confusion throughout the past three decades on the precise meaning of many terms used by resilience researchers (Luthar, Cicchetti, & Becker, 2000; Masten, 2001; Rutter, 2000). Nonetheless, there is a growing consensus on a working vocabulary for this domain of inquiry, as presented in Table 2.1. Much of that vocabulary

Table 2.1 Definition and Illustration of Key Concepts

| Term | Definition | Examples |
|---|---|---|
| Adversity | Environmental conditions that interfere with or threaten the accomplishment of age-appropriate developmental tasks | Poverty Homelessness Child maltreatment Political or community violence |
| Resilience | A pattern of positive adaptation in the context of past or present adversity | High-achieving, well-liked, and well-behaved child who has endured serious neglect and maltreatment |
| Risk | An elevated probability of an undesirable outcome | The odds of developing schizophrenia are higher in groups of people who have a biological parent with this disorder |
| Risk factor | A measurable characteristic in a group of individuals or their situation that predicts negative outcome on a specific outcome criteria | Premature birth Parental divorce Poverty Parental mental illness |
| Cumulative risk | Increased risk due to (a) the presence of multiple risk factors; (b) multiple occurrences of the same risk factor; or (c) the accumulating effects of ongoing adversity | Children in homeless families often have many risk factors for developmental problems, including a single parent who who hasn't graduated from high school, a history of poor health care, poor schools, inadequate nutrition, and exposure to many negative events like family or community violence |
| Vulnerability | Individual susceptibility to undesirable outcomes; the diathesis in diathesis-stressor models of psychopathology | Anxious children find school transitions more stressful |
| Proximal risk | Risk factors experienced directly by the child | Witnessing violence Associating with delinquent peers |
| Distal risk | Risk arising from a child's ecological context but mediated through more proximal processes | High community crime rate Inaccessible health care |
| Asset/Resource/ Compensatory factor | A measurable characteristic in a group of individuals or their situation that predicts general or specific positive outcomes | Good cognitive skills Effective parents Good schools |
| Protective factor | Quality of a person or context or their interaction that predicts better outcomes, particularly in situations of risk or adversity | Airbags in automobiles 911 services Neonatal intensive care nurseries Suicide hotlines Health insurance |
| Cumulative protection | The presence of multiple protective factors in an individual's life | Child in poor neighborhood has warm, attentive parent, safe home, supportive kin, school tutor, and active church |

Table 2.1 Continued

| Term | Definition | Examples |
|-------------------------|--|--|
| Psychosocial competence | The adaptive use of personal and contextual resources to accomplish age-appropriate developmental tasks | The active engagement of intellectual ability and positive relationships with teachers results in school success |
| Developmental tasks | Expectations of a given society in a historical context for the child's accomplishment of specific tasks at the appropriate stage of development | Toddlers: learn to walk and talk School-aged child: achieve in school, develop friendships, follow rules |

(e.g., adversity, life events, risks, and vulnerability) was already familiar from studies of psychopathology. Resilience studies, however, underscored some concepts that had been omitted or underemphasized in earlier work, most particularly the concepts of assets, compensatory factors, protective factors, and competence or developmental tasks.

Resilience definitions always consider the threats to good adaptation, conceptualized in terms like *risk*, *adversity*, and *negative life events*. As illustrated in Table 2.1, *risk* most basically signifies an *elevated probability* of a negative outcome. It is a group or population term, in that a risk factor does not identify which individual or individuals in a group considered at risk will eventually display adaptational difficulties, but rather that the group of people with this risk factor is less likely overall to do well in some regard. There is often a lack of precision regarding risk factors, related to their complex and cumulative nature. Many broad risk indicators or "markers" encompass great heterogeneity in outcome within the group. For example, children born prematurely vary greatly in circumstances, birth weight, accompanying complications, socioeconomic situation, and medical care. A closer analysis often provides clues to the processes accounting for the overall risk of the group. In the case of prematurity, knowing details about intracranial bleeding or delivery complications may not only improve prediction about outcomes but may also lead to better understanding of the actual processes producing the risk (O'Dougherty & Wright, 1990).

It soon became apparent that risk factors rarely occur in isolation. More typically, children who are truly at high risk are so because of their exposure to multiple adversities extending over time, sometimes for very long periods of their lives (Masten & Wright, 1998). Outcomes generally worsen as risk factors pile up in children's lives, and concomitantly, resilience becomes less common. Thus, it has become critical to examine *cumulative risk factors* in order to more accurately predict and understand developmental outcome (Sameroff, Gutman, & Peck, 2003). Divorce, for example, has been a common stressor studied, but research has revealed considerable heterogeneity in outcome for children whose parents have divorced. The concept of cumulative risk helps to clarify this diversity in outcome. Divorce is not a single, time-limited risk factor or stressor, but rather an often lengthy process of multiple stressors and life changes. The extent and duration of these stressors vary considerably from family to family, and can occur before, during, and after the divorce itself. Finally, some forms of adversity are so chronic and massive that no child can be expected to be resilient until a safe and more normative environment for development is restored. Thus, in cases of catastrophic trauma, such as that resulting from war or torture, resilience typically refers to good recovery after the trauma has ended (Wright, Masten, Northwood, & Hubbard, 1997).

Risk terminology has undergone significant refinement in recent years, inspired by a series of influential articles by Helena Kraemer and colleagues (Kraemer et al., 1997; Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001; Kraemer, Wilson, Fairburn, & Agras, 2002). Their work underscores the importance of distinguishing correlates of poor outcomes from risk factors that clearly predate the onset of the problem from causal risk factors that can be shown (perhaps through experimental manipulation) to contribute to the bad outcome of interest. This work has not only led to greater specificity in risk terminology, but has also provided a conceptual framework for research needed to identify a causal risk factor (see decision tree in Kraemer et al., 1997) and to test hypothesized mediating and moderating influences through experimental intervention designs (Kraemer et al., 2002).

The second key aspect of judging resilience in the lives of individuals involves decisions about how well a person is doing in life or, in other words, the quality of his or her adaptation or development. A variety of criteria have been utilized to judge positive adaptation in the literature, including criteria focused on the absence of pathology, successes in age-salient developmental tasks, subjective well-being, or all of these (see Table 2.1 for an illustration). In the developmental literature, many investigators have defined good outcomes on the basis of the child's observed or reported *competence* in meeting the expectations for children of a given age and gender in their particular sociocultural and historical contexts. Competence is typically assessed by how well the child has met, and continues to meet, the expectations explicitly or implicitly set in the society for children as they grow up. This is often referred to as the child's track record of success in meeting *developmental tasks*, age-related standards of behavior across a variety of domains (e.g., physical, emotional, cognitive, moral, behavioral). Although these can vary from culture to culture, they typically refer to broad tasks that guide the development and socialization of children (see Table 2.1 for examples). Children judged to show resilience have typically negotiated these developmental tasks with reasonable success, despite the significant risks and adversities they have endured.

During the first wave of research, controversies emerged about how to define resilience, and many of these debates concerned the criteria for adaptation by which resilience would be judged (see Masten & Reed [2002] or Luthar, Cicchetti, & Becker [2000] for overviews of these debates). There was debate, for example, about whether a child who was adapting well in terms of observable social behavior (academic achievement, work, relationships) but suffering internal symptoms of distress was showing resilience. There were debates about not only the "inside" versus "outside" picture on adaptation but also on *how many* domains should be considered and *when* to assess "outcome." We would argue, for example, that resilience does not necessarily mean that one is unaffected or untouched by the trauma one has endured nor does it mean that one always functions well. It is also possible that a child may show resilience at one point in life and not at another. Such debates linger in the literature. Nonetheless, it is clear that the criteria by which resilience is judged in a population and how comprehensively it is assessed across domains of functioning will impact the prevalence of resilience in high-risk groups and the nature of the processes identified as relevant to resilience.

One of the most important emerging domains of study concerns the linkage among multiple domains of adaptation, positive and negative, and what this may mean for understanding resilience and psychopathology. Internal and external symptoms are related over time, as is adaptive functioning across different domains of competence and symptoms (Masten & Curtis, 2000). Symptoms can contribute to problems negotiating developmental tasks and failure in such tasks can lead to symptoms, with snowballing consequences that

have been referred to as *developmental cascades* (Masten, 2001; Masten & Powell, 2003). In developmental theory, good functioning in developmental tasks provides a platform on which future success is built. It is becoming more evident that promoting such competence may be crucial to preventing some kinds of problem outcomes among high-risk populations of children (see "Third Wave" section).

The first wave of resilience studies focused on identifying the correlates or predictors of positive adaptation against a background of risk or adversity. Thus, these investigators were also interested in assessing individual or situational differences that might account for differential outcomes among children sharing similar adversities or risk factors. Two major kinds of correlates were considered: (1) positive factors associated with better adaptation at all levels of risk, including high-risk levels, which were often termed *assets* or *compensatory factors* (e.g., Garmezy, Masten, & Tellegen, 1984; see also Benson, Scales, Leffert, & Roehlkepartain, 1999), and more recently, *promotive factors* (Sameroff, 1999); and (2) factors that seemed to have particular importance for positive adaptation at high levels of risk or adversity, which were typically termed *protective factors* (e.g., Rutter, 1979). The key difference in the two types of concepts was in whether the factor played a special kind of role under hazardous conditions.

When a positive predictor is designated a *protective factor*, some type of shielding from the effects of risk or adversity is implied. Thus, protective factors are assets that particularly matter or only matter when risk or adversity is high. For example, airbags in automobiles and antibodies to specific disease agents are viewed as protective factors because they operate to protect individuals from the dangers of accidents or infections respectively. Protective factors *moderate* the impact of adversity on adaptation. The examples of airbags and antibodies are causal protective factors in that they provide demonstrable and explainable protection to a living system in the course of an unfolding experience. Similarly, a parent who jumps in front of a child to take the brunt of a physical assault clearly is protective in the sense of shielding the child from worse harm. Yet many presumed protective factors in studies of resilience are far less easy to specify.

It has proven to be quite difficult to distinguish assets from protective factors in human development because many of the most important correlates of good adaptation are themselves complex systems or relationships that serve multiple functions. Parents, who could be viewed as "Mother Nature's Protective Factor," clearly comprise a protective system of immense complexity for child development. One finding that has emerged and been reconfirmed time and time again is that resilient adaptation rests on good family (or surrogate family) relationships. For very young children, early relationships with caregivers provide the foundation for developing secure attachments to others (Sroufe, Carlson, Levy, & Egeland, 1999). If this early infant-caregiver relationship is warm, attentive, and responsive, the child develops confidence that his or her needs will be met, learns positive ways of relating to others, becomes more able to regulate emotions, and develops feelings that the self is worthy and valued. Thus, a responsive, caring, and competent caregiver is a very powerful asset fostering the child's healthy growth and development in any context. In the face of significant adversity, such parents also know how to respond effectively to threat and are able to adaptively shift their responses to provide protective modes of behavior. Similarly, the human brain is capable of many functions and responds to life situations in a multitude of adaptive ways. Thus it is not surprising to learn that IQ scores, a general estimate of adaptive problem-solving abilities, predict a multitude of good outcomes regardless of risk or adversity level (meeting the definition of asset) and also have been shown to function as moderators of risk or adversity, mattering even more under threatening circumstances (Masten et al., 1999).

There has been considerable debate over the years about labeling a continuous variable that correlates with adaptation as a risk factor or an asset or compensatory factor, when it could be viewed as either or both. Often these constructs are comprised of bipolar opposites that exist on the same continuum. That is, the variable engenders poor adaptation at one extreme and good adaptation at the other. For example, when poverty is present it is identified as a risk factor for a negative outcome, whereas high socioeconomic status is typically found to be a compensatory factor associated with a more positive outcome. Eventually we might learn “where the action is” for a particular factor, but in many cases, we might learn once again that adaptation arises from complex processes not easily labeled. Certainly, it is conceivable to think about a pure “risk” factor that has a clear negative influence on development when it occurs (e.g., foot amputated in an accident) but no influence when it does not occur. It is also conceivable to think about a pure “asset” factor that has a positive influence when it occurs (e.g., musical talent) but has little impact on development in its absence. But most factors currently studied as potential causal predictors of adaptation or good versus poor development reflect continuously distributed variables that can operate in many ways at many levels (e.g., poor attentional skills versus good attentional skills). Protective variables have been harder to identify than assets because they are defined as exerting their effect primarily in the context of risk. These factors also have engendered some conceptual confusion because they too often appear to be on the positive pole of a variable that is continuously distributed (e.g., family discord is a risk factor, whereas family closeness is protective). Many factors that were identified as *protective* in past research are more likely assets that are helpful to child development and adaptation at all levels, regardless of risk status.

Developmental Perspectives

Resilience studies quickly revealed that children might have different vulnerabilities and protective systems at different points in their development (Masten et al., 1990; Wright & Masten, 1997). Infants, because of their total dependence on caregivers, are highly vulnerable to the consequences of loss of their parents or mistreatment by caregivers. Yet infants are more protected from experiencing the full impact associated with war or natural disasters because they lack understanding of what is happening. As children mature, their school milieu and neighborhood can increasingly contribute to their exposure to traumatic events. Older children engage in more unsupervised activities, and their involvement with peers can be protective or risk enhancing. Thus, while older children are much more capable of coping in the world on their own, their independence from the protection of their caregivers can also contribute to their trauma exposure. Adolescents are also vulnerable to a different type of loss or betrayal, such as loss or devastation concerning friends, faith, schools, and governments. They understand what these losses mean for their future, a realization well beyond the understanding of young children.

The “Short List” of Resilience Correlates

The first wave of research on resilience included both person-focused and variable-focused approaches. Person-focused approaches identified resilient individuals in an effort to determine how they differed from others facing similar adversities or risks who were not faring as well. Case studies and longitudinal studies exemplify person-focused approaches. Variable-focused approaches, in contrast, examined the linkages among characteristics of

individuals and their environments that contributed to good outcome when risk or adversity was high. This method focused on variables that cut across large, heterogeneous samples and drew heavily on multivariate statistics. Across many studies from each of these perspectives and across widely divergent methodologies, the first wave of research revealed a striking degree of consistency in findings, implicating a common set of broad correlates of better adaptation among children at risk for diverse reasons. This consistency was noted early by Garmezy (1985) and has been corroborated repeatedly over the years. Masten (2001) has referred to these correlates as “the short list” (see Table 2.2) and argued that they can reflect the fundamental adaptive systems supporting human development. As investigators began to consider the *processes* that might account for why these correlates

Table 2.2 Examples of Assets and Protective Factors

Child Characteristics

- Social and adaptable temperament in infancy
- Good cognitive abilities and problem-solving skills
- Effective emotional and behavioral regulation strategies
- Positive view of self (self-confidence, high self-esteem, self-efficacy)
- Positive outlook on life (hopefulness)
- Faith and a sense of meaning in life
- Characteristics valued by society and self (talents, sense of humor, attractiveness to others)

Family Characteristics

- Stable and supportive home environment
 - Low level of parental discord
 - Close relationship to responsive caregiver
 - Authoritative parenting style (high on warmth, structure/monitoring, and expectations)
 - Positive sibling relationships
 - Supportive connections with extended family members
- Parents involved in child's education
- Parents have individual qualities listed above as protective for child
- Socioeconomic advantages
- Postsecondary education of parent
- Faith and religious affiliations

Community Characteristics

- High neighborhood quality
 - Safe neighborhood
 - Low level of community violence
 - Affordable housing
 - Access to recreational centers
 - Clean air and water
- Effective schools
 - Well-trained and well-compensated teachers
 - After-school programs
 - School recreation resources (sports, music, art)
- Employment opportunities for parents and teens
- Good public health care
- Access to emergency services (police, fire, medical)
- Connections to caring adult mentors and pro-social peers

Cultural or Societal Characteristics

- Protective child policies (child labor, child health, and welfare)
 - Value and resources directed at education
 - Prevention of and protection from oppression or political violence
 - Low acceptance of physical violence
-

are repeatedly found, the second wave of resilience work began. Although the first wave produced many ideas, constructs, methods, and findings about correlates of resilience (as well as many controversies), it was soon evident that more sophisticated models were needed to consider the complex processes that were implicated by the initial findings (see Glantz & Johnson, 1999).

THE SECOND WAVE: EMBEDDING RESILIENCE IN DEVELOPMENTAL AND ECOLOGICAL SYSTEMS, WITH A FOCUS ON PROCESSES

Early studies delineated a number of important *factors* that were associated with later resilience, but didn't provide an integrative understanding of the *processes* leading to resilience in development. As noted in a review of the first wave of work, "it is the task of future investigators to portray resilience in research questions that shift from the 'what' questions of description to the 'how' questions of underlying processes that influence adaptation" (Masten et al., 1990, p. 439). Subsequent research and theory has focused more specifically on understanding the complex, systemic interactions that shape both pathological and positive outcomes, emphasizing resilience as a complex process in development (Cicchetti, 2003; Egeland, Carlson, & Sroufe, 1993; Yates, Egeland, & Sroufe, 2003) or as a phenomenon arising from many processes (Masten, 1999; Roberts & Masten, 2004). Wyman (2003), for example, recently described resilience in the following way: "resilience reflects a diverse set of processes that alter children's transactions with adverse life conditions to reduce negative effects and promote mastery of normative developmental tasks" (p. 308).

The second wave of resilience work reflects a broader transformation occurring in the sciences concerned with normative and pathological development that have accompanied the emergence of *developmental psychopathology* (Cicchetti, 1990; Cicchetti & Garmezy, 1993; Masten & Garmezy, 1985; Masten & Powell, 2003; Sroufe & Rutter, 1984). Resilience research over the past decade or so has increasingly focused on contextual issues and more dynamic models of change, explicitly recognizing the role of developmental systems in causal explanations (Roberts & Masten, 2004; Sroufe, 1997; Yates & Masten, 2004). This has led to greater emphasis on the role of relationships and systems beyond the family and attempts to consider and integrate biological, social, and cultural processes into models and studies of resilience (Masten, 2001; see also Luthar, 2003). As a result, studies of resilience are more contextualized in multiple ways, including how the individual interacts with many other systems at many levels throughout life and with greater care about generalizing conclusions about risk and protective factors from one context to another or one period of development to another. The early pioneers certainly recognized the complex, dynamic nature of naturally occurring resilience (see Masten et al., 1990 for this history), but gathering the basic descriptive data of the initial wave of studies was a necessary empirical first step before research could begin to address the complexity of the phenomenon. This daunting task is far from complete.

The fact that many of the protective factors that were identified facilitate development in both high- and low-risk conditions suggested the importance of fundamental, universal human adaptational systems that exist to keep development on course and to facilitate recovery from adversity when more normative conditions are restored (Masten, 2001; Masten & Coatsworth, 1995; Masten & Reed, 2002). Some of these adaptive systems have been well studied in the field of developmental psychology and include: the development

of attachment relationships, moral and ethical development, self-regulatory systems for modulating emotion, arousal, and behavior, mastery and motivational systems, and neurobehavioral and information-processing systems. Other systems involve the broader cultural context and consist of extended family networks, religious organizations, and other social systems in the society that offer adaptive advantages. These systems are very versatile and responsive to a wide range of challenges, both normative and nonnormative. If the major threats to children's adaptation are stressors that undermine the development of these basic protective systems, then it follows that children's ability to recover and to be resilient will be highly dependent on these systems being restored.

The influence of developmental systems theory is also evident in the multicausal and dynamic models of resilience characteristic of the second wave of work. Second wave theory and research often encompass the language of developmental systems theory (DST), with concepts such as *equifinality* and *multifinality*, developmental *pathways*, and *trajectories* that capture the dynamic, interactional, reciprocal, multicausal, and multiple level models typical of DST (Bronfenbrenner, 1979; Cicchetti & Rogosch, 1996; Ford & Lerner, 1992). The focus of many second wave studies has been on the processes that may lead to resilience. Studies have attempted to explore moderating processes that would explain protective effects that seem to work only for some people under some conditions as well as mediating processes that explain how risk or protection actually works to undermine or enhance adaptation.

An ecological, transactional systems approach to understanding resilience marks a dramatic shift from the traditional focus on the individual to a broader focus encompassing family and community relational networks (Cowen, 2000; Cummings, Davies, & Campbell, 2000; Roberts & Masten, 2004; Walsh, 1998). Developmental outcome is determined by complex patterns of interaction and transaction. Wave two research studies incorporate design and analytic techniques and strategies that allow for detection of such multilevel influences. This dynamic approach emphasizes the need to formulate different research questions in order to understand the process of positive or negative adaptation following stress. Rather than asking questions about why a child is resilient, questions are asked about bidirectional connections between the child and his or her context. These child-context relationships and interactions become the focus of study. Such an approach fosters research designs that more adequately reflect individual differences in developmental pathways and contextual variation within families, communities, societies, cultures, and historical periods. Wave two research studies also provide a more complex assessment of family and environmental influences. Parents do not respond in identical ways to each of their own children, nor is the family environment experienced in an identical way by different children in the family (Plomin, Asbury, & Dunn, 2001). Even when there is significant conflict and disharmony within a family, the negativity expressed by the parents can focus more on one child than on another, and the children themselves can be differentially reactive to and affected by such conflict. A transactional model of influence captures this dynamic pattern and highlights the importance of examining reciprocal patterns of interaction that shape development over time (Sameroff, 2000).

Finally, the impact of the social context on the child is mediated in part through the child's perception and interpretation of his or her experiences (Boyce et al., 1998), and some investigators have focused on such internal processes (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Such assessments are inherently difficult, particularly in very young children who lack the verbal skills and conceptual framework needed to describe the impact of their traumatic experiences, but needed nonetheless. There are likely to be

significant changes in the meaning the child assigns to different experiences at different ages and thus, the meaning and the impact of a traumatic experience can change considerably over time. For example, some victims of childhood sexual abuse are so young at the time of the initial abuse that they do not understand the full meaning of the perpetrator's actions. However, when they become older, the extent of betrayal and the shame and humiliation they experience can intensify and significantly enhance the stressfulness of the experience. Although children's subjective experience and other internal cognitive and affective coping responses to traumatic experiences are still sparsely researched areas, these may be critical areas to pursue in order to fully understand individual variability in response to traumatic stress (Park & Folkman, 1997).

Contextual Specificity of Protective Processes

With closer attention to processes that might account for resilience, second wave investigators also began to note that protective processes could be contextually specific. This research highlighted the importance of paying careful attention to the ways in which specific groups exposed to diverse stressors differentially adapt, and also to exploring which factors were protective for which individuals in these contexts. Cicchetti and Rogosch (1997), in their follow-up study of maltreated children, provide intriguing evidence in this regard. Whereas many studies of high-risk children have found that close interpersonal relationships and social support predict better long-term outcomes, Cicchetti and Rogosch found that the maltreated children in their study who displayed positive long-term adjustment actually drew on *fewer* relational resources and displayed more restrictive emotional self-regulation styles than did comparison controls who were not maltreated. In a similar vein, both Werner and Smith (1992) and Wyman (2003) found that interpersonal and affective distancing and low expectations for parental involvement were related to later resilience, not poor adjustment. Expanding upon this, Werner and Smith report that later in life many of their resilient adults detached themselves from parents and siblings, perhaps to prevent being overwhelmed by their families' emotional problems. These results highlight the distinctive challenges faced by children who come from highly dysfunctional families and emphasize the importance of avoiding premature conclusions about what constitutes positive coping.

The Rochester Child Resilience Project (Wyman, 2003; Wyman, Cowen, Work, & Kerley, 1993) has shed additional light on the issues of context-specific adaptation and the processes underlying resilience. In their follow-up study of urban children growing up in the context of adversity (high rates of poverty, violence, family discord, and substance abuse problems), factors considered to be "protective" differed in their effect, depending on additional characteristics of the child and the context. For example, although positive future expectations and perceptions of personal competence have often been found to be protective, this positive effect was only evident among participants in their study when these perceptions were realistic. If the adolescent had an unrealistic perception of his or her competence, this was associated with an elevated risk of serious conduct problems. Furthermore, in their sample, positive future expectations were actually associated with academic disengagement among those participants who also displayed conduct problems. Overall, these findings suggest that individual child characteristics such as high self-esteem or positive future expectations may be associated with resilience for some children but not for others. It may be quite important to pay attention to whether the child's beliefs and expectations are congruent with his or her ability to reach the goals set.

Stability and Change in Resilient Adaptation

As resilience research developed, more nuanced perspectives emerged. It was clear that the same child could be diagnosed "resilient" at one point in development but not another, that a child might be adaptive in one context but not another at the same point in development, and that a child was often adaptive in some aspects of his or her life but not others. Moreover, wave two research gave far more consideration to multiple levels of context interacting to produce resilience. Consequently, the most complex models of resilience focus on healthy versus maladaptive *pathways* of development in the lives of children exposed to adversity over time. These models provide an opportunity to attend specifically to turning points in individual's lives, and to consider the complex, holistic interactions of a changing person and context (Masten & Reed, 2002; Rutter, 2000).

To date, much of the discussion of developmental pathways has been drawn from case examples and composite data obtained in longitudinal studies (e.g., Cairns & Cairns, 1994; Furstenberg, Brooks-Gunn, & Morgan, 1987; Hawkins et al., 2003; Rutter & Quinton, 1984; Sampson & Laub, 1993; Werner & Smith, 1992, 2001). These longitudinal data allow us to examine within-individual changes over time rather than focusing on between-individual analyses. Such data speak to the enduring capacity for change that exists throughout development and provide valuable insight into the possible processes that can operate to produce either stability or change in functioning. For example, recent studies identifying and attempting to account for desistance trajectories in delinquency and criminal behavior based on data from longitudinal studies (e.g., Hawkins et al., 2003; Sampson & Laub, 1993) suggest that complex interactions of youth with parents, peers, and other adults in the home, neighborhood, schools, and workplace contribute to positive and negative trajectories across the transitions from childhood to adolescence and early adulthood. Such studies also suggest that there are critical turning points in response to specific developmental challenges (such as entering school or the transition to adolescence) that can shape the nature and course of future adaptation. Three studies that have followed a high-risk sample well into adulthood provide some very encouraging information about the potential for recovery. Werner and Smith (1992) report that *most* of their high-risk youths with serious coping problems in adolescence had recovered by the time they reached their 30s, and this was particularly true for the women in their sample. Only one in six troubled high-risk teens became a troubled adult. Furstenberg and colleagues (1987) found a similar pattern of later recovery among their sample of black adolescent teenage mothers. Also, among antisocial youth, large-scale desistance is reported over time, so that by midlife, the majority of antisocial youth had desisted (Sampson & Laub, 1993). Across all three studies, strong ties to work and to one's spouse were associated with eventual positive adaptation and strongly implicated in "turn around" cases. Activities that facilitated these ends, such as developing personal resources, obtaining further education, marrying an accepting and supportive spouse, joining the armed forces to gain vocational skills, and subsequent fertility control and family planning, were critical components promoting positive within-individual changes over time. For other high-risk individuals, supportive extended family and friendship networks or becoming a member of a church facilitated positive change. Follow-up studies of children adopted away from institutional rearing characterized by extreme deprivation (Rutter & the ERA study team, 1998) and of refugees exposed to massive war trauma (Wright et al., 1997) also suggest a remarkable capacity for developmental recovery when normative rearing conditions are restored. All of these studies reveal the critical importance of turning points in the lives of those exposed to severe

adversity. These turning points (adoption, immigration, postsecondary education, securing stable employment, successful marriage) can induce lasting alterations in an individual's developmental pathway. Laub, Nagin, and Sampson (1998) have described these phenomena in terms of "knifing off" in the long-term follow-up of the Glueck and Glueck cohort of antisocial youth, and there are many anecdotal accounts of such dramatic turns in the life course (see also Laub & Sampson, 2002).

However, the impressive recovery patterns observed in many individuals later in life do not mean that all children will recover. A significant percentage of the children from the Romanian orphanages as well as from the refugee studies have serious and chronic emotional, behavioral, and/or cognitive problems that appear to be lasting effects of their experiences (Gunnar, 2001; Masten & Hubbard, 2003; Rutter & the ERA team, 1998; Wright et al., 1997). Both Werner and Smith's (1992) and Sampson and Laub's (1993; Laub & Sampson, 2002) longitudinal studies revealed that if there were several problem areas at an early age, such as school failure, serious mental health problems, and repeated problems with delinquency, the pattern of maladjustment and deviant behavior was more stable. This finding sheds light on a pattern replicated by other longitudinal studies that there is stronger support for developmental continuity of poor adaptation when multiple areas of competence have been compromised. Such cascading effects may explain why intervention becomes more difficult as individuals advance further along pathways of maladaptation (Masten & Powell, 2003; Yates et al., 2003). Another important consideration is the possibility that the effects of early adversity might not be evident immediately, but might emerge much later in development. Some types of early adversity, such as living with a depressed mother or experiencing neglect or abuse, might impair the child's later ability to function successfully in intimate family roles. For example, female survivors of child sexual abuse can display a wide range of later interpersonal problems, including problems with intimate partner relationships, disturbed sexual functioning, and difficulties in parenting (DiLillo, 2001). Longitudinal data on interpersonal functioning over time is particularly needed to understand the influence of early traumatic relationship experiences on later attachments and to explore the timing and types of subsequent interpersonal experiences that can counteract adverse effects (Egeland, Weinfield, Bosquet, & Cheng, 2000). Understanding resilience in terms of processes that alter children's transactions with adverse life conditions, enabling them to reduce the negative effects of such experiences and fostering mastery, also avoids the type of damaging labeling that sometimes occurs when resilience is referred to as an individual outcome. Children who experience adversity, particularly severe and long-lasting trauma, should be expected to have distress symptoms of some sort. For this reason it is particularly helpful to think of a "continuum of resilience" as well as a "continuum of vulnerability" across multiple domains (physical, psychological, interpersonal, and occupational) and to be alert to the ever changing dynamic of the child's functioning over time.

There are potentially damaging consequences of viewing resilience as an individual *trait*. Foremost among these is the tendency to view those children who do not adapt successfully as somehow lacking the "right stuff" and as personally to blame for not being able to surmount the obstacles they have faced. This focus minimizes the overwhelming social stressors and chronic adversities that many children face and also underplays the extensive role of context in individual resilience. Because adaptation is embedded within a context of multiple systems of interactions, including the family, school, neighborhood, community, and culture, a child's resilience is very dependent upon other people and other systems of influence (Roberts & Masten, 2004). The processes that foster resilience or problems

need to be understood within this holistic context. Children who do not “make it” often lack the basic support, protection, and respect they need for successful development, whereas children who do succeed typically have sufficient external support to continue forward. The same forces that can constrain the child’s development—poverty, discrimination, inadequate medical care, or exposure to community violence—also often impact and constrain the entire family. Economically impoverished families, or parents’ ravaged by their own struggles with alcoholism or mental illness, are often poorly equipped to provide the necessary resources and basic protections their children need. All individuals need the support and assistance of the society in which they live. The degree of success one has in surmounting these obstacles is a complex combination of personal strengths and vulnerabilities, as well as ongoing transactions with one’s family and community network (Cowen, 2000; Roberts & Masten, 2004; Walsh, 1998).

Cultural Influences on Resilience

This leads to a final, critical component in understanding processes in resilience—the role of culture. Just as biological evolution has equipped human individuals with many adaptive systems, cultural evolution has produced a host of protective systems. Protective factors are often rooted in culture. Cultural traditions, religious rituals and ceremonies, and community support services undoubtedly provide a wide variety of protective functions, though these have not been studied as extensively in resilience research. Moreover, there may well be culturally specific traditions, beliefs, or support systems that function to protect individuals, families, and communities functioning in the context of adversity within those cultures. Specific healing, blessing, or purification ceremonies, such as those found among Native American tribal cultures (LaFromboise, Oliver, & Hoyt, *in press*) and many cultures around the world, can serve to counteract or ameliorate the impact of devastating experiences among people in a culture. Similarly, among minority groups in society, factors such as strength of ethnic identity, competence and comfort in relating to members of different groups, and racial socialization are particularly important in dealing with challenges that arise due to experiences of oppression and discrimination within the context in which they live (Szalacha et al., 2003; Wright & Littleford, 2002). To date there has been little systematic investigation of culturally based protective processes. The movement away from an individually based conceptualization of resilience and toward a contextually situated framework has been a welcome one from the perspective of many cross-cultural researchers (Aponte, 1994; Boyd-Franklin & Bry, 2000; Hill, 1999). Although some of the factors and processes that have been identified as fostering resilience focus on individual functioning (such as good cognitive skills, socioemotional sensitivity, ability to self-regulate), the shape and function of these processes can be culturally influenced or can interact with cultural demands and expectations in ways that are poorly understood. Moreover, many other factors have been identified within the collective network of the family and the community. As we continue our study of resilience it will be critical to explore the extent to which factors found to promote resilience in one group will also be replicated across cultural groups and also how the same factor found across multiple groups can function differently in different cultural contexts. For example, for various cultural/ethnic groups there can be a great deal of difference in the relative importance placed on individualism, collectivism, and familism, and these dimensions might mediate resilience in different ways for different groups (Gaines et al., 1997; Kim, Triandis, Kigiticbasi, Choi, & Yoon, 1994). Our intervention efforts might be significantly enhanced by consideration of these and of other cultural dimensions.

THE THIRD WAVE: INTERVENING TO FOSTER RESILIENCE

From inception, a compelling rationale for the systematic study of naturally occurring resilience was to inform practice, prevention, and policy efforts directed toward *creating resilience* when it was not likely to occur naturally. However, a better understanding of mediating and moderating *processes* probably was a necessary phase of work before the ultimate goal could be realized. Research on such processes continues to be the focus of the second wave of theory and research. Nonetheless, a third wave of research focused on intervening to promote resilience is already under way. Initially, this work took the form of theory-driven intervention designs and, with increasing frequency, third wave research takes the form of experimental studies to test resilience theory.

Historically, the third wave represents a confluence of goals, models, and methods from prevention science and studies of naturally occurring resilience (Cicchetti, Rappaport, Sandler, & Weissberg, 2000; Coie et al., 1993; Cowen & Durlak, 2000; Masten & Coatsworth, 1998; Weissberg & Kumpfer, 2003; Yoshikawa, 1994). Multifaceted intervention studies designed to prevent or reduce risky behaviors, delinquency, and other problems in children (e.g., FAST Track or the Seattle Social Development Project) and also early childhood interventions designed to improve the odds of children growing up in poverty or disadvantage (e.g., Abecedarian, Head Start, Perry Preschool Project) encompassed multiple strategies designed to promote success in developmental tasks at the same time they reduced risk for problem behaviors (Ramey & Ramey, 1998; Reynolds & Ou, 2003; Weissberg & Greenberg, 1998). As the data on assets and promotive and protective factors began to accumulate in natural resilience studies, data were mounting in prevention science based on randomized clinical trials that promoting competence was a key element of programs that worked, and the mediators and moderators of change bore a striking resemblance to the processes implicated by the “short list” in resilience research (Cicchetti et al., 2000; Luthar & Cicchetti, 2000; Masten, 2001; Masten & Coatsworth, 1998; Reynolds & Ou, 2003).

At the turn of the millennium, it has become clear in the literature that a change has occurred in the resilience field, where a “resilience framework” for practice and policy is described (e.g., Luthar & Cicchetti, 2000; Masten, 2001; Masten & Coatsworth, 1998; Masten & Powell, 2003; Masten & Reed, 2002), and in the prevention science field, where intervention models are routinely described as a protective process to promote resilience (Sandler, Wolchik, Davis, Haine, & Ayers, 2003; Weissberg, Kumpfer, & Seligman, 2003; Wyman, 2003; Wyman, Sandler, Wolchik, & Nelson, 2000). Intervening to alter the life course of a child potentially at risk for psychopathology or other problems, whether by reducing risk or adversity exposure, boosting resources, or mobilizing protective systems, is itself a protective process. Experimental intervention designs can provide a powerful test of hypotheses about how resilience occurs, particularly when the process of change is specified (e.g., parenting or attributional style), the intervention is associated with changes in this process, and the changes are associated with a subsequent change in the targeted behavior of an individual or system. Kraemer et al. (2002) have specified nicely how experimental intervention designs can test such mediating and moderating effects, with the intervention serving as the hoped-for moderator of the hypothesized mediating process. Experiments can also identify who benefits most from what aspect of treatment, mediated by which changes, thereby testing additional moderating and mediating effects. The Seattle Social Development Project provides an excellent example of an experiment to test whether and how an intervention worked to reduce problem behaviors (see Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Hawkins et al., 2003). For example,

a comprehensive intervention package (delivered to a group of children in schools serving high crime neighborhoods when they were in elementary school) produced demonstrable change in school bonding, which was associated with better outcomes in the secondary school years (less antisocial behavior and better high school grades). Another excellent example is provided by Sandler and colleagues (2003), who designed a preventive intervention for families going through a divorce, with the goal of moderating a key mediator in the child's life—the parent's behavior. Six-year follow-up data for this randomized prevention trial show better mental health outcomes in the children whose parents received the treatment, with effects mediated by changes in parenting, as their prevention model predicted. Such studies offer compelling evidence both for the effectiveness of a particular intervention (the manualized program for mothers in this case) and for the role of parental functioning in causal processes related to child outcomes during the course of negotiating adversity. The children of parents who naturally *do* function better during adversity or who can change (with help) to function better show more resilience.

Research on interventions to create resilience is just beginning, though many of the classic early studies of preventive interventions can be reconceptualized this way, even if they were not framed in terms of resilience at the outset. As noted in the special issue of the *American Psychologist* focused on prevention (Weissberg & Kumpfer, 2003), there is much work that remains to be done to understand processes (mediating, moderating, promoting, and compensating) well enough to manipulate them most effectively and efficiently to benefit children and society. This remains the primary thrust of third wave resilience research. Only by identifying the multifaceted processes underlying successful adaptation under adverse conditions will we find ways to intervene successfully in the lives of those who remain vulnerable.

Analyses of current preventive programs that work for children underscore the importance of theory-driven approaches and of programs that embrace a developmental, ecological systems approach. Salient features of successful prevention programs include many of the factors that have been described in this chapter. These include the need for timely, comprehensive programs across multiple settings, programs that are of sufficient length and depth to address the magnitude of the problem, and culturally relevant interventions (Nation et al., 2003). Such comprehensive prevention approaches acknowledge the multiplicity of risks and the cumulative trauma that many children face and emphasize the importance of promoting competence and building protection across multiple domains in order to achieve a positive outcome.

Beyond the Third Wave

Research on resilience over the past 30 years has provided a wealth of information that has guided the design and implementation of prevention programs, and findings from these prevention programs have also mutually informed theory and further research on the nature of risk, protective factors, resilience, and recovery. These basic and applied research efforts have documented the interrelatedness of many problems and the need to intervene broadly and comprehensively in the lives of children exposed to chronic adversity. Although the need for multifaceted, community-based intervention has been well established, a major obstacle to providing such intervention may lie within American cultural beliefs and values. Just as early research on resilience was strongly influenced by cultural beliefs in the power and responsibility of the individual to surmount his or her own problems, so too do our current cultural beliefs in individualism undermine our efforts to promote and sponsor

national wellness programs (Ripple & Zigler, 2003). A critical challenge for third wave researchers will be to address the discrepancies between research findings and public policy and to work effectively to educate policymakers about the importance of comprehensive, universally accessible prevention programs. A primary focus for future work in this area will be systematic study of the best ways to translate research on resilience processes into effective policies and programs that promote the competence and well-being of the next generation and thereby enhance the human capital that all vibrant societies need in order to succeed.

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3

Understanding the Concept of Resilience

Howard B. Kaplan

The deceptively simple construct of resilience is in fact rife with hidden complexities, contradictions, and ambiguities. These have been recognized in earlier reviews of the relevant literature (Kaplan, 1999). More recent reviews have reaffirmed many of these difficulties and have offered suggestions in some cases for resolution of these problems (Luthar, Cicchetti, & Becker, 2000; Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003). By and large, however, problematic aspects of the concept of resilience persist.

Concepts by their nature are not true or false. However, they may be evaluated with regard to their usefulness. The utility of the construct of resilience in the study of adaptation to life stress depends upon resolving the confusion surrounding the concept that has led many scholars to question whether the idea of resilience helps to advance theory, research, or clinical practice (Bartelt, 1994; Kaplan, 1999; Liddle, 1994; Rigsby, 1994). In this chapter I outline what I perceive to be the sources of confusion surrounding the concept of resilience and offer suggestions regarding the conditions that must be fulfilled in defining resilience if that concept is to be useful in understanding human development and adaptations.

DEFINING RESILIENCE

Arguably, any consensus that exists regarding the nature of resilience rests upon the idea of achievement of positively (or the avoidance of negatively) valued outcomes in circumstances where adverse outcomes would normally be expected. A close examination of this idea, however, reveals a number of unresolved questions that at best render the concept less than useful, and at worst, impede progress in understanding human adaptation. Among the more salient issues are the following:

1. *Does resilience refer to characteristics and outcomes of individuals* (children, adults, various categories of persons differentiated according to gender, race/ethnicity,

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or other psychosocial variables), *or does it refer to characteristics and outcomes of more inclusive systems* such as groups in general or particular kinds of groups, communities, or ecosystems? The literature finds the concept applied to a bewildering array of categories of individuals and systems. Regarding categories of individuals, resilience has been studied with reference to women (Humphreys, 2003), children referred for learning problems (Sorenson et al., 2003), and adolescents (Olsson et al., 2003), to name but a few. Other discussions focus on higher-order interpersonal systems and refer to social and ecological resilience (Adger, 2000), cultural-community resilience (Clauss-Ehlers & Levi, 2002), or collective resilience, referring to processes that look to reconstruct and maintain social relationships that have suffered trauma (Hernandez, 2002). More specifically, the term resilience has been applied frequently to couples (Conger, Reuter, & Elder, 1999) or families (Haan, Hawley, & Deal, 2002; Oswald, 2002; Patterson, 2002; Schwartz, 2002; Walsh, 2002) as units that are more or less resilient in the face of adversity.

Although it is conceivable that the term might usefully be applied to interpersonal as well as individual-level systems, the context for usage should be clarified in each instance. Certainly the nature of the outcomes in which resilience is manifested or the kinds of resilience mechanisms which influence benign outcomes would be expected to vary with the nature of the unit to which the term resilience is applied (Radke-Yarrow & Sherman, 1990).

At a societal level, successful coping behaviors are those that contribute to the survival and well being of others. At a psychological level, we regard positive coping as the exercise of behaviors that contribute to the well being of the self. A child who becomes a survivor is one who is happy about one's self, who is physically healthy, whose behavior is masterful, and who is learning to be a positive contributor to one's immediate society. (p. 100)

2. *Is resilience isomorphic to, partially overlapping, or orthogonal to a variety of other terms that appear to be functionally equivalent to that term?* The functional equivalence of resilience and other terms has been recognized by numerous researchers, each selecting one of the terms and indicating the functional equivalence of the other terms. For example, Lösel, Bliesener, and Köferl (1989) observe: "There is a multitude of constructs that are related to invulnerability, such as resilience, hardiness, adaptation, adjustment, mastery, plasticity, person-environment fit, or social buffering" (p. 187). Thus, resilience has been characterized as the positive counterpart of vulnerability (Rauh, 1989); and, resilience has been likened to salutogenesis in that both address how people adapt in the face of adversity (Lindström, 2001).

3. *Is resilience the opposite of nonresilience or of vulnerability?* In the former case it is possible to lack resilience but still not be invulnerable as when the person has not experienced disvalued outcomes but is nevertheless vulnerable to unwelcome effects of adversity should it arise. In the latter case, the absence of resilience implies vulnerability to adversity. Thus, resilience and vulnerability are often viewed as opposite poles of a continuum reflecting susceptibility to adverse consequences or benign consequences upon exposure to high-risk circumstances (Anthony, 1987). Ego-resilience is regarded as one pole of a dimension, the other end of which is ego-brittleness (Block & Block, 1980):

Ego-resiliency, when dimensionalized, is first defined at one extreme by resourceful adaptation to changing circumstances and environmental contingencies, analysis of the "goodness of fit" between situational demands and environmental contingencies, and flexible invocation of the available repertoire of problem-solving strategies ("problem

solving” being defined to include the social and personal domains as well as the cognitive). The opposite end of the ego-resilience continuum (ego-brittleness) implies little adaptive flexibility, an inability to respond to the dynamic requirements of the situation, a tendency to perseverate or to become disorganized when encountering changed circumstances or when under stress, and a difficulty in recouping after traumatic experiences. (p. 48)

Occasionally, however, the negative pole is defined in terms of nonresilience rather than vulnerability. Radke-Yarrow and Brown (1993) use these terms:

Resilience was defined as having no diagnoses and not being on the borderline of reaching criteria for a diagnosis. Nonresilience was defined as the presence of one or more diagnoses of a serious nature, with problems persisting over time. (p. 583)

Whether or not positive and negative outcomes should represent polar opposites or the nature of the range between polar opposites remains problematic in the literature. Each desirable state does not necessarily have an undesirable state as a polar opposite. The presence of an undesirable state (illness) implies the absence of a desirable state (health). However, the absence of an undesirable state does not necessarily imply the presence of a desirable one. One may not be characterized by self-hate and yet may not be fully self-accepting. A person may be asymptomatic without having fulfilled his or her potential for health.

In studies of adaptation to life crises, investigators typically equate a good outcome with the absence of physical symptoms and psychopathology. They usually fail to consider the possibility of a new and better level of adaptation that reflects personal growth rather than a return to the status quo (Schaefer & Moos, 1992, p. 149).

The way these issues are resolved has important implications for the definition of resilience and the other components of paradigms of resilience.

Should positive factors associated with the reduction of risk and vulnerability be considered as leading to optimal development and thus be considered as benefits to the growing child, or should one assume that they contribute primarily to adequate development, and should thus be seen as protective? One view would hold that the possible influence of positive and negative factors could affect development on a full continuum running from poor to adequate functioning. The other possibility is that positive and negative factors affect the organisms on a continuum ranging from poor to adequate functioning only but do not affect optimal functioning. (Greenbaum & Auerbach, 1992, p. 12)

4. *Is resilience to be defined in terms of the nature of the outcomes in response to stress or in terms of the factors which interact with stress to produce the outcomes?* Is resilience the valuation of good outcomes among individuals who are at risk for bad outcomes, or is resilience the qualities possessed by individuals that enable them to have good outcomes? Is resilience a phenomenon that moderates the influence of risk factors on more or less benign outcomes? Or is resilience the fact of having achieved benign outcomes in the face of adversity? In the latter case, resilience would be defined in terms of the presence of desirable outcomes and the absence of undesirable outcomes. In the former case, resilience would be defined in terms of the characteristics that moderate the effect of risk factors on benign outcomes and, less directly, the influences upon these factors.

Resilience is frequently defined in terms of the fact or process of approximating valued outcomes in the face of risk or adversity. Resilience refers to the fact of “maintaining adaptive functioning in spite of serious risk hazards” (Rutter, 1990, p. 209). Consistent with this definition, Lösel et al. (1989) state, “Our main interest is in resilient adolescents

who are (still) psychologically healthy despite high multiple exposure to stressful life events and circumstances” (p. 194).

Individuals are considered as vulnerable to particular negative outcomes or to the absence of positive outcomes by virtue of being at risk. Vulnerable individuals are those who turn out poorly, while invulnerable individuals turn out well (Seifer & Sameroff, 1987). As one team operationalized the concepts, children who are being reared in chaotic and threatening conditions by emotionally ill parents are labeled “invulnerable” or “resilient” if they have no psychiatric diagnoses, relate well to peers and to adult authorities in school and at home, have a positive self-concept, and are performing at grade level in school (Radke-Yarrow & Sherman, 1990). For Matsen (1994), resilience relates to “how effectiveness in the environment is achieved, sustained or recovered despite adversity” (p. 4).

Resilience, in addition to, or instead of, being defined in terms of the fact of having benign or less malignant outcomes in the face of life stress may be thought of as a general construct that reflects specific characteristics and the mechanisms through which they operate that moderate the relationships between risk factors and outcome variables. One construct that is the functional equivalent of resilience used in this sense is hardiness.

The implication that resilience reflects characteristics of the person or environment that influences (other) desirable outcomes is apparent in Cohler’s (1987) comments about the nature of resilience:

In sum, the children of psychiatrically ill parents who are better able to cope with the adversity of unreliable and often emotionally inaccessible caretakers have innate ego strength, creative abilities, and increased personal and physical attractiveness; these traits enable children to continue to reach out to others for support. . . . Finally, these children often have greater intelligence and come from families higher in social status; in turn, these qualities foster increased instrumental mastery and greater social skills. (p. 395)

In many instances it is difficult to determine which of the two definitions, resilience as outcomes versus resilience as influential quality, is intended by the researcher. Indeed, outcomes in one context may be treated plausibly as influences upon outcomes in another context (Schuldberg, 1993):

The same current indices can be viewed either as signs of positive adjustment or as protective or compensatory factors; in both cases the variables will predict future good outcomes. (pp. 139–140)

5. *What is the relationship between resilience and the experience of distressful life experiences?* Is a person said to be resilient because he or she bounces back from adversity? An affirmative response implies that a person cannot be resilient in the absence of pre-existing experiences of adversity. One has to suffer before the consequences of suffering can be assuaged. However, it might be asserted that individuals are resilient because they are capable of recovering from adversity even if they have not yet experienced adversity. Should they experience disvalued life experiences they most likely would recover. Indeed, the very experience of risk might be forestalled by the characteristics that make a person or system resilient.

The issue of the applicability of the concept of resilience to “well-functioning/low-risk individuals” has been raised by many researchers or clinicians. Richters and Weintraub (1990), for example, assert that for:

those who study the offspring of psychiatrically ill parents, the search for protective factors seems to stem from surprise at finding high-risk offspring who are doing well—so-called

resilient children. The personal and environmental factors that characterize them are assumed to be protective factors. Presumably, children of nondiagnosed parents who are coping as well do not deserve the resilient label, nor are the personal and environmental factors that characterize them labeled protective. Why, then, are these concepts deemed so necessary to explain well-functioning children of psychiatrically ill parents? (p. 78)

Anthony (1987, pp. 27–28) highlights the issue of potential resilient or vulnerable individuals by referring to “pseudovulnerables who are vulnerable or extremely vulnerable individuals who have been ‘blessed’ with an overprotective environment (particularly the maternal portion of it), and are relatively unchallenged and thriving until the environment fails, and they fail along with it.”

6. Where resilience is defined in relationship to the prior experience of distressful life experiences, the further question is raised as to *whether resilience is reflected in the ability to bounce back from adversity or is caused by adversity*. In the former case, a person’s resilience is manifest in the person’s ability to function adequately following adversity. The person’s ability to function was first disrupted by the adversity but was subsequently restored. In the latter case, the adversity challenged the person (or system) to find strength that might not otherwise have been discovered. The person is better off because of the adversity than if the adversity had not been experienced:

Life crises are viewed as constructive confrontations that spur development. Personal growth can be fostered by the disruption that crises generate and the subsequent reorganization that occurs in their wake. Stressors are a natural and potentially positive part of life; resilience develops from confronting stressful experiences and coping with them effectively. . . . The process of confronting these experiences can promote a cognitive differentiation, self-confidence, and a more mature approach to life. A person who experiences pain and loss may develop a deeper understanding and empathy for others with similar problems. Exposure to novel crisis situations may broaden a person’s perspective, promote new coping skills, and lead to new personal and social resources. (Schaefer & Moos, 1992, p. 150)

7. Where resiliency is defined in terms of outcomes, *should resiliency be defined in terms of some overall criterion or in terms of particular context-specific favorable outcomes?* Resilience is often defined in general terms of the forestalling of adverse developmental outcomes in the face of characteristics of the individual or the individual’s environment that would have led to the prediction of the adverse developmental outcome. However, except for this similarity, variation in the nature of the desirable or undesirable developmental outcomes has led to widely different definitions of resilience.

The subject may be manifesting resiliency according to one criterion, but not according to another. For example, Spencer and her associates (1993), conceptualizing resilience as adaptive coping, tested a model of risk and resilience to examine coping methods and competence outcomes as measured by academic performance and academic self-esteem. It is possible those individuals may be judged to be resilient by these criteria but not according to the criteria representing competence in other spheres (peer relations, family). The fact that individuals may vary in adjustment depending upon the domain under consideration has implications for the conceptualization of resilience. Luthar (1993) concludes:

The current evidence indicates, then, that notions of overall resilience are questions of utility. In future research, it would be more useful if discussions were presented in terms of specific domains of successful coping (e.g. academic resilience, social resilience or emotional resilience), along with those areas in which apparent survivors show high vulnerability. (p. 442)

Even within the same sphere of operation, judgments of resiliency can vary as outcome measures vary.

While a child may appear to be adapting positively within the school arena if outcome measures focus solely on cognitive abilities, the same child may manifest impaired social relationships. Unless multiple domains of development are assessed, only a partial picture of adaptation can be formulated. (Cicchetti & Garnezy, 1993, pp. 499–500)

Further, outcomes are ordinarily defined in terms of arbitrary normative judgments regarding appropriate intrapsychic and behavioral responses, taking into account culture, environmental circumstances, and stage of development. This is a major limitation of the utility of the construct since normative judgments are so variable. Bartelt (1994) offers the following example.

Several representatives of Hispanic community organizations have put the following question to me: If family income is lower for Puerto Rican communities, if the day-to-day needs of the household for additional economic resources are strongly present; and if there is a strong pro-family ideology within the community that is threatened by continued poverty; why should we not expect that our teenagers will seek to leave school and obtain full-time employment as soon as possible? In turn I must ask myself, isn't this a form of resilience as we have come to define it? How do we distinguish academic success as resilience from dropping out as resilience? (p. 103)

8. Where resilience is defined in terms of protective factors, *which general or specific protective factors are equated with resilience?* Where vulnerability is defined in terms of the protective factors or related phenomena that permit the approximation of desirable outcomes, a good deal of definitional variability can be observed. Variability in definition is observed because the causes of resiliency vary according to the causes of diverse outcomes.

Since the same factors may not cause one outcome as opposed to another outcome, factors which mitigate the effects of stressors on one outcome may be expected to be different from those that mitigate the effect of stressors on another outcome. The implication of this is that “differences across spheres of adjustment must be carefully appraised and discussions on resilience should be presented in terms of the specific spheres of successful (and less successful) adaptation” (Luthar, 1993, p. 442).

9. Where resilience is defined in terms of benign outcomes or responses to adversity, stress or risk factors, *how does it determine the nature of the factors that place an individual or system at risk?* The definitions of resilience that have reference to risk factors have been widely and justifiably criticized. There are not definite criteria by which a particular variable may be defined as a risk factor. Therefore, no clear criterion exists by which particular behaviors or outcomes may be defined as resilient. Judgment is always made after the fact and is based on the assignment of risk to particular conditions. Siefer and Sameroff (1987) also note:

There is currently no criterion by which a particular variable is determined to be a risk factor, a protective factor, or merely a measure that is related to the outcome in question.

This issue of defining “risk” might be a trivial matter, except for the fact that what determines vulnerability or invulnerability is dependent upon the initial determination of risk. To some extent, this is a logical dilemma. One could assume that any factor shown to affect child outcome adversely should be considered a risk factor. But then there would be no possibility of finding a set of measures that consistently differentiate vulnerables from invulnerables, since anything that differentiates children with good outcomes from those with poor outcomes would be considered a risk factor. (pp. 64–65)

Cicchetti and Garmezy (1993) observe the difficulty of distinguishing between the factors that indeed place the individual at risk, and factors that happen to distinguish between good and poor outcomes but have no causal significance. Frequently risk factors are stated in terms of marker variables rather than in terms of underlying constructs. Therefore, the assumption of being exposed to risk may be faulty. The individual may have been exposed to the marker variable but not to the underlying construct that is said to be represented by the marker variable. Thus, people may be labeled resilient even though they have not in fact been exposed to the situation considered to be a stressor.

CONCLUSION

Apparently, then, the idea of resilience has different meanings for different people, many of which are vague and contradictory. The absence of specificity is traceable to several issues, many of which were categorized and described briefly above. So daunting is the number of such issues that have been raised with regard to the concept that some researchers and clinicians despair of ever being able to resolve these various issues and offer a definition or, having offered a definition, to gain consensus on its usage.

Thus, these issues might be regarded as barriers to be overcome. The clinicians or researchers resolve each in turn by accepting one or another alternative. At the very least the concept is defined precisely and may be used in that way. The reader is enjoined to understand that the concept has precise meaning and the communication process is facilitated. One or another definition may gain currency for a while and ultimately (one may hope) some degree of consensus may be achieved, although (given the number of issues to be resolved) this is unlikely.

Alternatively, it might be argued that the concept of resilience is useful precisely because it instigates so many conceptual or theoretical issues. The word evokes so many rich intellectual issues regarding intrapsychic and interpersonal resilience-related processes that increased understanding of human or higher order systemic adaptive responses in all their ramifications must follow necessarily. Perhaps it is in serving this sensitizing function that "resilience" finds its *raison d'être*. When it ceases to serve this function, if it has not already done so, because of the several contradictions and ambiguities inherent in the concept, it may be necessary to move beyond the definition of the concept and conclude:

In sensitizing us to the need to understand the mutual effects of antecedents of more or less positive outcomes, the conditional nature of these effects, and the fact that proximal and conditional variables have their own causes, the concept of resilience has served an important function. The concept has also, more generally alerted us to the fact that we have an incomplete understanding of more or less desirable outcomes. The concept has alerted us to the fact that people who according to conventional wisdom should have experienced adverse outcomes, do not in fact experience them, and that people who should have experienced positive outcomes, given their personal and environmental characteristics do not in fact experience them. Having alerted us to these phenomena, however, resilience may have served its purpose and may be permitted to retire from the field gracefully and with honor. In place of this concept, we must now redirect our attention to creating theoretical structures that take into account individual, environmental, and situational factors that influence each other and interact with each other to influence other variables in different ways at different stages of the developmental cycle and of the evolution of social structures to affect outcomes, the evaluative significance of which is only incidental to the purpose of explaining the phenomena in question. (Kaplan, 1999, pp. 76–77)

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4

Resilience in Gene–Environment Transactions

Kirby Deater-Deckard, Linda Ivy, and Jessica Smith

Resilient children are not simply “born that way,” nor are they “made from scratch” by their experiences. Genetic and environmental factors loom large as protectors against a variety of risks to healthy development, ranging from resistance to bacteria and viruses to resistance to maltreatment and rejection. However, the old view that genes and environments compete for control of human development has been replaced by the view that genetic and environmental influences operate together to produce individual differences in development. The question is no longer whether and to what degree genes or environments matter, but how genes and environments work together to produce resilient children and adults.

Resilience in childhood is defined as typical development in the face of adverse circumstances that propel others to deleterious outcomes. The risks for minor or serious problems in mental and physical health are real, and for a segment of the human population, ever-present. Nearly every child faces occasional adversity, and many experience chronic stressors such as abuse, poverty, or disease. However, even within populations of children who experience powerful predictive risks for behavioral and emotional problems, there is a wide variation of outcomes. Some will succumb to the vicissitudes of life, but many will thrive in spite of them. Furthermore, most children and adults benefit later from prior exposure to stressors. Successfully adapting to difficult circumstances or limited personal resources promotes resilience, whereby the child is more able to cope with subsequent stress because she or he has acquired a wider variety of strategies (Holoohan, Moos, & Schaefer, 1996; Prior, 1999; Rutter, 1993).

Our goal is to highlight several areas of research that demonstrate the integrative interplay between nature and nurture, rather than review all of the evidence pertaining to genetic and environmental influences on individual differences in childhood. We begin by considering several aspects of individuality that are critical to resilience in childhood, with an emphasis on temperament, cognitive skills, and social cognitions. We then turn to

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consideration of the resilience-building transactions that connect the individual and the environment, with emphasis on warm, supportive social relationships (e.g., parents, peers).

NATURE AND NURTURE

Humans share a genome and live in environments that have many structural similarities. For numerous outcomes of interest to developmental scientists, the variation between people arises not from the presence or absence of genes or environments, but from functionally distinct *forms* of genes and environments. A variety of techniques are used to estimate the effects of these distinct forms on individual differences, based on quantitative and molecular biology models (Plomin, DeFries, McClearn, & McGuffin, 2001).

Molecular genetic techniques for the collection, storage, and analysis of DNA permit the examination of association and linkage between specific regions of chromosomes or specific genes and human variation in measured attributes. Using these molecular approaches, scientists identify the genes that are involved in complex phenotypes (i.e., observed characteristics)—a level of specificity not afforded by quantitative genetic techniques. *Quantitative genetic* techniques do not require DNA analysis, but instead rely on mathematical models based on population genetics to estimate the relative strength of genetic and environmental contributions to individual differences. These are based on data from quasiexperimental designs involving identical and fraternal twins, adoptive and non-adoptive siblings, adoptive and biological parent–child pairs, and stepfamily members. If family member similarity on a variable of interest is predicted by genetic similarity, then genetic variance or *heritability* is present. If family member similarity remains after genetic similarity is controlled, then *shared environmental* variance is present—shared environmental influences are the nongenetic effects that lead to family member similarity. *Nonshared environmental* variance is what remains—nongenetic influences that account for family member differences (Reiss, Neiderhiser, Hetherington, & Plomin, 2000). Nearly all of the genetically informative research on children’s development and outcomes has used the quantitative model, although this will change rapidly as molecular genetic techniques become less invasive and more affordable (Plomin & Rutter, 1998).

INDIVIDUAL DIFFERENCES AND RESILIENCE

Few of the specific genes involved in the complex gene-environment transactions in development have been identified, although significant progress is being made. There is ample quantitative genetic research (e.g., twin, adoption designs) that provides a basis for investigating the interplay between genes and environments. To exemplify this, we describe findings from research on temperament and cognitive factors—both of which are strongly implicated as protective factors in development.

Temperament and Personality

Temperament includes individual attributes that are defined as being moderately stable across situations and over time, are biologically influenced, and are observable from infancy. Individual differences in temperament arise from transactions between genetic and environmental influences, are mediated by brain mechanisms, are modified by experience

and situational factors, and change with development (Prior, 1999; Rothbart & Bates, 1998). Temperament forms the foundation of personality dimensions (e.g., neuroticism, conscientiousness, agreeableness) that have patterns of heritable and environmental variance that are similar to temperament and similarly implicated in the development of resilience (Costa, Somerfield, & McCrae, 1996; Matthews & Deary, 1998; Rothbart, Ahadi, & Evans, 2000).

Rothbart's theory (Rothbart & Bates, 1998) of temperament is particularly helpful as an organizing framework for considering connections between individual differences, resilience, and gene–environment transactions (other prominent theories include Buss and Plomin [1984], and Thomas and Chess [1977]). According to this theory, there are multiple dimensions of temperament that represent reactivity to stimuli and the regulation of those reactions.

The first dimension is *extraversion/surgency*, which includes sensation seeking, activity level, positive affect, low shyness, and enjoyment of anticipation. *Activity level* represents amount and pacing of physical movement. Between one third and three quarters of the variation in activity level is accounted for by genetic factors, with the remaining variance attributable to nonshared environment and error (Braungart, Plomin, DeFries, & Fulkner, 1992; Goldsmith, Buss, & Lemery, 1997; Oniszczenko et al., 2003; Plomin et al., 1988; Saudino & Eaton, 1995). A moderate activity level is optimal for resilience (e.g., Mendez, Fantuzzo, & Cicchetti, 2002). If too low, the child is sluggish and prone to weight gain, and if too high then the child is hyperactive and more difficult to manage. Surgency also includes *positive emotionality*, which shows genetic and nonshared environmental variance (Eid, Reimann, Angleitner, & Borkenau, 2003). Children who often experience and express positive moods (e.g., happiness, excitement, interest) are less likely to suffer the consequences of exposure to risk factors. Lengua (2002) found that positive emotionality predicted resilience in 8- to 10-year-olds, consistent with an earlier study by Masten et al. (1999), although this effect was limited to females in the earlier study.

Sociability and *approach* represent the extent to which a child seeks out and enjoys interacting with people and having new experiences. Heritability accounts for one fourth to three quarters of the variance, with some studies showing modest shared environmental variation (Eid et al., 2003; Plomin et al., 1988; Schmitz, 1994). In addition, one recent study implicates a serotonin gene in the development of shyness (Arbelle et al., 2003). Children who are higher in sociability may be more protected against stressors (e.g., Lösel & Bliesener, 1994), although they also may be at greater risk for problems in coping with family conflict (Tschann, Kaiser, Chesney, Alköh, & Boyce, 1996).

Negative affectivity includes sadness, anger, discomfort, and problems in soothing when upset. Genetic factors account for one third to two thirds of the variance in negative affectivity (Goldsmith et al., 1997; Oniszczenko et al., 2003; Plomin, Pedersen, McClearn, Nesselroade, & Bergeman, 1988). Consistent with studies of the personality trait neuroticism, children who are low in negative affectivity are less likely to show maladjustment in the face of difficult circumstances. For example, Kilmer, Cowen, and Wyman (2001) found that negative affectivity best discriminated resilient from maladjusted children in their study of highly stressed inner-city youth.

Effortful control includes enjoyment of low-intensity stimulation, greater perceptual sensitivity, and more control over impulses and attention. Children who are higher in effortful control show less negative affectivity, indicating an important connection between cognitive and attentional control and the regulation of negative emotions (Rothbart et al., 2000). Effortful control and its underlying attributes are heritable, and some include shared environmental components as well (Goldsmith et al., 1997). For task orientation and persistence, heritability estimates are moderate to substantial in early and middle childhood

(Braungart et al., 1992; Manke, Saudino, & Grant, 2001). Molecular genetic studies have identified the dopamine receptor gene D4 as being functionally involved in the regulation of attention (Fan, Fossella, Sommer, Wu, & Posner, 2003). In addition to genetic influence, a portion of the variation in task persistence arises from shared environmental effects that are predicted by household socioeconomic status (SES) and maternal warmth (Petrill & Deater-Deckard, 2004).

Effortful control is very likely important to resilience. People who are better able to regulate their attention and other cognitive processes show better cognitive performance (Petrill & Deater-Deckard, 2004). In addition, those who are better able to control cognitive and perceptual processing of information may also be better at regulating their emotions and behaviors so that they are less likely to develop psychopathologies that are associated with poor self-regulation (Posner & Rothbart, 2000). The ability to persist with tasks is a protective factor among at-risk youth, for a variety of outcomes (Lösel & Bliesener, 1994; Wills, Sandy, Yaeger & Shinar, 2001).

Finally, *adaptability/flexibility* is identified by some as a component of temperament—defined as an individual's ability to accommodate changes in the environment without becoming distracted or distressed. It is a component of “easy” temperament in studies that classify children into groups and has been linked to resilience in a number of studies (Hetherington, 1991; Lösel & Bliesener, 1994; Mendez et al., 2002; Tschann et al., 1996). Like other components of temperament, adaptability/flexibility is moderately to substantially heritable, with some data suggesting the presence of shared environmental variance as well (Oniszczenko et al., 2003; Rusalov & Biryukov, 1993).

In sum, good self-regulation helps children cope with stressful situations in more constructive ways. Persistence may help a child find appropriate coping strategies, which is very useful except in stressful situations that are beyond the control of the individual (in which case persistence may result in greater frustration). Adaptability may promote resilience by allowing the child to seek resources outside a problem situation. Positive emotionality may increase proactive efforts to deal with stress and can promote the belief that the efforts will be successful. Furthermore, children who are easy to manage (i.e., adaptable, self-regulated, happy) and who enjoy engaging in social interaction are more able to attract the care and attention of others who can assist them in coping with stressful situations. They may have “double protection,” both in terms of their temperaments and the qualities of their social relationships with caregivers and others (Prior, 1999; Smith & Prior, 1995). In contrast, children who are irritable, easily distressed by changes in the environment, and more distractible may be less able to cope with adversity and more likely to attract or elicit harsh and rejecting parenting—particularly if the parent is distressed (Hetherington, 1991).

Cognitive Factors

Cognitive factors are also important in resilience processes. Research in this area of developmental science also exemplifies some of the ways genes and environments work together in promoting optimal development under nonoptimal conditions.

Cognitive ability is a strong and consistent predictor of resilience in childhood and adolescence. Children who are more facile with information sources and strategies for solving problems not only are more likely to succeed academically, but have broader and more sophisticated repertoires of coping strategies at their disposal (Buckner, Mezzacappa, & Beardslee, 2003; Kumpfer, 1999; Masten et al., 1999). Intelligence and its component skills include moderate to substantial genetic variance that increases in magnitude with

development. Shared environmental variation is present in early childhood, but by adolescence this component of variance dissipates, so that all of the environmental variance becomes nonshared (McCartney, Harris, & Bernieri, 1990; Plomin et al., 2001).

Although cognitive processing skills and abilities are important, the content of children's cognitions also are critical to resilience—in particular, social cognitions about the self and control over things that threaten the integrity or safety of the self. *Self-efficacy* is the belief that goals can be accomplished, even when frustrations lie in the way. *Self-worth* or esteem stems from feeling valued by, and valuable to, other people. Anticipated outcomes are also important, with optimism defined as the anticipation of good outcomes, and pessimism defined as the anticipation of negative outcomes (Matthews, Schwan, Campbell, Saklofske, & Mohamed, 2000). These self-referent cognitions include moderate amounts of heritable and nonshared environmental variance, with some evidence of shared environmental influence in optimism and pessimism (Zuckerman, 2000). Twin and adoption studies of self-esteem in childhood yield heritability estimates in the 30 to 60% range, with the remaining variance accounted for by nonshared environmental variance (Kendler, Gardner, & Prescott, 1998; McGuire et al., 1999; Neiderhiser & McGuire, 1994; Neiss, Sedikides, & Stevenson, 2002).

The development of self-concept and self-worth begins early in life. After gaining awareness of our own distinct qualities, we begin comparing ourselves to others. These cognitions become an integral part of how we perceive ourselves and how we think others perceive us. If we believe that we are valuable to others and that we can control our circumstances, we are more adept at planning coping strategies as well as evaluating and changing strategies that are not working (Zimmerman, 2000). Thus, high self-esteem and self-efficacy are effective protection against deleterious effects of a wide variety of risk factors (Buckner et al., 2003; Kumpfer, 1999; Neiderhiser & McGuire, 1994). In addition, those who believe that the worst will happen are less likely to adapt well when difficult circumstances arise. In contrast, those who are optimistic are more able to save and use their resources when they need them and to be protected from subsequent stressors (Aspinwall, 2001).

In sum, there are a host of child attributes (including but not limited to temperament and personality, cognitive abilities, and self-referent social cognitions) that contribute to children's resilience. These attributes vary widely across children and emerge from the interplay between genetic and environmental influences. These studies point to the relative importance of nonshared environment (nongenetic factors that cause family member differentiation) over shared environment (nongenetic factors that cause family member similarity).

Although an essential first step, consideration of genetic and environmental *sources of variance* in these attributes provides little in the way of precise identification of mechanisms linking genes, environments, and children's resilience. On their own, these studies do not inform us about how it is that environmental protective influences, such as warm, supportive parenting, operate in conjunction with genetic risk and protective influences. We turn now to a consideration of some of these gene–environment transactions.

RESILIENCE AS PROCESS: GENE–ENVIRONMENT TRANSACTIONS

There are a host of environmental factors that contribute to resilience in the home, the neighborhood, the school, and beyond. We focus here on warm, supportive parenting, because this is a consistent predictor of resilience in a wide range of populations and types

of studies, and because parenting is the most frequently studied environmental domain in genetic studies of child development. Children who are at risk for developing behavioral and emotional problems are protected against those outcomes if their parents are sensitive and responsive, warm and accepting, and involved (Conger & Conger, 2002). These children are more likely to believe that others can be trusted, and that they are loved and accepted regardless of the difficulty of their circumstances. These are key to children's developing self-efficacy and social competence and to ameliorating the effects of risks to mental health (Rohner & Britner, 2000). These environmental factors operate in transactions with genetic influences. There are two types of gene–environment transactions: gene–environment interaction and gene–environment correlation.

Gene–Environment Interaction

Through *gene–environment interaction* (gxe), the effect of a gene or genes on an outcome is conditioned on or moderated by an environmental factor or factors, or vice versa. This definition of gene–environment interaction fits well with most current definitions of resilience. Accordingly, children who have genetic risks for maladaptive outcomes will show fewer and less severe symptoms if certain environmental factors are present that functionally reduce or eliminate altogether the genetic effect. Furthermore, children who have more environmental risks for disturbances in development will have fewer adjustment problems if they also have forms of particular genes that reduce or eliminate the environmental risk effect.

Recent findings from the Dunedin (New Zealand) Multidisciplinary Health and Development Study provide compelling examples of resilience as gxe. Individual differences in a gene involved in the production of monoamine oxidase A (MAOA) may interact with individual differences in maltreatment in childhood in the prediction of aggressive antisocial behavior in adulthood (Caspi et al., 2002). MAOA is an enzyme that metabolizes the neurotransmitter that contributes to the regulation of mood and behavior (including aggression). Among males with forms of the gene indicating sufficient production of MAOA, maltreatment was only modestly associated with subsequent antisocial behavior. In contrast, among those with forms of the gene indicating insufficient MAOA production, the effect of maltreatment on subsequent antisocial behavior was much stronger.

Individual differences in the forms of a gene that is involved in the production of serotonin may interact with the presence and amount of stressful life events in the prediction of subsequent depression (Caspi et al., 2003). Among those who have stressful experiences in their lives, individuals with two copies (one from each parent) of a particular form of the gene are least likely to develop symptoms of depression, compared to others who lack one or both copies of this particular form of the gene. Both examples demonstrate how genetic factors can protect individuals from psychopathology in the face of risks to development, such as abuse and stressful life events. Identifying specific gxe processes in resilience is of the utmost importance for genetics research in psychology.

Gene–Environment Correlation

Individual differences in resilience emerge from gene–environment interactions. However, these interactions do not arise as random transactions. Genetic and environmental factors can be correlated (*gene–environment correlation*, or r_{g-e}). Two general classes of gene–environment correlation have been described and identified in quantitative genetic

studies—passive and nonpassive forms (Plomin, 1994). Quantitative genetic models can be used to identify r_{g-e} , when variables representing the environmental factors of interest are incorporated into the statistical model that estimates genetic, shared environmental and nonshared environmental sources of variance in the outcomes of interest.

Passive r_{g-e} arises when a child is exposed to an environmental factor that a biological parent provides and that is correlated with their genotypes. Consider the example of the link between cognitive skills and achievement. Variation in these skills arise in part from genetic influences. At the same time, parents who value and enjoy experiences that challenge their minds are more likely to provide stimulating environments for their children that promote resilience (e.g., books, reading, challenging toys and puzzles). These parents are more likely to have children who have better cognitive skills and who succeed in school. The mechanisms linking stimulation in the home and child cognitive skills typically are tested using correlations in family studies of biologically related parents and children. However, because parents also are providing genes to their children, the enriched environment and genetic influences are confounded. What may appear to be environmental causation based on family studies may also arise from shared genes between parents and children (Petrill & Deater-Deckard, 2004).

Nonpassive r_{g-e} includes at least two mechanisms, including active and evocative (or reactive) effects. Active r_{g-e} is environment selection, whereby an individual is more likely to experience certain things as a result of selecting into specific environments that are most consistent with her or his own attributes. For example, children who are highly sociable and gregarious—behaviors that are genetically influenced and implicated in resilience—are more likely to seek out and reinforce interaction with other people, in contrast to shy or socially anxious children. Evocative r_{g-e} occurs when a child's genetically influenced attribute or behavior elicits a particular response from other people—a response that can then serve to reinforce that attribute or behavior. For example, children's genetically influenced externalizing behavior problems (e.g., aggression, conduct problems) tend to evoke harsh, critical responses including rejection and hostile treatment from parents and peers (Anderson, Lytton, & Romney, 1986; O'Connor, Deater-Decker, Fulker, Rutter, & Plomin, 1998).

If nonpassive r_{g-e} is present, it means that genetic influences on particular attributes such as sociability and aggression are further enhanced by reinforcement from correlated environmental influences. The implication is that for family studies in which genetic influences are not estimated or controlled, an environmental factor that may seem to be operating in one way may in fact be operating in quite another way. Consider the research on warm, supportive parenting, which has been identified as a robust protective factor for a number of developmental outcomes (Conger & Conger, 2002). Nearly all of the studies on parent–child warmth have examined parenting and child outcomes for only one parent–child dyad in the family. However, when a parent's relationships with her or his two children are examined (i.e., sibling differences), the warmth and acceptance in each parent–child dyad differs, sometimes markedly (Dunn, 1993).

Furthermore, maternal behavior that differs for siblings emerges in part as a result of evocative r_{g-e} . In our research, we have found that mothers' self-reports of warmth toward each of their children, as well as observers' ratings of maternal warm and responsive behavior (based on ratings from brief mother–child dyadic interactions), yield data that implicate evocative r_{g-e} . Identical twins experience very similar levels of maternal warmth and responsiveness from their mothers, whereas fraternal twins and nontwin full siblings experience moderately similar levels of maternal warmth. In contrast, genetically unrelated adoptive siblings are only modestly correlated in the maternal warm, supportive behavior

they experience. This evocative gene–environment correlation effect probably operates through genetic influences on children’s responsiveness to and social engagement with their mothers (Deater-Deckard & O’Connor, 2000).

It would not be appropriate to conclude that genes somehow trump experience because of these gene–environment correlation effects (e.g., Plomin, 1994; Rutter, 2002). First, if gene–environment interaction and correlation are present, the estimates of genetic variance in individual difference attributes are not pure estimates of genetic influence. Heritability estimates also include some of the gene–environment interaction and correlation variance as well. Heritable variance implicates genes, but does not rule out a causal role of environmental influences that are correlated and interacting with those genes’ effects. Second, because individual differences arise from gene–environment transactions, creating a change in children’s environments can alter the role of genes in developmental mechanisms. An attribute that appears to be heritable in one population in a particular region of the world and time in history may not be heritable in another population, region, or time. For example, one of the most consistent findings in quantitative genetics is the moderate heritability and nonshared environment (but little shared environment) in IQ scores. However, the heritability of IQ may dissipate and shared environment influences may be substantial when variation is examined in populations living in truly impoverished environments (Turkheimer, Haley, Waldron, D’Onofrio, & Gottesman, 2003).

Gene–environment transactions are not deterministic. For example, children with higher cognitive performance scores may seek and elicit more stimulation from caregivers and their physical environments, but experiments demonstrate that manipulating adults’ perceptions of children’s intellectual capacities causes improvements in children’s achievement outcomes (Rosenthal & Jacobson, 1968). Similarly, children who are more difficult to care for because their behavior distresses and annoys their parents (e.g., highly irritable, aggressive, oppositional) are more likely to elicit harsh parenting. However, evaluation of parenting interventions show that parents can be taught strategies for responding differently to their children’s aversive behaviors, which in turn promotes reductions in children’s emotional and behavioral problems (Deater-Deckard, 2004). Gene–environment transactions linking protective influences and children’s outcomes are flexible and can change when environments change.

Nonshared and Shared Environments

Quantitative genetic studies provide some of the clearest evidence of the causal role of environments in the development of individual differences—more so than family studies in which genetic influences are not estimated and controlled statistically (Plomin, 1994). Human attributes include genetic substrates as well as environmental influences that are often substantial in their effects. This is why so much of the variance in attributes is non-genetic, according to the quantitative genetic models. The fact that most of the environmental variance is nonshared means that these environmental influences differentiate family members, rather than making them more similar to one another.

Nonshared environmental influence is pervasive and its effects are often substantial. It is possible to identify nonshared environmental mechanisms using genetically informative designs (Reiss et al., 2000). Most of the prior work in this area has focused on sibling children’s differential experiences with their parents. This is exemplified in a recent study of same-sex 3-year-old twins (Deater-Deckard et al., 2001). Identical twin differences in mothers’ expressed warmth accounted for 6 to 25% of the identical twin difference in

behavior problems (e.g., aggression, noncompliance) and positive mood. The identical twin who received more maternal warmth was more compliant, less aggressive, and happier. This differential process could not be due to sibling differences in genes because in this design, the siblings are genetically identical. A few other studies have used this and other methods for identifying nonshared environment mechanisms. The effort is worthwhile, although these mechanisms will be difficult to find because nonshared environment also includes effects arising from measurement error and nonsystematic idiosyncratic experiences (Reiss et al., 2000; Turkheimer & Waldron, 2000). Though generally less prevalent than nonshared environment, shared environmental influences (i.e., those that create family member similarity) can also be elucidated using quantitative methods. For example, consider the link between child cognitive ability and maternal warmth (both of which are involved in the development of resilience). Cognitive ability includes moderate shared environmental variance in early childhood. In the same twin study described in the previous paragraph, a substantial proportion of the shared environmental variance in preschoolers' cognitive abilities was accounted for by maternal warmth and family socioeconomic status (Petrill & Deater-Deckard, 2004).

The predominance of nonshared environmental variance in the development of resilience has implications for how data on environmental protective mechanisms in the home are assessed and analyzed. With respect to measurement, more of the emphasis should be on child-specific environments within families, rather than on global measures of the home environment. For example, a researcher can focus on measuring a mother's control, warmth, and negativity with two or more of her children, rather than assessing the mother's behavior with one child in the family. Often, the same mother's feelings about and behaviors toward her two (or more) children will differ, depending on the child in question. The same can be said for a host of other environmental factors that typically are assessed at a level that does not capture the process for each individual child within each family. With respect to design and analysis, family studies should incorporate estimates of within-family variation (i.e., sibling differences and similarities) as well as between-family variation when possible. This permits tests of "candidate" nonshared environmental and gene–environment correlation mechanisms that can then be tested more rigorously using genetically informative designs.

CONCLUSION

In closing, we address some implications of the research on gene–environment interplay and resilience.

Resilience Is a Developmental Process

Rutter (1993) has emphasized a focus on risk or protective *mechanisms and processes*, rather than identifying risk and protective factors. The goal should be to test for processes in development, because risk and protective influences are not static. This may be particularly important when genetic influences are being considered, given that there is a tendency to view genes as being somehow fixed in their effects. The actions of genes, and their transactions with environments, occur at many levels (within and outside of cells) and in real time. Although the form of a gene within an individual may not change, its function and effects on the individual can, and this can depend entirely on changes in the function of other genes and changes in environments.

There are numerous and complex transactions operating—between genes and genes, environments and environments, and genes and environments. Humans are not closed systems; the environment and the genome change, sometimes randomly. The “story” describing a gene–environment process in resilience may depend on the population being studied and the environmental context in which that population exists. The success of future research on gene–environment transactions in human development will depend on the extent to which these developmental transactions between genes and environments are taken seriously in research design, assessment, and data analysis.

Your Risk Factor Is My Protective Factor

What may be protective in some contexts may have no effect or further increment-problematic outcomes in others (Rutter, 1993). For example, high levels of surgency can be adaptive in the face of adversity because extraverted individuals are more likely to have access to and to seek out social support from other people. However, surgent or approach characteristics predict social withdrawal when there is a high degree of conflict in the family (Tschann et al., 1996). Another example comes from studies of peer relations and antisocial behavior. For most children and adolescents in most social groups, having one or several stable close friendships predicts social competence and scholastic achievement. However, when the youths in question are antisocial and violent and their peer group consists of other antisocial children or teenagers (a common scenario in natural environments as well as treatment settings), those who are least embedded in their peer network and friendships show the most improvement in behavior over time (Bender & Loesol, 1997; Berndt, Hawkins, & Jiao, 1999). For a child or adolescent with conduct problems, finding a close, supportive friend can greatly reduce or increase her or his antisocial symptoms, depending on whether or not the friendship is formed and maintained because of a shared interest in breaking the law and mistreating others (Dishion, McCord, & Poulin, 1999).

That a genetic risk factor can also have protective effects, depending on the environment or context, is essentially required by evolutionary explanations for species change and adaptation. Genes that confer only deleterious effects are far more likely to drop in prevalence over time as affected individuals die before reproducing. However, genes that confer risks as well as protective influences are far more likely to remain over time because individuals with those genes are able to produce offspring who themselves reproduce. Sickle cell anemia illustrates this point. This is a single gene-recessive trait in which its presence leads to malformation of red blood cells, rendering them ineffective and prone to clotting. Individuals who have both copies of the trait gene (one from each parent) have a wide variety of physical maladies due to problems in circulation, and the disease is life-threatening. Those who have only one copy of the disease form of the gene are carriers and are mildly affected by comparison. Furthermore, they are protected against contracting malaria. This explains why the disease form of this gene is far more prevalent in areas of the world where malaria is a constant threat, such as West Africa. The very same disease-inducing form of this gene protects carriers from a common threat to health. If malaria were reduced or eradicated, carrier status would no longer confer a known protective effect in those regions of the world. The prevalence of the disease form of the gene would likely drop off, as has been happening in successive generations of African Americans (Connor & Ferguson-Smith, 1991). Thus, a genetic risk factor for a life-threatening and painful disease provides remarkable protection against a common external threat to health, but this protective effect becomes moot if the external biological threat is removed.

As specific gene–environment interactions are identified for psychological outcomes in childhood and beyond, we may see similar kinds of effects where the genes involved as protection against one outcome confer some risk for a different problematic outcome—but only under certain environmental conditions. This prediction does not sit well with definitions of resilience involving static deterministic protective factors. Rather, it is consistent with the idea that resilience is a dynamic developmental process.

The Environment of the Mind

The reality of resilience in development is thrust upon us when we find that within populations that apparently are homogeneous in terms of risk factors (e.g., poverty, family violence, low birthweight), children’s outcomes are anything but uniform. Considering, assessing, and testing for protective mechanisms using objective measures of the environment are essential, but only tells half of the story. The other half requires venturing into the environment of the child’s mind—her or his subjective reality. Although the research on resilience and self-concept and other self-relevant social cognitions (described above) is relevant to this end, what is needed are studies examining gene–environment transactions underlying children’s interpretations of their environments and experiences and how these subjective experiences influence developmental outcomes.

There has been renewed interest in the past several years in establishing robust empirical methods for assessing children’s subjective experiences, at younger and younger ages. These efforts are beginning to pay off. Several decades of research have established that children’s social information processing biases—in particular, the attributions that they make regarding others’ intentions and their evaluations of alternative responses to provocations in social situations—help explain why some at-risk children become more aggressive over time while others do not (Crick & Dodge, 1994). Results from more recent studies point to comparable and sometimes better predictive validity for children’s social cognitions when compared to parents’ reports of children’s rearing environments (Measelle, Ablow, Cowan, & Cowan, 1998).

There are several hints from theory and empirical data from genetic studies suggesting that the environment of the mind should be studied more often. First, in theory, all experiences in the objective sense are filtered through the brain via perceptual and cognitive mechanisms. Although there are species-typical brain pathways involved (e.g., visual systems feeding into memory systems), there are also individual differences in what it is that people attend to in their environments, what it is they store in memory and recall, and so forth. Theoretically, individual differences in information-processing biases or preferences are just as likely as variations in behaviors (e.g., temperament) to arise from gene–environment transactions. The work to test this idea needs to be done, and it requires social cognition experiments using genetically informative designs.

A second finding implicating subjective experience is that the majority of environmental variance in quantitative genetic studies is nonshared; it is possible that much of the nongenetic influence on developmental outcomes is idiosyncratic. It follows logically that these idiosyncratic experiences need not arise solely from differences in “actual” experiences in the objective sense, but also can arise from idiosyncratic subjective experiences that differ between two people who have had the same “actual” experience. This type of research remains largely unexplored and requires experiments using genetically informative designs. However, one line of research suggests that studies like this will lead to some promising findings. Several studies examining sibling children’s differential experiences

with the same parent (a likely source of nonshared environmental influence) show that this differential treatment is associated with problem behaviors in the less-favored child when he or she *perceives the situation as being unfair* (Kowal & Kramer, 1997; McHale, Updegraff, Jackson-Newson, Tucker, & Crouter, 2000). Within families in which one child is treated more punitively than another, some children view this as being fair because the differential treatment reflects parents' fair and appropriate responses to sibling differences in misbehavior (i.e., the less-favored child is getting what she or he deserves). In those families, the differential treatment does not appear to be associated with increases in problem behaviors in the less-favored child. In contrast, some children view differential treatment as unjust, and it is these children who are most likely to show behavioral and emotional problems as a result of differential treatment. A complete picture requires consideration of both the objective (differential treatment of siblings) and the subjective (children's perceptions of whether the differential treatment is fair or not).

A third finding that points to subjective factors is that individual differences in concurrent and retrospective self-reports of rearing environments show clear evidence of genetic influence. Siblings who are more similar genetically also report more similar child-rearing environments and experiences (Plomin, 1994). The most common interpretation of this finding is that active and evocative gene-environment correlations cause this effect, whereby siblings who are more similar genetically actually do have more similar experiences—and their self-reports reflect this reality. Another interpretation that has not been rigorously investigated is that there are genetically influenced information-processing mechanisms that lead to similarity in interpretations of experiences—even if the actual or objective experiences are distinct. Again, testing this idea will require experiments using genetic research designs.

In conclusion, resilience is a developmental process that involves individual differences in children's attributes (e.g., temperament, cognitive abilities) and environments (e.g., supportive parenting, learning enriched classrooms). The genetic and environmental influences underlying these individual differences are correlated, and they interact with each other to produce the variation we see between children and, over time, within children. Elucidating these gene-environment transactions will allow better prediction. At the same time, it is imperative that scientists and practitioners recognize that these gene-environment transactions are probabilistic in their effects, and the transactions and their effects can change with shifts in genes or environments.

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5

Sustaining and Reframing Vulnerability and Connection

Creating Genuine Resilience in Boys and Young Males

William S. Pollack

Although it may appear to represent an oxymoron within classical resiliency studies to argue that the more we can sustain and maintain (healthy) *vulnerability* in boys and young males the more resilient they will become and remain, that is precisely the argument of this chapter. Indeed it remains at the heart of the deconstruction of our classic model of stoic separation-based models for healthy boyhood for which the hope for genuine resiliency for young (and, for that matter older) males may lie (Pollack, 1995a, 1995b, 1998, 1999, 2000).

This chapter will show how, given our traditional socialization models for boys in Western industrialized countries and their increasingly failing outcome (see Pollack, 1998), classic models of resilience need to be modified, or at least viewed through a new, gender-specific lens in order to have their greatest applicability for young males in our society. When innovatively approached in this manner, the concept of *resilience* as a new hallmark of emotional well-being for boys and young males comes into significant focus.

Classic models of resiliency in children (and adults) define it as encompassing capacities to “bounce back from disappointments,” to “develop clear and realistic goals,” and so forth (Brooks & Goldstein, 2001). Although I take no issue with such concepts, and indeed find them central to emotional well-being and the capacity to deal with the pain life brings us all, at some point, they can too easily be misconstrued when applied to the surface expression of typical “boy behavior.” Then we are actually viewing *pseudoresilience* in males, which fools both adults and the children themselves into believing that what appears on the surface is health rather than what is actually an overly stoic facade or a mask for deeper, hidden pain. This psychologically subterranean process, when finally stripped away, gives an opportunity for intense emotional vulnerability to emerge and with it the capacity for genuine or “real” boy/male resilience to coalesce. In other words, given the data researchers have found about boys’ lives, the capacity to feel, experience, and be free to

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express *vulnerability within a context of connections* (especially to supportive adult caretakers) is the greatest strength for a truly resilient mind-set in boys and young males.

THE BURDENS OF THE “BOY CODE”

Traditional psychological models of strength and healthy development for boys have emphasized the development of autonomy, separation, and individualistic coping styles, especially enforcing premature separation from nurture and an early silencing of boys' genuine expression of interdependent, humanly vulnerable self or “voice”—often beginning as early as ages 3 to 5 (Pollack, 1995a, 1995b). Representing the values of the dominant Caucasian Euro-American culture, this creates a “boy code” (Pollack, 1998, 2000), which *shames* young males toward extremes of self-containment, toughness, stoicism, and separation. It is a pervasive socialization system that too often permeates traditional approaches to psychological assessments and treatment of young males. In turn, it shames our young males away from their emotional vulnerability, interdependence, and basic need for human *connection*, just when they need it most. This pervasive male-based socialization code creates what I have referred to as *gender straitjacketing*. Through an all too well-known series of “boy code” admonitions to young males (especially as they enter into organized settings of growth such as schools and sports at approximately the ages of 4 or 5) such as “Stand on your own two feet”; “Be a little man”; “Don’t be a mamma’s boy”; “Big boys don’t cry!”; “Don’t act like a sissy” . . . “a wimp” . . . “a fag!” we diminish the expression of their genuine emotional voices. By these standards, therefore, too many boys self-critically judge themselves (and are judged) as immature, undeveloped, or deficient in intellectual/emotional skills and as failing the impossible test of masculinity. Boys are shamed away from exhibiting their species-normative characteristics of vulnerability, and thereby *disconnected* from healthy relations with one another, with potentially supportive adults and from a full range of emotions within their own selves. Consequently, we need to promulgate and support new models that define what a “real boy” is, ones that include “mentoring,” a new sense of courage, and “heroism” that is connection-based and will allow young males to resist the demands of stereotypical and shaming gender stereotyping. This will bring boys back into connection with adult role models (of *both* genders) who emanate emotional flexibility, true friendship with other boys as well as girls, and the capacity to express vulnerability and pain, without fear of being shamed, connecting through “voices” deep within their souls. It is this new model that will eventually create a new perspective on genuine resilience in boys.

Yet what are the consequences presently experienced by boys as a result of these normative traumas of premature separation (Pollack, 1995a, 1995b) and disconnections from emotionally connected psychological nurture, as a means to fit in with the shame-induced code of boyhood?

Many boys today are in serious trouble, including those who seem “normal” and to be doing “just fine.” The question of boy resilience is not just one for at-risk youth, but is equally meaningful for the apparently adjusted (but silently suffering and resiliency-compromised) boys next door. Confused by society’s mixed messages about what is expected of them as boys, and later as men, pushed prematurely to separate from the bonded and connected love their “sisters” rely upon for psychological sustenance, many feel a sadness and disconnection they cannot even name. Research (Pollack, 1998, 1999, 2001) has begun to show that boys are faring less well in school than they did in the past,

and in comparison to girls, that many boys have remarkably fragile self-esteems and that the rates of both depression and suicide in boys are rapidly on the rise. Indeed many of our sons are currently in a desperate crisis, albeit at times a silent crisis.

The boys whom we love, much like the girls we cherish, frequently experience intense sadness, vulnerability, and a troubling sense of isolation, disconnection, and despair (Pollack, 1998, 1999, 2000). While many of our boys are in deep emotional pain, their suffering often remains difficult to detect, sometimes invisible. On the outside a boy may seem cheerful, playful, and resilient. But on the inside he may actually feel lonely, afraid, and desperate. Because of the pressure society places on our boys to act tough, follow a strict code of masculinity, and hide their emotions at all costs, it is often terribly hard for us to notice when boys are actually fairing poorly at school, when their friendships are not working out, when they are feeling depressed or even suicidal. We are too often fooled by the cheerfulness, the rambunctiousness, and the ruggedness boys project on the outside.

As a society, we have a unique set of expectations placed on boys that calls upon them to brave life's ups and downs independently (autonomously), stoically cover their pain, and above all, avoid doing anything that might *shame* either themselves or their parents. These rigid gender guidelines, or gender straitjackets as I call them, push many boys to repress their yearnings for love and connection, build an invisible, impenetrable wall of toughness around themselves, a "cool pose" (Majors & Billson, 1992), hidden by an emotional "mask" of masculine bravado or invulnerability, leaving them to experience a gamut of lonely, painful problems in isolation—problems that range from academic failure to drug abuse, from struggles with friends to clinical depression, from attention deficit disorder to suicide and murder. Behind their masks of pseudoinvulnerability and the drama of action, and the one full emotion they are "allowed" to express within the narrow bandwidth of developing masculinity, *Anger*, it is often hard to hear boys' stifled but genuine voices of pain and struggle, their yearning for connection. Indeed, the same kind of shame that silences girls from expressing their voice as adolescents takes a toll on boys at a much earlier age.

BOYS ARE FAILING

A new American "gender gap"—with boys at the bottom of the heap—is academic, attitudinal, and emotional. When eighth-grade students are asked about their futures, girls are *twice as likely* as boys to aspire to a career in management, the professions, or business. Boys experience more difficulty adjusting to school, are four to nine times more likely to suffer from "hyperactivity," and comprise 71% of all school suspensions. In fact, while girls have been making great strides toward closing the gap in math and science, boys have been severely lagging behind in the arenas of reading and writing—*skills essential in the capacity to express oneself without having to fall victim to endless bouts of action!* Indeed, from the ages of 15 to 24, young men are four times more likely to be the victim of a homicide than young women and five times more likely to kill themselves (to commit suicide). African American male youths are at such risk that some have suggested they are an "endangered species" (Conlin, 2003; Poe, 2004; Pollack, 1998).

Boys are now twice as likely as girls to be labeled as "learning disabled," constitute up to 67% of our special education classes, and in some school systems are up to 10 times more likely to be diagnosed with ADHD. Although the significant gaps in girls' achievement have all but caught up to boys, boys' scores on reading lag behind significantly and

continue to show little improvement. Recent studies highlight that boys self-esteem as learners is more fragile than girls, boys express less confidence in achieving higher education, are substantially more likely to endure disciplinary problems, be suspended, or drop out of school entirely.

This new gap with boys failing is paralleled by even more serious and life-threatening difficulties outside of school. Boys are killing themselves and others in record numbers. In the United States the fifth-leading cause of death for youths between the ages of 5 and 14 is suicide. It becomes the third-leading cause of death for teens and young adults between the ages of 15 and 24; and in this group boys are *four to six times* more likely to complete a suicide than girls. In fact, since the 1950s suicide rates for young males have nearly tripled and remain, even now, twice as high as the overall suicide rate of the United States. For African American boys and young men, the statistics are even more striking, with the rate of increase a staggering 165% over the past decade (Pollack, 1998).

When boys aren't taking their own lives they are killing others in record numbers. Homicide is the second-leading cause of death for young Americans aged 15–24 and the third for children aged 5–14. The lion's share of the killers as well as the victims are boys! Except for sexual assault every violent crime victimization rate was higher for males (than females) and highest for young males. Teenage African American males have the highest chance of being the victim of a violent crime, followed closely by white teenage males. In fact white teenage boys are almost twice as likely to be the victim of violence than are white girls of the same age, and the *homicide* rate for males is 400% higher than for females. The United States has the highest firearm-related homicide rate of any industrialized nation in the world; and in 1991 most homicide victims were male, between the ages of 15 and 44, with a large percentage of them under 24 (Pollack, 1998).

NEW VIEWS OF “NORMAL” BOYHOOD: TOWARD NEW MODELS OF RESILIENCY

Given the profound insights we are just beginning to uncover about the social and emotional struggles of today's girls (see Gilligan, 1982; Gilligan, Lyons, & Hanmer, 1990; Jordan, 1990, and Chapter 6 of this volume), it is striking how scant our research on boys has been over the past several decades. I believe that American society has not yet sufficiently studied the experience of boys and young men and thus has come to misunderstand how they truly feel and who they really are. In particular, we have developed what I believe is a set of outdated, inaccurate assumptions—*myths*—about the range of boys' emotional experience (which we tend to see as far more limited than it actually is) and the basic capacity boys have to be loving and empathic, qualities seen as essential to genuine resilience (Brooks & Goldstein, 2001).

In much of our current culture boys (and men) continue to be portrayed as biologically doomed by testosterone to be violent (“Boys will be boys”), limited in how they may healthily express normal masculinity (“Boys should be boys”), and as emotionally toxic, psychologically unaware, emotionally inept, physically dangerous creatures. Yet my own research and clinical experiences (1998, 1999, 2000) and those of numerous colleagues (Levant, 2001; Levant & Pollack, 1995; Pollack & Levant, 1998) have shown a far broader and more complex picture. Far from fulfilling the stereotype of the tough, unfeeling, toxic young male, the boys—in “male friendly” environments (research, treatment or societal/contextual)—often voiced profound feelings of sadness and fear, were concerned about the

quality of their relationships, and expressed the importance of having good male and female friends. Boys, I would respectfully suggest, are far more emotional and empathic than our cultural, research, or clinical stereotypes have lead most of us to believe. Their genuine resilience has also been compromised and trapped behind their masks of pseudo-independent stoic bravado, which has hidden their species-shared capacity for vulnerability, interdependence, and self-definition, which encompasses an integration of both an “I” and a “we” sense of self (Pollack, 1995a, 1995b).

Listening to Boys’ Voices

The Listening to Boys’ Voices project (carried out independently with staff from the Harvard Medical School) was designed as a qualitative/quantitative study aimed at empathically capturing the genuine inner emotional experience of boys—the *real boy* hidden behind the myths of boyhood culture. It was also focused on finding the *genuine resiliency factors*, which helped boys resist cultural pressures (Jordan, Chapter 6 of this volume) and stifle their full emotional selves. It has eventually encompassed multisite, cross-sectional investigations of the central themes in boys and adolescent males’ growth and development. Its first phase, which will be alluded to in this chapter, for support of my theses, utilized a sample of approximately 200 drawn primarily from the East Coast area—boys from preadolescent through high school senior years. Each boy completed a number of self-report measures, including scales to assess both his gender egalitarian values and his unconscious cathexis to traditional masculine ideology and self-definition. In addition, to better capture the relational struggles and inner conflict in boys’ lives, a select number of subjects received a face-to-face in-depth interview, covering such topics as emotional connection/disconnection to/from mother and father, heroes and mentors, friendships, romantic relationships, boy culture, emotional states, and conflict resolution. Selected TAT cards were also utilized and interviews with parents were also conducted separately (Pollack, 1998, 1999).

A SILENT CRISIS OF BOYHOOD FEAR AND SADNESS: IMPINGED RESILIENCE

This study substantially supported my hypothesis (Pollack, 1999) that many of our boys today are lost in a culture of boyhood that is still confusing to them and are mired in the unresolved gender struggles of our adult world. Specifically, boys are confused by the conflicted messages they receive about what it means to be “masculine” today—on the one hand they are encouraged to act in tough, conventionally “guy”-like ways (and get shamed, teased, and mistreated if they don’t do so), and on the other, they are reprimanded when they do not act “sensitive” or “caring” enough. The result of this double standard is that boys feel pushed toward silence and repression of any feelings that might be considered “feminine” such as sadness, disappointment, fear, guilt, or shame. To a large extent we, that is, society as a whole, have ignored the inner psychological struggles of our boys, confusing their reticence with self-confidence (a pseudoresilience), their playful exuberance with pathological hyperactivity, and their fear-driven male bravado as dangerous testosterone-driven aggression.

In the prior absence of empirical data and appropriate boy-specific psychological theory, we have substituted these and other gender myths for a complete and deep understanding

of the true nature of young males, of the boys whom we “know.” Indeed, I continued conducting this ongoing multiyear research project because, after years of working with adolescent boys and men in the clinical setting, I have realized that the time has come to study boys more closely and systematically from a modern perspective to gather the increasing corpus of empirical data required to disabuse ourselves, as a society, of old repressive rules about masculinity and the old myths about boys, and, as clinicians, to learn to *listen* to what today’s boys are genuinely saying about what life is *really* like for them and what those factors are that help them to thrive in the face of adversity (Pollack, 1998, 1999).

Obviously, the results of this study of “normal,” everyday boys were deeply disturbing (though more hopeful signs also emerged). The full results and statistical analyses are presented elsewhere (Pollack, 1999). It is reasonable, however, to frame the results, by commenting that they revealed that while boys on the surface appear to be doing “fine,” beneath the outward bravado—what I have called the “mask of masculinity”—many of the boys we presume from their outer demeanor to be doing just fine are, indeed, in developmental and emotional crises. As I will discuss in greater detail below, this initial phase of the study reflected that:

- boys feel deeply conflicted about what is expected of them as males in American society (i.e., about what behaviors and attitudes reflect healthy “masculinity”);
- as they grow older, the inner conflict that boys feel about masculinity exacerbates and they feel compelled to hide their confusion by acting more self-confident than they truly feel (a sense of false self-esteem, leading to increased sadness);
- boys have grave concerns about growing up to be men; they overwhelmingly see manhood as filled with unrewarding work, isolation from friends and family, unhappiness, and disappointment; and
- despite the outward appearance they often give of being cheerful and contented, many boys of all ages feel deep feelings of loneliness, alienation, and disconnection from adults.

In this sample, the boys evinced predominant subconscious feelings of anxiety, loneliness, and despair, which, as I have proposed in earlier research, are most probably manifestations of the trauma of early separation from mother and father (Pollack, 1995a, 1995b, 1998). Specifically, both in the picture story exercises and in the individual interviews, the majority of boys evidenced significant fears associated with becoming men, especially fears about excessive work-related obligations, separation from friends and family, and the general prospect of a sad, lonely, disconnected adult life.

Although hundreds of analyzed responses and their categorization are reported in the original research (Pollack, 1998, 1999), for our purposes of rethinking the need for a new view of resilience in young males, listen particularly to the voice of “Hamilton” in regard to what his view of a boy’s future as an adult male is.

This guy is sick of working, and he doesn’t want to deal with his job or family anymore. He is thinking about what his life would be like if he hadn’t married and how much it sucks to work all the time. He wishes he could leave and be by himself and have fun. But he’ll work for 25 more years, hate it and then retire. The kids will move out and he’ll realize his life was dull and boring. He’ll be old then and what will he have to show for all this? Not much.

A negligible number of the boys projected positive, forward-looking sentiment regarding their futures as men. Also, the results from the Beck Depression Inventory—while they

did not show an overall aberrant level of depression—reflected a correlation for increased sadness/depression among the large subgroup of boys who scored low on the Coopersmith Inventory, which measures self-esteem. An increasing depression score correlation was also shown in that large number of boys who, based on their response to questions included in Pleck's Male Role Attitude Scale, appeared to feel pressured to fulfill traditional rules relating to masculinity and male sexuality.

These findings about boys are unusual in the literature of research psychology of "normal" samples. I believe the boys in this study expressed painful feelings so intensely and pervasively because we used psychological inventories specifically designed to measure *subconscious* emotional states, states that boys' can avoid showing in social contexts. If questioned directly, especially in the presence of their peers, boys will tend *not* to express the feelings of sadness, fear, and isolation elicited in this study.

Because many boys feel ashamed of the painful feelings that surround premature emotional separation from their parents (and other adult "caretakers") and are often teased or mistreated if they openly express such dependency and vulnerability, many of them feel pressured to cover this shame and replace it with false displays of confidence and bravado. Indeed, my second hypothesis—that boys in this study might show covert expressions of low self-esteem and possibly achieve self-esteem scores correlated with depression—was also corroborated. Although, as expected, the boys did not show overall low scores on self-esteem, we found correlations not only between relatively low self-esteem scores and increased incidence of depression, but also between age and "false-positive" self-esteem, with the degree of false-positive responses increasing significantly in older boys. I strongly believe that as boys become older (and closer to manhood), they feel increasing confusion about who they are, whether they are sufficiently "masculine," and how well liked they are by their peers. Because these feelings increase in intensity and frequency during adolescence, older boys are more likely to project a personality that appears to be cheerful, confident, and forward-looking when, in reality, they may be feeling unhappy, uncertain, and afraid about the future. It is not that boys suffer decreasing self-esteem over time. Rather, it seems that the older they become, the more pressured they feel to *hide* their feelings of insecurity and vulnerability. Their "mask" hardens. Likewise, I also found that among older boys, the subgroup that endorses the idea that boys will "lose respect" if they talk about their problems significantly increases in size.

At the heart of boys' fears is their concern over masculinity. My hypothesis—that the boys in this study would express ambivalence about becoming men and about society's expectations of them as males—was also affirmed in several portions of the research I have conducted to date. By taking the unusual research step of simultaneously administering the King and King's Sex Role Egalitarianism Scale (SRES) and Pleck's Male Role Attitude Scale, I was able to show that many boys *simultaneously* endorse both egalitarian and traditional notions about men and masculinity. Today's boys, in other words, are being socialized not only to conform to conventional rules about masculinity and maleness, but are also expected to support "new" rules that enforce notions of equality between the sexes. I term this dual set of expectations as the "double standard of masculinity" since many of the boys in this study seemed confused about how to reconcile the conflicts inherent in these competing sets of rules and expectations. Indeed, the boys' scores on the two contrasting scales (on the SRES and Pleck Scale) increase as they get older and, as discussed above, correlations were shown between those boys who frequently endorsed traditional macho expectations about male sexuality on the Pleck Scale and those with higher depression scores (and therefore with lower self-esteem).

I believe it fair to conclude from our data (above and in Pollack, 1999) that as boys become older, they feel increasing social pressures they often cannot put into words. Specifically, just as they feel increasing pressure to acknowledge the social parity of girls and women, they also feel they must close off their emotions, stay silent, act tough and “cool,” and fulfill many other requirements of traditional masculinity. As the pressure and confusion escalate, boys begin to wonder about their true selves, fear the disapproval of others, and feel they must distort what they say and do in order to be perceived as strong, confident, and “masculine.” They also seem to grow increasingly anxious and concerned about what the future holds in store for them. The great majority of them associate the prospect of becoming a man with negative outcomes—being overworked, lonely, depressed, unloved. Sadly, rather than expressing their fears and unhappiness directly, most boys appear to harden themselves against these feelings. It is this hardening or “toughening up” that, I believe, leads to the increased number of older boys who suffer increased depression and feel they need to lie about their self-esteem.

What this study did not measure directly, and I believe is an important next step in research, is the extent to which parents, teachers, and psychologists are aware of the unhappiness, fears, and anxieties of so-called normal boys. I suspect that because of the way boys harden themselves and cover up feelings of pain and susceptibility, and because they might actually lie about how they are feeling and how they perceive themselves, many clinicians fail to hear these boys’ genuine voices and ascertain the full scope of their true feelings and thoughts. Much of the pain they may be feeling can go dangerously unnoticed, not only by society as a whole, but also by clinicians inevitably intertwined with these cultural schetomas about “normal” boys.

Boys must not give voice to their pain: they may say, as did Cam, a 16-year-old boy whose girlfriend didn’t love him anymore: “You just keep it inside, don’t tell anybody about it, feel sick inside, and then maybe after a while it just sort of goes away.”

“It must feel like such a terrible burden though, being so alone with it.”

“Yep, but that’s what a guy’s got to do, don’t he?”

Does he?

Or as Jason explained: “If something happens to you, you have to say, ‘Yeah, no big deal,’ even when you’re really hurting. When it’s a tragedy—like my friend’s father died—you can go up to a guy and give him a hug. But if its. . . (anything less), you have to punch things and brush it off. I’ve punched so many lockers in my life, its not even funny. When I get home, I’ll cry about it.”

Although I am not arguing that we can eliminate the pain from boyhood or from adolescence, I do think we can lessen it by giving boys the chance to voice it without being shamed. In the next phases of this research program, I will attempt an intervention phase of this study to measure what happens to boys’ psychological well-being when they are given the opportunity to connect with an empathic other, such as a friend, parent, teacher, or psychologist in “shame-free zones” with a model of what I have, with my colleagues, described elsewhere as “action talk” (Fein et al., 2002; Pollack, 1998, 2000, 2001, 2003). I believe it likely from other research in this arena (Resnick et al., 1997) that this chance for connection and for honest emotional expression will lead boys to feel greater self-confidence, a clear sense of self, diminished fear, and greater overall happiness, optimism, and personal success.

The private one-on-one interviews conducted with boys in this study provided initial data points consistent with this theory. By removing boys from the crucible of peer pressure, speaking to them openly and thoughtfully, and, above all, by listening to them

in a patient, nonjudgmental way, we were able to elicit voices reflecting the gentle, caring, loving sides of our study subjects. As emphasized earlier in this report, the boys spoke passionately about the importance of their relationships with girls and with other boys, how much they cared about maintaining these friendships, and the critical role their parents, grandparents, and, in some cases, older siblings played in mentoring them toward adulthood.

Curtis, a 16-year-old, raised almost exclusively by his divorced mother, named her as his foremost model and inspiration: “My mom is everything to me. She’s sacrificed so much so that I can go to good schools. She got me into art, which is what keeps me going, and what I hope will be my profession someday. She’s opened a lot of doors for me. All the opportunities I have now are because of her.”

The study found that underneath the “mask of masculinity”—underneath the bragging, shame-hardening, and puffed-up self-confidence—were *relational* boys, boys who worried a lot about the quality of their relationships with friends and families and who were eminently sensitive to the emotional needs of others. The study concluded that if we show our empathy to boys, boys will return it to us in abundance and join the ranks of “really” resilient adults.

NEW MODELS OF (YOUNG) MALE RESILIENCE

Indeed a portion of this study’s results allowed the boys to report on those aspects of their lives that allowed them to come out from behind the mask of false bravado, to reconnect with others and with a full range of feelings within. The boys themselves began to report the markers of a new, genuine, interdependent model of male resilience: one that “busted” the boy code, resisted societal pressures of pathological independence (false so-called self-sufficiency), and placed connection and the expression of vulnerable feelings at its center. Central components consisted of both same gender and cross-gender friendships, empathy and love (boy fashion), and adult/parent mentorship and connection.

Friendships

Though many boys stressed feelings of loneliness and disconnection, others emphasized the importance of having close friends, friends that “you can count on.” It seems clear that—just as seems to be true for girls—one’s social standing as a boy is very much affected by the quality and reliability of his friendships. When older boys (ages 15 and above) were asked what advice they would give to younger boys, over and over again (100% of the sample), these boys urged the younger generation of boys to “make special, trustworthy friends and hold onto them.” For example:

“Make some close friends early . . . because people toss things around about you, and if you have a good friend they won’t listen to that kind of thing. The friendships you have may be small in number but if they are good then they are strong.”

“Don’t let anyone push you around and stand up for yourself. Make a lot of friends.”

“Don’t waste time with people who aren’t worth it. You can’t be liked by everyone, so pick your friends wisely.”

“Make friends and *keep them*.”

“When you’re younger try to stay friends with different groups of kids. I think it’s really helped me getting through . . . finding out what people are really like, not labeling.”

“Don’t get caught up with the wrong people. Respect your friends; they’re what there is to fall back on. If you lose them you pretty much lose everything.”

In addition, more than 50% of the time, their advice to these younger boys was “*be yourself*,” in other words; don’t feel you need to force yourself into predetermined narrow roles, even by those you are close to. For instance:

“Go after what *you* want, don’t just try to be liked by everyone.”

“Explore all your options. Don’t just get stuck doing the one thing everyone thinks is cool. Got to keep your options open.”

Platonic Friendships with Girls

A well-kept secret of adolescent boys, revealed as a consistent theme in these interviews, is that some of their most important and trusted friends are *girls*. This does not appear to be preromantic activity (although some adults may mistake it as such) but rather solid friendship that appears to bring a sense of comfort and understanding to boys. For example:

“Some of my best friends are girls. They really listen. We talk all the time. . . . No sex stuff . . . more like a sister but even closer.”

“We both like to watch Kung Fu movies, so she comes over and watches them a lot. We like the same type of music. She is just one of the guys, basically.”

“With girls we do more like just talking and sharing about each other’s problems. We like comfort each other.”

“Over the past few years, I’ve developed friendships with girls. Girls give you a different point of view than a guy. They sometimes can be more sensitive with advice. When a guy gives you advice you get one half of the picture and when a girl gives you advice you get the other half of the picture. When you get advice from both sides you get the whole picture.”

Boy’s Empathy and Love

Boys were able to express a broad range of empathic caring and respectful feelings toward other boys, girls and adults. For example:

“I guess he’s just always there. We always have conversations together and tell each other stuff that we don’t tell other people. We’re close in that way.”

“He knows how I feel, without asking me. Then, he’ll try to cheer me up. We’re real close.”

“When my mom is down, it hurts. Sometimes I’ll try to kid her a little if her spirits are low. I owe my life to her; I want her to feel good.”

Boys showed themselves to be eminently caring and loving but more likely to utilize modes of doing or “action empathy” (Pollack, 1998, 2000, 2001) than merely words or directly expressed feelings. For example:

“We don’t say much, just play ball, but he really understands me. . . . He’s there for me.”

“I’d do anything for him. He’s my friend, That’s what it’s all about.”

“I pulled him out of the water quickly. It saved him. Why not, I love that guy—he’s my best friend.”

Family Mentors

When asked who they considered to be their most important mentors and heroes (male or female) in their lives and why they look up to these individuals, over 75% of the boys identified mothers, fathers, grandparents, or older siblings. As one boy commented: “My mother is everything to me.” Another explained: “My grandfather is my real hero. I only hope I can live up to his ideals.” The consistency in these responses, of course, underscores the tremendous extent to which boys value and rely upon close relationships with family.

Here there is excellent correspondent support for the genuine aspects of adolescent male resilience in the larger demographic studies of Resnick and colleagues (1997) at the University of Minnesota National Longitudinal Study on Adolescent Health. I believe it likely from their research in this arena that this chance for reconnection (especially with adult role models), and for honest emotional expression, will lead boys to feel greater self-confidence, a clear sense of self, diminished fear, and greater overall happiness, optimism, and personal success.

Culled from a basic national survey of close to 100,000 adolescents from grades seven through 12, Resnick and his colleagues (1997) found that what affected adolescent behaviors most was social contexts, but, again, not merely with peers, but most especially the family (and connection to adults in school environments, who served in loco parentis) and its function of providing caring adult relationships in a sustaining context. According to the study, “parent–family connectedness” dramatically influences the level of emotional distress adolescents suffer, their level of depression and suicidality, how much they abuse drugs and alcohol, and even to some extent how involved in violence they may become. The study also showed other important factors that affect these behaviors, such as whether an adolescent’s parents are present during key periods of the day or whether the child’s parents have high or low expectations of the child’s academic performance. But these factors paled in significance to the connection factor. Such connection, according to the study, involves “closeness to mother and/or father” and a sense of caring emanating from them, as well as “feeling loved and wanted by family members.” Indeed, if one parenting figure was positively present, within the family adolescents had two times the “protective” factors to sustain their health and well-being. If the children felt “love” or affection from these parents, the protective factor rose to four times. If they felt connected to an adult in the school environment who listened to their troubles, again another fourfold rise in protectiveness. And Resnick’s protectiveness factor is really a measure of genuine resiliency!

Indeed new perspectives on the “nature–nurture debate” also support the hypothesis that boys just like girls require connected relational contexts to “absorb” the loving qualities of their caretakers into a resilient sense of self. Indeed modern neuroscience has shown that the distinction between nature and nurture is a false one, with our supportive “holding” environments of childrearing stimulating the biological proclivities inherent in boys’ biological predispositions, which are “hard-wired to connect.” It is that loving, nurturing connection, that we adults must provide for boys, to support the biological underpinnings of this new model of male resilience.

Bruce Perry (as cited in Pollack, 1998, p. 57), a foremost neuroscientist in this arena has opined: “a child’s capacity to think, to laugh, to love, to hate, to speak—all of it is a product of *interaction with the environment*. Sensory experiences such as touching . . . literally stimulate activity in the brain and the growth of neural structures” (emphasis added). Alan Schore (as cited in Carey, 2003), at UCLA, places the central needs of developing children (read here as boys) within this context of emotional connection, which I

believe adults must provide and which boys require for their health and resilience:

The idea is that we are born to form attachments, that our brains are physically wired to develop in tandem with another's, through emotional communication, before words are spoken. If things go awry, you're going to see the seeds of psychological problems, of difficulty coping, stress in human relations, substance abuse . . . later on.

Schore is willing to go even further in stressing that no matter what the biological proclivities or temperamental differences, caretakers in caring support systems not only affect personality, but also do so through direct impact upon neural development. Attachments formed within the matrix of a supportive adult context affect young boys as people, via their developing brain structure: "the self organization of the developing brain occurs within the context of a relationship with another self, another brain. This relational context can be growth-facilitating or growth inhibiting, and so it imprints into the developing right brain either a resilience against or a vulnerability to forming later psychiatric disorders" (Schore, 2003, p. xv).

CONCLUSION

When we are able to dismantle the "mask" of false bravado and pseudoresilience in boys through empathic connections, especially with adults who understand, we begin to *make a difference* for our next generation. When we debunk a separation model for normal boy mental health, when feelings of love and vulnerability can be expressed without fear of ridicule or shame due to positive emotional connections, when peers can be real friends not just competitors, boys' genuine resilience can shine through. If we listen to and heed their voices, a new model of male resilience emerges and boys are freed from their emotional straitjackets of stoic removal, busting the "boy code," returning into the interdependent world of healthy relationships. It is what they most yearn for; what we must provide. And the time is now.

To end on the spiritual note of reclaiming the heart and soul of boys in order to sustain their resilient selves, we might hearken to the biblical sage of the first century BCE, Hillel, who spoke of the balance between the needs of self and other, which boys require to be truly resilient, and the existential moment we cannot afford to miss. Hillel taught: "If I am not for myself, who will be for me? But if I am for myself alone, then what am I? If not now, then when? Indeed in moving toward a new, more genuine model of resilience for boys and men, if not now, then when?"

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6

Relational Resilience in Girls

Judith V. Jordan

This chapter, mainly theoretical in orientation, also reviews recent research on resilience and gender. The theoretical orientation represented here is known as *relational-cultural theory* (RCT). At the core of this work is the belief that all psychological growth occurs in relationships, and that movement out of relationship (chronic disconnection) into isolation constitutes the source of much psychological suffering. Moving away from a “separate self” model of development, RCT also suggests that resilience resides not in the individual but in the capacity for connection. A model of relational resilience is presented. Mutual empathy, empowerment, and the development of courage are the building blocks of this resilience. Although this chapter seeks to explicate the importance of relational resilience for girls, it also suggests that growth-fostering connections are the source of resilience for both boys and girls.

Resilience is traditionally defined as the ability to “bounce back” from adversity, to manage stress effectively, and to withstand physical or psychological pressures without showing major debilitation or dysfunction (Brooks & Goldstein, 2001; Hartling, 2003; Jordan & Hartling, 2002). Often resilience is described as: (1) good outcomes in high-risk children; (2) sustained competence in children under stress; and (3) recovery from trauma (Hartling, 2003; Masten, Best, & Garnezy, 1990). In these models resilience is most often seen as residing within the individual in such traits as temperament (Rutter, 1978, 1989, 1990), hardiness (Kobasa, 1978), or self-esteem (Burnett & Demnar, 1996; Schwalbe & Staples, 1991). Temperament and hardiness are usually depicted as involving innate physiological variables. It is noteworthy that the hardiness research that emphasized commitment and control, however, was conducted on white, male, middle-to upper-class business executives and then generalized to all people (Hartling, 2003). Contrary to these findings, Sparks (1999) described relational practices rather than internal traits as contributing to the resilience of African American mothers on welfare. Internal locus of control is an individual characteristic, which has also been associated with resilience (Masten et al., 1990). “Children who take responsibility for their own successes and failures are said to have an internal locus of control” (Roediger, Capaldi, Paris, & Polivy, 1991, p. 352).

Rarely are the effects of gender or context on resilience noted. Issues of control and power are decontextualized; in particular there is a failure to recognize realities of racism, sexism, and heterosexism or other forces of discrimination and social bias that render certain people powerless and realistically lacking control. A contextual approach might reconsider the concept of internal sense of control, examining a person's engagement in mutually empathic and responsive relationships as the more likely source of resilience. Although social support is often cited in studies of resilience, it is typically studied as a unidirectional process in which one person is supported by another (Spiegel, 1991). The tradition in Western psychology of studying individual traits and internal characteristics exists within a paradigm of "separate self." Separation is seen as primary and relatedness as secondary. What is inside the individual, such as traits or intrapsychic structure, is seen as fundamentally determining an individual's well-being and psychological adjustment. There are now studies and models of development that question this separate self bias (Jordan, Kaplan, Miller, Stiver, & Surrey, 1991).

A study of 12,000 adolescents suggested that the single best predictor of resistance to high-risk behaviors (violence, substance abuse, and suicide) is "having a good relationship" with one adult, such as a teacher, parent, or mentor (Resnick et al., 1997; Resnick, Harris, & Blum, 1993). Connections "fortify" kids. I would suggest that growth-fostering connection is at the core of the notion of resilience; I would also like to address the additional factor of *resistance*, which points to the importance of contextual factors in resilience. By resistance I refer to the capacity to resist the destructive and disempowering messages regarding gender, race, and sexual orientation coming from many sources such as immediate familial context and/or larger societal controlling images (Collins, 2000). Although resistance is not always included in the concept of resilience, for a member of any marginalized group (i.e., nondominant, less powerful groups such as girls, people of color, and homosexuals) the capacity to develop resistance to the distorting and hurtful influences impinging on them as a function of their marginality (and also contributing to their marginality) is essential. In RCT the primary indicator of psychological development is an increasing capacity for significant and meaningful connection with others (Miller & Stiver, 1998). Relationships are at the heart of growth, healthy resistance, and resilience. The societal or cultural context largely determines the kinds of relationships that are likely to occur for anybody, and these determine one's capacity to respond to stress.

GENDER

Most models of child development are framed by the notion of growth toward autonomy and separation. The cultural mandate and myth is one of "standing alone," the lone ranger, the lone hero, the fully individuated person who is independent, separate, and autonomous. Resilience then is viewed as an internal trait or set of traits, the lone resilient individual recovering from the impingements of an adverse environment. The job of socialization in this model is to bring the dependent child into a place of separate, independent adulthood. These standards apply to all children, but especially to boys.

As Bill Pollack (1998) notes, the "boy code" pushes boys toward extremes of self-containment, toughness, and separation. Men are encouraged to dread or deny feeling weak or helpless. Shame-based socialization for boys directs them toward being strong in dominant-defined ways: unyielding, not showing vulnerability, and displaying a narrow range of affect (i.e., anger). The standards for maturity involve being independent, self-reliant,

and autonomous. Yet these hallmarks of successful maturity and “strength” are generally unattainable since we are ultimately interdependent beings. These hyperindividualistic standards then create stress, shame, and enormous pain for all who are affected by them. Furthermore, the importance of connection with others is omitted in these models. Context and socially defined identity issues such as race and gender clearly impact resilience and yet they, too, are overlooked.

With regard to some unexamined gender issues, Seligman’s concept of “learned helplessness” is seen as contributing to poor outcome (poor psychological health), and optimism is seen as leading to resilience and good outcome (Seligman, 1990). Yet gender can play a crucial role in the development of pessimistic or optimistic coping strategies (Dweck & Goetz, 1978). Girls’ expectations of future performance are affected more by past or present failures than by successes (Dweck & Reppucci, 1973). Girls attribute failure to internal factors and success to chance or external factors, while boys tend to attribute failure to external factors and success to internal factors. Girls blame themselves far more than boys do and take less credit for success. Studies have shown that freedom from self-denigration is a powerful protector against stress-related debilitation (Peterson, Schwarz, & Seligman, 1981). Self-denigration is seen as contributing to poor self-esteem, which in turn is thought to contribute negatively to resilience (Dumont & Provost, 1999). Self-esteem tends to be thought of as a core, internal trait. But self-esteem is a complicated concept; it has been constructed in Western cultures based on a separate-self, hyperindividualistic model of development (Jordan, 1994). One “possesses” self-esteem, and, in a competitive culture, comparisons with others (better or worse than) are often at the core of self-esteem. As Harter (1993) notes, “how one measures up to one’s peers, to societal standards, becomes the filter through which judgments about the self pass” (p. 94). Groups that are “outside” the dominant definitions of merit, who may have differing standards of worth, are thus disadvantaged by these privileged standards (e.g., being emotionally responsive and expressive in a culture that overvalues the rational or being relational in a culture that celebrates autonomy). Yvonne Jenkins (1993) has suggested that we think in terms of *social esteem*, which implies a group-related identity that values interdependence, affiliation, and collaterality. Social esteem, then, may be more relevant to psychological well-being than self-esteem, particularly in more communal cultures and subcultures. Feeling good about oneself depends a lot on how one is treated by others and whether one can be authentic and seen and heard in relationships with important others.

Data suggest that girls are more depressed and self-critical in adolescence than boys. “For girls to remain responsive to themselves they must resist the convention of female goodness; to remain responsive to others, they must resist the values placed on self sufficiency and independence in North American culture” (Gilligan, 1990, p. 503). Girls lose connection with themselves and authentic connection with others during this period. Researchers have noticed that women’s coping styles are more relational (i.e., talking about personal distress with friends, sharing sadness) (Lazarus & Folkman, 1984). Men’s styles are more problem-focused or instrumental, taking action to solve the problem and seeking new strategies. Emotion-focused coping can be more adaptive in situations where one has little real control, and problem-focused coping is more useful where one can realistically expect to effect change. Those with less power and less real control (members of nondominant and marginalized groups) can develop more relational or “externalizing” ways of coping.

One of the core ideas of traditional Western psychology is the notion of “fight or flight” in the face of stress. This knowledge has been passed along for generations and is quite relevant to the way we understand resilience. Prevailing studies have consistently

suggested that when we are stressed we either mobilize aggressive, self-protective defenses (fight) or we flee (run away and avoid the possible confrontation with our own vulnerability). But a recent analysis by Shelly Taylor and her colleagues (2000, 2002) points out that all the studies on “fight or flight” were completed with males (i.e., male albino rats and monkeys, men, etc.). In replicating some of these experiments with females, Taylor noted a very different response to stress, which she and her colleagues called the “tend-and-befriend” response. In times of stress they noted females engage in caretaking activities or in the creation of a network of associations to protect themselves and others from a threat. Women respond relationally to stress; they seek connection. Belle (1987) has also noted that women are more likely to mobilize social support in times of stress and turn to female friends more often than males. These data suggest it is imperative that we attend to social identity issues, particularly gender, when we seek to understand resilience.

RELATIONAL RESILIENCE

Theorists at the Stone Center at Wellesley College have created a relational model of development and resilience. The model was originally developed by listening to women’s voices and studying women’s lives, but it is increasingly seen as applicable to men as well. Most developmental and clinical models have been biased in the direction of overemphasizing separateness, particularly the *separate self*. This RCT model posits that we grow through and toward connection; that a desire to participate in growth-fostering relationship is the core motivation in life (Jordan, 1997; Jordan et al., 1991; Miller & Stiver, 1997; Spencer, 2000). Growth-fostering connections are characterized by mutual empathy and mutual empowerment and produce the following outcomes: zest, a sense of worth, productivity, clarity, and a desire for more connection (Miller & Stiver, 1997). All relationships arise within particular contexts and the socioeconomic/cultural context powerfully shapes the connections and disconnections that exist in people’s lives. Isolation is viewed as the primary source of pain and suffering. In a stratified society difference is always subject to distortions of power (Walker, 2002). When one group is dominant and possesses the power to define what is valuable, the less-powerful group is left having to “fit in,” to “make do” with rules of conduct and behavior that may not represent their experiences. Thus, Jean Baker Miller, (1986) once said, “authenticity and subordination are totally incompatible” (p. 98). In order to enjoy full authentic and growth-fostering interaction one cannot be in a position of subordination. The role of power is to silence difference, limit authenticity, and to define merit.

RCT proposes we think of “relational resilience” as the capacity to move back into growth-fostering connections following an acute disconnection or in times of stress (Jordan, 1992). RCT suggests that relationships that enhance resilience and encourage growth are characterized by a two-way experience of connection, involving mutual empathy, mutual empowerment, and movement toward mutuality. For instance, we would suggest that real courage, real growth, and real strength all occur in a relational context, not in a state of isolation or independent assertion. In short, resilience is not an internal trait. The dominant North American culture does not support the notion of interdependence among people. Yet there is an inevitable human need to turn to others for feedback, both appreciative and corrective, and to provide support to others as we make meaning of our lives. We all need to be responded to by others throughout our lives. This is different from one person needing support or approval from another person; we need to engage with others and to be

engaged with and participate in relationships that create growth for each person involved. It is about mutuality.

What is needed is a relational model of resilience, which includes a notion of: (1) supported vulnerability; (2) mutual empathic involvement; (3) relational confidence or the ability to build relationships that one can count on; (4) empowerment that involves encouraging mutual growth; and (5) creating relational awareness alongside personal awareness. Relational resilience emphasizes strengthening relationships rather than increasing an individual's strength (Hartling, 2003). In this model the ability to ask for help is reframed as a strength. When we are stressed, personal vulnerability increases. Finding a way to tolerate vulnerability and turn toward others is a significant sign of resilience. When we turn away from others and move toward isolation, we are likely to become more inflexible, getting stuck in dysfunctional patterns. In order to reach out for support, we must have some reason to believe that a dependable, mutual relationship is possible in which putting oneself in a more vulnerable position does not pose a danger. A part of relational resilience, then, involves discerning the growth-fostering potential of a particular interaction or relationship.

Relational resilience involves movement toward mutually empowering, growth-fostering connections in the face of adverse conditions, traumatic experiences, and alienating social-cultural pressures. It is the ability to connect, reconnect, and/or resist disconnection. Characteristics such as temperament, intellectual development, self-esteem, locus of control, and mastery can be reframed from a relational perspective. The most important contribution of temperament to resilience can be the means by which a child is placed at risk or protected in terms of relational consequences. For instance, a hard-to-soothe child can contribute to a sense of helplessness and frustration in the parent, which could lead to avoidance or neglect. Similarly "intellectual development," which is typically thought of as an internal trait largely deriving from genetic loading, is now understood as formed to a great extent in relational contexts. Daniel Siegel (1999) notes that interpersonal relationships are the primary source of experience that shape how the brain develops. He states, "Human connections create neuronal connections" (p. 85).

Self-esteem can also be thought of in a more contextual way by examining what Jordan (1999) has called *relational confidence*. Thus, rather than emphasizing "the self" and its esteem, we suggest that one's capacity to develop growth-fostering relationships, which engender confidence in our connections with others, might be a more important variable for study than some supposed internal trait of self-esteem. Similarly, internal locus of control, defined as a source of resilience, might be understood better when we take context into account. In a culture that so values control and certainty, one can understand why this might be seen as central. But studies have indicated that locus of control is influenced by cultural context and the realistic power that a group exercises in their culture. Locus of control can be seen as the ability to influence one's experience, environment, or relationships (Hartling, 2003).

Social support has also been viewed as vital to resilience; it has been defined as emotional concern, instrumental aid, information, and appraisal. Most social support studies have emphasized one-way support, *getting* love, *getting* help. A relational perspective points to the importance of engaging in a relationship that contributes to all people in the relationship. The power of social support is more about *mutuality* than about *getting for the self*. But the mutuality is often obscured in the ways social support is construed; this appears to be true of the 12-step programs, misleadingly called *self-help groups* when in actuality they are about *mutual help* and growth. In other words, we all have a need to be

appreciated, valued, validated, and given to, but we also have a need to participate in the development of others.

MUTUALITY

At the core of relational resilience is the movement toward mutuality. The social support literature points to the importance of being given to and receiving support from others (Ganellen & Blaney, 1984; Spiegel, 1991). But recently research has uncovered the importance of “giving” to others (Luks, 1992). The research community has moved into the study of altruism as a way of understanding the benefits of giving to others. RCT would suggest that it is actually *mutually* growth-fostering relationships that create the beneficial effects for individuals, not a trait such as altruism. That is, there is a need to give, to matter, to make a difference; we find meaning in contributing to the well-being of others (Jordan et al., 1991). But we also need to feel cared-for, given to, and treated with respect. We need to feel that we matter, that we can have an impact on the other person and on the relationship. Imbalances in mutuality are the source of pain for many people. And when we feel “outside” mutual connection, we often experience isolation. To give to others in a situation where we are not being respected, responded to, and appreciated in the long run can lead to demoralization, a drop in resilience. It is not that we need to be “thanked” or valorized for our giving. We must feel that we are part of a respectful, mutual system. Mutual empathy holds the key to what we mean by mutuality. It is important to see that we have had an impact on another; we know, feel, see that we have made a difference. Mutual empathy is not about reciprocal, back and forth empathizing, although that happens in growth-fostering relationships as well. Mutual empathy is the process in which each person empathizes with the other in mutual growth; I see that I have moved you and you see that you have moved me. We matter to each other, we reach each other, we have an effect on each other. We can produce change in each other and in the relationship. This ultimately brings about a sense of relational competence. It brings us into the warmth of the human community where real resilience resides. And it contributes to the development of community, the ultimate source of resilience for all people.

The literature on competence motivation addresses the intrinsic need to produce an effect on our environment (White, 1959); the usual research looks at the way a child manipulates the physical world and how that enhances a child’s sense of competence (“I made this happen”). Although there is no doubt that physical ability and task competence serve to increase one’s sense of efficacy and worth, it is clear that an equally, if not more important source of competence is in the world of interpersonal effectiveness, being able to evoke a sought-for response in another person.

Let us take the example of a child and parent where the child is not understood, heard, or responded to. There can be an empathic failure and the child attempts to represent her hurt to the parent. If the parent responds and lets the child see that it matters to the parent that she has hurt the child, that she is affected by the impact (in this case hurtful) that she has on the child, and the parent communicates this to the child, the relationship is strengthened and the child’s sense of relational competence is strengthened. The child feels seen, heard, and cared about; she feels she matters, her feelings matter. If on the other hand, the parent does not respond to the child’s pain with empathy or caring, but denies the child’s feelings or attacks the child in some way or simply does not respond at all (neglect), the child will experience a sense of not mattering, of having no impact on the other person or

on the relationship. She will begin to keep these aspects of herself out of relationships and will move into isolation and inauthenticity. When this happens repeatedly, the child moves into chronic disconnection. She develops strategies of disconnection for survival. In the most egregious cases of chronic disconnection and violation, such as physical or sexual abuse of a child, these strategies of disconnection lead to a massive sense of isolation, immobilization, self-blame, and shame, what Jean Baker Miller calls “condemned isolation” (Miller & Stiver, 1997). This state of condemned isolation is a state of minimal resilience. The person maintains rigid and overgeneralized relational images that maintain isolation and mistrust of others. The person is not free to move back into connection following current disappointments and disconnection. New learning and growth is blocked or limited. The biochemistry can also be altered in such a way so that dissociation, amygdala reactivity, and startle responses interfere with reestablishing connection (Banks, 2000).

SHAME

Often disconnections occur in a climate of shame. Shame moves people into isolation and thus disempowers and immobilizes people. Shame is the experience of feeling unworthy of love, of feeling outside the human community (Jordan, 1989). In shame one doubts that another person can be empathically present. One feels that one’s very being is flawed in some essential way. While in guilt we can hope to make amends, in shame we anticipate only rejection and scorn. Our very “being” feels deficient. Shame is an intensely interpersonal effect, one of the original effects delineated by Tomkins (1987). Because it leads to silencing and isolation, shame is a major deterrent to resilience, particularly if one frames resilience as an interpersonal, relational phenomenon. To the extent that one moves away from relationship in the face of shame, the opportunity for restorative and corrective connection is lessened.

Shame arises spontaneously when one feels unworthy of love or connection, at the same time that one is aware of one’s yearning for connection. Shaming is also done to people, used to change an individual’s or a group’s behavior. Sometimes it is used to disempower and silence. Dominant societal groups often shame the subordinate groups into silence as a way of exercising social control. The implication often is that “your” reality (nondominant individual or group) is deficient or deviant. This applies to any marginalized group, whether it is girls, people of color, or gays and lesbians. To the extent that an individual or group feels shame, they will in fact be less resilient and less empowered, less able to give voice to difference.

BUILDING RELATIONAL RESILIENCE IN GIRLS AND WOMEN

Resilience exists to the extent that empathic possibility is kept alive. To the extent that girls feel they are a part of mutually growth-fostering relationships in which they care about others and are cared about as well, they will experience a sense of flexibility, worth, clarity, creativity, zest, and desire for more connection, what Jean Baker Miller has called the “five good things” of good connection (Miller & Stiver, 1997). We grow and learn, expanding the quality of our relationships. In isolation we repeat old patterns, are caught in repetitive cognitions, and often are disempowered. Resilience implies energy, creativity, and flexibility to meet new situations. Sometimes it involves courage, the capacity to move into situations when we feel fear or hesitation. Courage is not an internal trait; it is created in

connection. As human beings we *encourage* one another, create courage in an ongoing way. Just as there is no such thing as an internal state of self-esteem that resides in a separate person, feelings of worth, strength, and creativity are also supported or destroyed in relationships. At a societal level, those at the margins, defined by the dominant “center” (hooks, 1984), are often disempowered by the dominant group’s definition of what defines them, their “defective differentness.”

Resilience becomes especially salient for girls in adolescence, a time when, according to Carol Gilligan (1982), girls begin to “lose their voices.” Between the ages of 11 and 13, Caucasian girls show massive drops in self-esteem (Gilligan et al., 1990). Rates of depression increase. As Gilligan suggests, girls begin to be silenced and less authentic in relationships. They appear to lose their relational intelligence. They take themselves out of relationship (authentic relationship) in order to “stay in relationship” (appearance of relationship). They lose a sense of effectiveness and feel they must accommodate others’ needs (Franz & Stewart, 1994; Jordan, 1987). Janie Ward (2002) has written with great insight about the importance for adolescent girls of color to find a way to resist the disempowering stereotypes that the dominant culture imposes on girls of color. This capacity to resist the controlling images (Collins, 2000) is a significant contributor to resilience.

Ward (2002) has suggested, in working with African American girls, that we help them build healthy resistance, originally called “resistance for liberation” (Robinson & Ward, 1991). She suggests four processes to help these girls remain strong and resilient. First, she suggests we help these girls *read it*. By this she means examine the message and the immediate context and larger sociopolitical context. Thus, with disempowering messages, one does not get caught up in reacting, but examines and thinks carefully about the evidence for the message or stereotype. After reading it, it is important to *name it*; in this we acknowledge the presence of racism, sexism, or class bias. It involves “knowing what you know” and confronting the issue. It may involve keeping silent until safety is reached (e.g., bringing it to a trusted adult to get support and seek clarification). A failure to name can lead to internalization of a negative identity and shame. Naming gives one a sense of agency and strength. The third step is to *oppose the negative force*. As Ward suggests, one engages in the action to defy or circumvent or avoid the negative force, such as racism. It involves opposing self-hatred, despair, contempt, hopelessness, anger, and complacency. And finally, she suggests we support girls in *replacing it*. This means that one can hold fast to a belief or value a sense of reality that is different from the one that is being promoted, and then replace the feeling, attitude, or behavior that is being opposed. For instance, a person resisting racism could take a stand for fairness and justice.

These steps can be applied to many situations that typically undermine the sense of strength and worth of an individual. It is interesting that members of marginalized groups are encouraged to internalize blame. For instance, there was a “psychiatric diagnosis” of drapetomania in the days of slavery, which was applied to slaves who had “a need to run away from their masters.” Their desire for freedom was pathologized and given a medical diagnosis. In a less extreme way, girls are taught to take responsibility for failure and are pathologized for their relational longings. And there is abundant data that indicate girls internalize failure and externalize success, while boys do the opposite. If the default explanation for failure is self-blame, assuming that “I am the problem,” depression, immobilization, and shame ensue. If on the other hand, one assumes that failure results from chance factors or external forces and success is a result of one’s ability or effort, one feels more empowered to act and has more of a sense of worth. The context plays a large role in creating these styles of attribution.

COURAGE IN CONNECTION

In addition to resisting the forces of disempowerment (sexism, racism, classism, heterosexism), resilience involves the development of courage. Although courage has also been constructed within a separate self-model, with images of lone heroes scaling mountains or jumping from airplanes in individual death-defying acts, courage might also be considered an interpersonal experience. Courage develops in connection; we are *encouraged* by others (Jordan, 1990). Courage, like resilience, is not a trait that exists within the individual. As human beings we are constantly in interactions that are either encouraging or discouraging. Growth-fostering relationships that promote zest, clarity, a sense of worth, productivity, and desire for more connection are intrinsically encouraging. They help us feel energetic, focused, strong, and we then seek growth and connection. Much of parenting, teaching, and therapy is about encouraging others, literally helping people develop a sense of courage, feeling the capacity to act on one's values and intentions.

For young adolescent girls there is probably nothing more important than supporting the growth of courage. Girls in early adolescence begin to "lose their voices," begin to lack confidence, and their self-esteem plummets. The early energy, confidence, and feistiness (Gilligan, 1990; Pipher, 1994) that researchers have written about in young girls evaporate for many. A part of this arises around heterosexual relationships where girls begin to feel objectified, lose touch with their own body experience, and feel that they must accommodate others', often boys', desires and definitions of them. A preoccupation with body image (where one feels eternally deficient) and with control of sexuality and anger leaves girls feeling constricted and inauthentic. Girls feel they cannot represent their experience fully; they fear rejection from boys and exclusion from girls if they deviate from the group norms. The inclusion-exclusion factors (Simmons, 2002) that have weighed heavily on girls in social relationships heat up even more during these years. And as they emulate boys, girls feel less and less able to show or share these feelings of fear and uncertainty. They are supposed to be cool and tough.

The prohibition on anger for girls (Miller, 1976, 1985) is a great obstacle to developing resilience. If a girl cannot represent her feelings as fully as possible, particularly feelings that inform relational health, she will move into silence and isolation. Anger is a necessary and important signal in any relationship; it often marks a place of hurt or injustice. People need to be able to move into conflict to avoid being silenced or subordinated. By suggesting that anger is a necessary part of change and growth in relationship, I am not endorsing cathartic, expressive, impulsive anger. Nor am I supporting the use of aggression, force, or dominance against others. This is not about being totally reactive, expressive, or spontaneous. In all relationships we must act and speak with awareness of our possible impact on others. And if we value good relationships, we will use anticipatory empathy to avoid hurting others when possible. But anger is a signal that something is wrong, that something hurts, that there has to be a shift or change in the relationship. If girls are asked to suppress their anger, they are invited into accommodation, subordination, and inauthenticity. Helping an adolescent girl learn how to speak up, especially how to channel her anger, how to be strategic in her use of her anger, will support her courage and her sense of who she is. The messages from the culture, however, silence and distance girls from these interpersonal signals. Girls then become cut off from themselves and from authentic connection with others.

Helping girls value connection and relationship is also essential. Too often the larger culture invalidates or pathologizes a girl's desire for connection or her desire to participate in

the growth of others (seen as a failure of “self-interest”). The courage to move into the necessary vulnerability of authentic connections is as important as the courage to move into conflict to protest personal and social injustice. Because there is little real support for the importance of relationships in people’s lives, girls and women are viewed as “too needy” or “too dependent” when they express their strong desire for connection. By acknowledging and valuing the basic, lifelong human need for relationship, we support a girl’s natural inclination toward connection and thereby help create a powerful pathway toward resilience.

In summary, all children experience a better outcome following adverse life conditions when they have a positive relationship with a competent adult, engage with other people, and have an area of competence valued by themselves or society (Masten et al., 1990). Girls tend to seek more help from others in childhood and offer more help and support in the preadolescent years (Belle, 1987). For girls and women in particular, mutuality is a key factor in how much protection a relationship offers. Lower depression scores are found in women who are in highly mutual relationships (Genero, 1995; Sperberg & Stabb, 1998). The importance of these relationships is not just that they offer support, but that they also provide an opportunity to participate in a relationship, that is growth-fostering for the other person as well as for themselves. Participation in growth-fostering connection and relational competence may well be the key to resilience in girls and women. It is likely that understanding resilience as a relational phenomenon, rather than as a personality trait, will lead us to deepen our understanding of the significance of connection for the well-being of all people.

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7

What Can We Learn about Resilience from Large-Scale Longitudinal Studies?

Emmy E. Werner

Since the mid-1980s, a number of investigators from different disciplines—child development, pediatrics, psychology, psychiatry, and sociology—have focused on the question why some children cope successfully with major adversities in their lives, while others develop severe and persistent psychopathology. The *resilience* these children display is conceived as an end-product of buffering processes that do not eliminate risks and stress in their lives, but that allow the individual to deal with them effectively (Rutter, 1987).

Lately, there has been a lively debate that centers on whether successful coping in the face of adversity is domain-specific, whether the protective factors that mitigate the effects of adversity tend to be universal or context-specific, and whether the factors that contribute to resilience among children exposed to high levels of childhood adversity are equally beneficial for those not exposed to these adversities (Bracken & Lamprecht, 2003; Masten, 2003).

These questions are not easily addressed in the existing literature. Even in the most comprehensive collection of essays on resilience and vulnerability available to date (Luthar, 2003), much of the evidence is based on cross-sectional studies, retrospective studies, short-term longitudinal studies of only a few years duration (mostly in middle childhood), and studies with relatively small samples, without “low-risk” comparison groups.

Nonetheless, there are lessons to be learned from large-scale longitudinal studies that have focused on the process of resilience at different points in time—from infancy to adulthood—and that are much rarer than the numerous reviews and handbooks that have been devoted to this topic. *A caveat is in order*: resilience itself, as Luthar and Zelazo (2003) remind us, is never *directly* measured in these studies—instead it is *inferred*, based on the measurement of two component constructs: risk and positive adaptation.

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There are currently 10 large-scale longitudinal studies of high-risk children in different geographical regions of the United States—from Hawaii to the Midwestern heartland (Chicago, Minneapolis) to the East (New York, Pennsylvania, Maryland, Virginia)—that have reported their findings from different time periods in the life cycle. They include African American, Asian American, and Caucasian youngsters who managed to cope successfully, despite significant adversities in their lives, such as poverty, parental mental illness, child abuse, parental divorce, and/or an accumulation of multiple risk factors in their families.

These longitudinal studies have (a) maintained a core group of 100 to a 1,000 or more participants; (b) included both males and females in their samples; (c) used multiple and age-appropriate measures of adaptation; (d) followed the children at several points in time; (e) kept their attrition rates low, and (f) collected data on low-risk comparison groups.

This chapter will also draw on reports from longitudinal studies from Great Britain, New Zealand, Australia, and the Scandinavian countries whose findings complement the results reported by American investigators (and provide references to two longitudinal studies published in German).

LARGE-SCALE LONGITUDINAL STUDIES

U.S. Studies

The Kauai Longitudinal Study: Beginning in the prenatal period, the Kauai Longitudinal Study has monitored the impact of a variety of biological and psychosocial risk factors, stressful life events, and protective factors on the development of some 698 Asian and Polynesian children, born in 1955, in the westernmost county of the United States. Some 30% of this cohort were exposed to four or more risk factors that included chronic poverty, perinatal complications, parental psychopathology, and family discord. Data on the children and their families were collected at birth, in the postpartum period, and at ages 1, 2, 10, 18, 32, and 40 years. The most comprehensive publication resulting from this study is by Werner and Smith (2001).

The Minnesota Parent-Child Project: Begun in 1975, this project followed some 190 of 267 low-income women and their first-born children in Minneapolis from the last trimester of pregnancy to ages 7 and 10 days, 3, 6, 9, 12, 18, 24, 30, 42, 48 months, and from grades one, two, three, and six, to age 25 years (Yates, Egeland, & Sroufe, 2003).

Project Competence: Begun in 1977–78, this study followed a normative school cohort of 205 third to sixth graders in the Minneapolis public schools from age 10 to 17, for 20 and 30 years. Other Project Competence studies initiated at the same time included a cohort of children born with congenital heart defects and physical handicaps. More recent studies have focused on high-risk samples of children in homeless shelters and war refugees (Masten & Powell, 2003).

The Virginia Longitudinal Study of Divorce and Remarriage: Begun in 1971, the initial sample consisted of 144 white middle-class families, half divorced, half nondivorced, with a target child of 4 years. Children and families were studied at 2 months, and 1, 2, 6, 8, 11, and 20 years after divorce. Of the original 144 families, 122 are continuing to participate in the study. When the children were 10 years old, the sample was expanded to include 180 families; when the children were 15 years old, it was expanded to include 300 families, and when the young people were 24 years old, it was expanded to include 450 families (Hetherington, 1989).

The Hetherington and Clingempeel Study of Divorce and Remarriage: Begun in 1980, this study examined the adaptation in stepfamilies of adolescent children at 4 months, 17 months, and 26 months after remarriage. Participants in this study were 202 white middle-class families living in Philadelphia and its suburbs, with the nondivorced and stepfamilies studied at equal intervals (Hetherington & Kelley, 2002).

The Rochester Longitudinal Study: Begun in 1970, the study included a core sample of 180 out of 337 women showing a history of mental illness (and a normal control group) whose children were studied at birth, 4, 12, 30 months, 4 years, and through grades 1 to 12 (Sameroff, Gutman, & Peck, 2003).

A Study of Child Rearing and Child Development in Normal Families and Families with Affective Disorders: Begun in 1980, the study enrolled 80 (Maryland) families where parents had affective disorders, with two children each: a younger child in the age range from 15–36 months, and an older child between the ages of 5–8 years, and 50 control families. There were three follow-ups at ages 42–63 months; 7–9 years, and 11–13 years (Radke-Yarrone & Brown, 1993).

A Longitudinal Study of the Consequences of Child Abuse: Begun in 1975, the study included a core sample of 353 out of 439 children from Pennsylvania families served by abuse centers, and controls drawn from daycare and Head Start programs. The children were seen between 1–6 years, and followed at 6–12 years, and in late adolescence (Herrenkohl, Herrenkohl, & Egolf, 1994).

The Virginia Longitudinal Study of Child Maltreatment: Begun in 1986, the study focused on 107 maltreated children, identified from the statewide registry, and a normal control group of children attending public schools in Charlottesville. The children were assessed in grades two to three, grades four to five, and grades six to seven (Bolger & Patterson, 2003).

The Chicago Longitudinal Study: Begun in 1983, this is a longitudinal quasiexperimental cohort design, including 989 low-income children who entered the Child-Parent Center programs in preschool and 550 low-income children who participated in an all-day kindergarten program. The youngsters were followed at age 14 and age 20 years, when 1,281 sample participants were still active (Reynolds & Ou, 2003).

British Studies

The National Child Development Study (NCDS): This study has followed some 16,994 persons, born in Great Britain between March 3 and 9, 1958, until adulthood. Data were collected on the physical, psychosocial, and educational development of the cohort at ages 7, 11, 16, 23, and 33 years (Wadsworth, 1999).

The British Cohort Study (BCS70): This study has followed 14,229 children, born in the week between April 5 and 11, 1970, for three decades. Follow-up data were collected when the cohort members were age 5, 10, 16, and 26 years (Schoon, 2001).

New Zealand Studies

The Dunedin Multidisciplinary Health and Development Study: This is a longitudinal investigation of a cohort of infants, born between April 1, 1972, and March 31, 1973, in Dunedin, New Zealand. The base sample comprised 1,037 children, followed at ages 3, 5, 7, 9, 11, 13, 15, 18, and 21 years, with 992 participating at age 21. In the latest follow-up, at age 26, 847 of the cohort were assessed (Caspi et al., 2003).

The Christchurch Health and Development Study: Begun in the mid-1977s, this study consists of a birth cohort of 1,265 children, born in the Christchurch urban region, and followed at 4 months, 1 year, and annual intervals to age 16 years, and at ages 18 and 21 years. In the last follow-up, 991 participants were assessed (Fergusson & Horwood, 2003).

Australian Studies

The Mater–University of Queensland Study of Pregnancy (Brisbane): This is a prospective study of 8,556 pregnant women, begun in 1981. The mothers and their offspring were assessed between the third and fifth day postpartum and at 6 months, 5 years, and 14–15 years when 5,262 children participated. A follow-up at age 21 is under way (Brennen, Le Brocque, & Hammen, 2002).

Denmark Studies

The Copenhagen High-Risk Study: This study has traced 207 children of schizophrenic mothers and 104 matched controls from age 15 to ages 25 and 42 years. More than half had exhibited *no* psychopathology from midadolescence through midlife (Parnas et al., 1993).

Swedish Studies

The Lundby Study: This is a prospective longitudinal study of the mental health of some 2,550 persons, including 590 children (mean age 8 years at first assessment) living in southern Sweden. Cederblad (1996) followed a subsample of 148 individuals who had been exposed to three or more psychiatric risk factors (such as parental mental illness, alcoholism, family discord, or abuse) in childhood. Three out of four were functioning well in midlife.

German Studies

There are two longitudinal studies of risk and protective factors in Germany: Lösel and Bliesener (1990) have studied adolescents in residential institutions in Bielefeld; Laucht and his associates (1999) have followed a birth cohort of 347 children in Mannheim from 3 months to 8 years. Reports on the findings of their studies are available in German in the book *Was Kinder stärkt* (What Makes Children Strong?) (Laucht, Esser, & Schmidt, 1999).

INDIVIDUAL ATTRIBUTES AND SOURCES OF SUPPORT ASSOCIATED WITH SUCCESSFUL COPING AMONG HIGH-RISK CHILDREN

Tables 7.1 and 7.2 summarize the individual attributes and sources of support in the family and community associated with successful coping among high-risk children that have been replicated in a number of large-scale longitudinal studies in the United States of America and abroad. In most cases the factors that contributed to resilience among those exposed to high levels of childhood adversity also benefited “low-risk” children, that is, they showed a main effect rather than an interaction effect in statistical analyses (Fergusson & Horwood, 2003).

Table 7.1 Individual Attributes Associated With Successful Coping in High-Risk Children—Replicated in Two or More Large-Scale Longitudinal Studies

| Source notes | Characteristics of individual | Time period studied | Multiple (4+) risk factors | Childhood adversities | | | |
|--------------|---|-----------------------|----------------------------|-----------------------|-------------------------|-------------|---------|
| | | | | Poverty | Parental mental illness | Child abuse | Divorce |
| 1 | Low distress; low emotionality | Infancy–Adulthood | + | + | + | + | + |
| 2 | Active; vigorous | Infancy–Adulthood | + | + | | | |
| 3 | Sociable | Infancy–Adulthood | + | + | + | + | |
| 4 | Affectionate “engaging” temperament | Infancy–Childhood | + | + | + | + | + |
| 5 | Autonomy; social maturity | Early Childhood | + | + | | | |
| 6 | Average-above average intelligence (incl. reading skills) | Childhood–Adulthood | + | + | + | + | + |
| 7 | High-achievement motivation | Childhood–Adulthood | + | + | + | | |
| 8 | Special talents | Childhood–Adolescence | + | + | + | | |
| 9 | Positive self-concept | Childhood–Adolescence | + | + | + | | + |
| 10 | Internal locus of control | Childhood–Adulthood | + | + | + | + | + |
| 11 | Impulse control | Childhood–Adulthood | + | + | + | | |
| 12 | Planning; foresight | Adolescence–Adulthood | + | + | | | |
| 13 | Faith; a sense of coherence | Adolescence–Adulthood | + | + | + | | |
| 14 | Required helpfulness | Childhood–Adulthood | + | + | + | | |

Source:

1. Farber & Egeland, 1987; Fergusson & Horwood, 2003; Werner & Smith, 1992, 2001.
2. Farber & Egeland, 1987; Werner & Smith, 1992, 2001.
3. Farber & Egeland, 1987; Lösel & Bliesener, 1990; Werner & Smith, 1992, 2001.
4. Farber & Egeland, 1987; Hetherington, 1989; Werner & Smith, 1992, 2001.
5. Farber & Egeland, 1987; Werner & Smith, 1989, 1992, 2001.
6. Farber & Egeland, 1987; Fergusson & Lynskey, 1996; Hetherington & Elmore, 2003; Lösel & Bliesener, 1990; Masten & Powell, 2003; Seifer et al., 1992; Werner & Smith, 1992, 2001.
7. Fergusson & Horwood, 2003; Lösel & Bliesener, 1990; Masten & Powell, 2003; Radke-Yarrow & Brown, 1993; Schoon, 2001; Werner & Smith, 1992, 2001.
8. Anthony, 1987; Werner & Smith, 1992, 2001.
9. Cederblad, 1996; Fergusson & Horwood, 2003; Hetherington & Elmore, 2003; Lösel & Bliesener, 1990; Radke-Yarrow & Brown, 1993; Werner & Smith, 1992, 2001.
10. Bolger & Patterson, 2003; Cederblad, 1996; Hetherington & Elmore, 2003; Masten & Powell, 2003; Seifer et al., 1992; Werner & Smith, 1992, 2001.
11. Fergusson & Lynskey, 1996; Fergusson & Horwood, 2003; Masten & Powell, 2003; Werner & Smith, 1992, 2001.
12. Rutter, 2000; Werner & Smith, 1992, 2001.
13. Cederblad, 1996; Hetherington & Kelley, 2001; Werner & Smith, 1992, 2001.
14. Anthony, 1987; Lösel & Bliesener, 1990; Werner & Smith, 2001.

Table 7.2 Resources in the Family and Community Associated With Successful Coping in High-Risk Children—Replicated in Two or More Large Scale Longitudinal Studies

| Source notes | Characteristics of individual | Time period studied | Multiple (4+) risk factors | Childhood adversities | | | |
|--------------|--|-----------------------|----------------------------|-----------------------|-------------------------|-------------|---------|
| | | | | Poverty | Parental mental illness | Child abuse | Divorce |
| 1 | Small family (<4 children) | Infancy | + | + | | | |
| 2 | Maternal competence | Infancy–Adolescence | + | + | + | + | |
| 3 | Close bond with primary caregiver | Infancy–Adolescence | + | + | + | + | |
| 4 | Supportive grandparents | Infancy–Adolescence | + | + | + | + | + |
| 5 | Supportive siblings | Childhood–Adolescence | + | + | + | + | + |
| 6 | Competent peer friends | Childhood–Adolescence | + | + | | + | + |
| 7 | Supportive teachers | Preschool–Adulthood | + | + | + | | + |
| 8 | Successful school experiences | Childhood–Adulthood | + | + | + | | + |
| 9 | Mentors (elders) | Childhood–Adulthood | + | + | | | |
| 10 | Prosocial organizations: (youth clubs, religious groups) | Childhood–Adulthood | + | + | | | |

Source:

1. Cederblad, 1996; Werner & Smith; 1992, 2001.
2. Egeland, Carlson, & Sroufe, 1993; Masten & Powell, 2003; Seifer et al., 1992; Werner & Smith, 1992, 2001.
3. Cederblad, 1996; Fergusson & Horwood, 2003; Lösel & Bliesener, 1990; Mednick et al., 1987; Seifer, 2003; Werner & Smith, 1992, 2001.
4. Farber & Egeland, 1987; Herrenkohl et al., 1994; Hetherington, 1989; Radke-Yarrow & Brown, 1993; Werner & Smith, 1992, 2001.
5. Hetherington, 1989; Wallerstein & Blakeslee, 1989; Werner & Smith, 1992, 2001.
6. Bolger & Patterson, 2003; Fergusson & Horwood, 2003; Hetherington, 1989; Lösel & Bliesener, 1990; Wallerstein & Kelley, 1980; Werner & Smith, 1992, 2001.
7. Hetherington, 1989; Lösel & Bliesener, 1990; Radke-Yarrow & Brown, 1993; Reynolds & Ou, 2003; Werner & Smith, 1992, 2001.
8. Fergusson & Lynskey, 1996; Hetherington, 1989; Schoon, 2001; Wadsworth, 1999; Werner & Smith, 1992, 2001.
9. Yates, Egeland, & Sroufe, 2003; Werner & Smith, 2001.
10. Masten & Powell, 2003; McGee, 2003; Werner & Smith, 1989, 1992, 2001; Wyman, 2003.

Children who coped successfully with adversity tended to become less easily distressed than those who developed problems and had an active, sociable, “engaging” temperament that attracted adults and peers alike. They possessed good communication and problem-solving skills, including the ability to recruit substitute caregivers; they had a talent or special skill that was valued by their peers, and they had faith that their actions could make a positive difference in their lives.

They also drew on external resources in the family and community. Foremost were affectional ties that encouraged trust, autonomy, and initiative. These bonds were often provided by alternative caregivers who were members of the extended family, such as

grandparents or older siblings. There were also informal support systems in the community that reinforced and rewarded the competencies of such youngsters and that provided them with positive role models, such as teachers, mentors, and peer friends.

The frequency with which the same predictors of resilience emerge from diverse studies with different ethnic groups, in different geographic and sociopolitical contexts, conveys a powerful message of universality (Bracken & Lamprecht, 2003; Masten & Powell, 2003). That does not preclude the possibility that some protective factors are more age-, gender-, and context-specific than others. For example, in the Kauai Longitudinal Study we found some variables that discriminated significantly between positive and negative developmental outcomes *only* when there was a series of stressful life events or when children were exposed to poverty. They did not discriminate between good and poor outcomes among middle-class children whose lives were relatively secure, stable, and stress-free (Werner & Smith, 1989).

Among such protective factors were autonomy and self-help skills in early childhood for the males and a positive self-concept in adolescence for the females. Among protective factors in the caregiving environment for *both* boys and girls were a positive parent-child relationship observed during the second year of life and the number of sources of emotional support they could draw on in early and middle childhood. Further, in the Rochester Child Resilience Project, Wyman (2003) reported context-specific effects of involvement in structured after-school activities among high-risk teens. Participation in pro-social group activities lowered the risk for delinquent behavior for youngsters with many antisocial friends, but not for those with few antisocial friends.

THE IMPORTANCE OF EARLY DEVELOPMENTAL COMPETENCE AND SUPPORT

Because the majority of research on resilience has focused on middle childhood and adolescence, an early history of developmental competence has received little attention in the literature on resilience. Yet, both the Kauai Longitudinal Study and the Minnesota Parent-Child Project have shown that an early history of positive adaptation, engendered by consistent and supportive care, is a powerful and enduring influence on children's adaptation, and it increases the likelihood that they will utilize both formal and informal sources of support in their environment at later stages of the life cycle.

For example, Yates and collaborators (2003) found that children with early histories of secure attachment in infancy and generally supportive care in the first 2 years demonstrated a greater capacity to rebound from a period of poor adaptation when they entered elementary school compared to those with less-supportive histories. Likewise, children who exhibited positive transitions from maladaptation in middle childhood to competence in adolescence were able to draw on a positive foundation of early support and positive adaptation.

That the process of resilience is manifested at later stages in the developmental trajectory became apparent to us in our follow-up studies in early adulthood and midlife on Kauai (Werner & Smith, 1992, 2001). The majority of high-risk children who had become troubled teenagers (with delinquency records and mental health problems) recovered in the third and fourth decade of life and became responsible partners, parents, and citizens in their communities. The individuals who availed themselves of informal sources of support in the community, and whose lives subsequently took a positive turn, differed in significant

ways from those who did not make use of such options. They had been exposed to more positive interactions with their primary caregivers in the first 2 years, that is, their early rearing conditions fostered a sense of trust.

THE SHIFTING BALANCE BETWEEN VULNERABILITY AND RESILIENCE

Large-scale longitudinal studies that have followed boys and girls from birth to adulthood (whether children of poverty, divorce, or children coming from multirisk families) have repeatedly found a shifting balance between stressful life events that heighten children's vulnerability and protective factors that enhance their resilience. The follow-up in adulthood in the Kauai Longitudinal Study, for example, found a few offspring of psychotic parents who had managed to cope successfully with a variety of stressful life events in childhood or adolescence, but whose mental health began to deteriorate in the third decade of life (Werner & Smith, 1992).

Other high-risk children had grown into competent, confident, and caring adults, but felt a persistent need to detach themselves from parents and siblings whose domestic and emotional problems threatened to engulf them. This was especially true for the adult offspring of alcoholic parents, some of whom had been physically and emotionally abused when they were young. The balancing act between forming new attachments to loved ones of their choice and the loosening of old family ties that evoked painful memories exacted a toll in their adult lives. The price they paid varied from stress-related health problems to a certain aloofness in their interpersonal relationships.

On the positive side, the Kauai study demonstrated that the opening of opportunities at major life transitions (high school graduation, entry into the world of work, marriage) enabled the majority of the high-risk individuals who had a troubled adolescence to rebound in their 20s and 30s. Among the most potent second chances for such youth were adult education, voluntary military service, active participation in a church community, and a supportive friend or marital partner.

PROTECTIVE MECHANISMS: INTERCONNECTIONS OVER TIME

Just as risk factors tend to co-occur in a particular population (i.e., children of poverty) or within a particular developmental period (i.e., adolescence), protective factors are also likely to occur together to some degree (Gore & Eckenrode, 1994). The presence of a cluster of (interrelated) variables that buffer adversity at one point in time also makes it more likely that other protective mechanisms come into play at a later period of time.

There are only a few large-scale longitudinal studies that have demonstrated such interconnections over time. The highlights of the results of the latent variable path analyses that were applied to the data from the Kauai Longitudinal Study at six points in the life cycle illustrate the complexity of the phenomenon of resilience. They show how individual dispositions and outside sources of support and stress are linked together from infancy and early childhood to middle childhood and adolescence, and how these variables, in turn, predict the quality of adaptation in young adulthood and midlife (Werner & Smith, 1992, 2001).

When the links between individual dispositions and outside resources were examined, men and women who had made a successful adaptation at midlife—despite serious childhood adversity—had relied on sources of support within the family and community that *increased* their competence and efficacy, *decreased* the number of stressful life events they subsequently encountered, and *opened up* new opportunities for them.

The protective processes that fostered resilience manifested themselves early in life. Across a span of several decades, maternal competence in infancy was positively related to their offsprings' adaptation in adulthood (at 32 and 40 years). Girls whose mothers interacted in a consistently positive way with their infant daughters were more autonomous at age 2 and more competent at age 10. They also attracted more sources of emotional support in childhood and adolescence and encountered fewer stressful life events than did the daughters whose mothers were less-competent caregivers. Males with more competent mothers were more successful at school at age 10, more resourceful and efficacious at age 18, and utilized more sources of emotional support in adulthood than did the sons of mothers who were less-competent caregivers.

For both boys and girls, there was a positive association between autonomy at age 2 and scholastic competence at age 10. Boys who were more autonomous at age 2 encountered fewer stressful life events in the first decade of life and had fewer health problems in childhood and adolescence. Girls who were more autonomous as toddlers had fewer health problems in each decade of life and fewer coping problems by age 40.

For both boys and girls, there was a positive association between the number of sources of emotional support they attracted in childhood, their scholastic competence at age 10, and the quality of adaptation at age 40. Individuals who could count on more sources of emotional support in childhood reported fewer stressful life events at later stages of their lives than those who had little emotional support.

For both sexes, scholastic competence at age 10 was positively linked to self-efficacy and the ability to make realistic plans at age 18. Males with higher scholastic competence at age 10 had fewer health problems in adolescence and higher activity scores on the EAS Temperament Survey at age 32. They also availed themselves of more sources of emotional support in adulthood. Females with higher scholastic competence at age 10 attracted more sources of emotional support in adolescence. For both boys and girls, the number of sources of emotional support they could rely on in adolescence was positively linked to their self-efficacy and ability to make realistic plans at age 18.

Men and women who were more resourceful and more realistic in their educational and vocational plans at age 18 received higher scores on the Scales of Psychological Well-Being at age 40. Their temperament was related to the quality of their adult adaptation as well. Men who scored higher on the activity scale of the EAS Temperament Survey at age 32 coped better at age 40 than did males with lower activity scores. Women with higher distress scores at age 32 had more health problems and lower scores on the Scales of Psychological Well-Being at age 40.

Most of the variance in the quality of adaptation at age 40 was accounted for by earlier predictors of resilience (i.e., variables associated with successful coping at ages 2, 10, and 18). Most was attributed to four clusters of protective factors that had been independently assessed in the first decades of life: (1) *maternal competence* (a cluster of variables that included mother's age and education and the proportion of positive interactions with her child, observed independently at home at age 1, and during developmental examinations at age 2); (2) the number of *sources of emotional support available to the child between ages 2 and 10 years* (including members of the extended family); (3) *scholastic*

competence at age 10 (a cluster of variables that included IQ scores and scores on the PMA reasoning test and the STEP reading test); and (4) the *health status* of the child (between birth and 2 years for females; between birth and 10 years for males). These findings point to the importance of the first decade of life in laying the foundations for resilience. They require replication in other longitudinal studies that have data on the early history of developmental competence.

GENDER DIFFERENCES

All large-scale longitudinal studies of risk and resilience report gender differences that appear to vary with the stages of the life cycle and the demands made on each gender in the context of the prevailing sex role expectations of Western cultures.

At each developmental period, beginning in the prenatal period and infancy, more males than females perished. In childhood and adolescence, more boys than girls developed serious learning and behavior problems and displayed more externalizing symptoms. In contrast, in late adolescence and young adulthood, more girls than boys were subject to internalizing symptoms, especially depression (Caspi et al., 2003; Fergusson & Horwood, 2003; Werner & Smith, 1989).

But among the high-risk youths who had become “troubled teenagers,” more women than men managed to make a successful transition into their 30s and 40s, at least on Kauai. Protective factors *within* the individual—an engaging temperament, scholastic competence, and self-efficacy—tended to make a greater contribution to the quality of adult adaptation for females than for males who successfully coped with adversities in their lives. In contrast, the sources of support available in the family and community tended to make a greater impact on the lives of the men who successfully overcame childhood adversities (Werner & Smith, 2001).

IMPORTANT, BUT NEGLECTED BIOLOGICAL ASPECTS OF RESILIENCE

Perhaps because most of the longitudinal studies reviewed here were conducted by educators, psychologists, and sociologists, there has been a relative neglect of important biological and genetic variables that may mitigate or modify the impact of stress and childhood adversities on the quality of adaptation at different stages of the life cycle.

Health

Surprisingly, the general health status of an individual tends to be overlooked in most studies concerned with resilience and vulnerability. Even in large-scale longitudinal studies, in which the original focus has been “health and development,” the variables that are included in complex regression equations that look for “resiliency factors” tend to denote psychological or sociological constructs or are concerned with educational attainment rather than health (Fergusson & Horwood, 2003; Schoon, 2001).

Path analyses of the data of the Kauai Longitudinal Study suggest that it might be worthwhile to explore the effects of good health or debilitating illnesses or accidents on children’s ability to cope with stressful life events and adversity. On Kauai, at each stage of

the life cycle—from early childhood to adulthood—individuals who encountered more stressful life events also encountered more health problems. Health problems in *early childhood* (a count of serious illnesses or accidents reported by the parents between birth and age 2, the number of referrals to health care providers, and the pediatrician's low rating of the toddler's physical status at age 2) were significantly correlated with coping problems in adulthood, both at 32 and at age 40 (Werner & Smith, 1992, 2001).

On the positive side, perinatal health (i.e., the absence of pregnancy and birth complications) was a significant protective factor in the lives of adolescents who were the offspring of mothers who suffered from mental illness. These findings have been replicated in the Copenhagen High-Risk Study, and in a study of 15-year-old children of depressed mothers who were participants in the Mater–University Study of Pregnancy and Outcomes in Brisbane, Australia (Brennen, Le Brocque, & Hammen, 2002).

Gene–Environment Interactions

There is ample evidence of the important role genetic factors play in the susceptibility of individuals to psychopathology, such as alcoholism, antisocial behavior, and severe psychiatric illness such as schizophrenia. Several studies, including the Copenhagen High-Risk Study (Parnass et al., 1993) and the Kauai Longitudinal Study have reported findings that suggest that adverse environments, including serious pre- and perinatal stress, have the most negative impact on individuals who are genetically vulnerable, among them the offspring of alcoholic and schizophrenic mothers (Werner & Smith, 2001).

It stands to reason that gene-environment interaction also plays a significant role in relation to the phenomenon of resilience. Evidence of gene–environment interactions in which an individual's response to the environmental insults appears to be moderated by his or her genetic makeup has been reported by Caspi and his associates (2000, 2003) from the 26-year follow-up of the Dunedin (New Zealand) Multi-Disciplinary Health and Development Study, in which 847 Caucasian cohort members participated.

Individuals with one or two copies of the short allele of the 5-HTT gene (a serotonin transporter) exhibited significantly more (self-reported) depressive symptoms in relation to four or more stressful life events between the ages of 21 and 26 than individuals homozygous for the long allele. Of special interest is the finding that childhood maltreatment in the first decade of life predicted adult depression *only* among individuals carrying a short allele, but not among individuals homozygous for the long allele (Caspi et al., 2003).

In another analysis of data from the Dunedin Study, Caspi and his associates found that a functional polymorphism in the X-linked gene encoding the neurotransmitter-metabolizing enzyme monoamine oxidase A (MAOA) was found to moderate the effects of childhood maltreatment in males. Boys with a genotype conferring high levels of MAOA expression who had been maltreated in childhood were less likely to develop antisocial problems (conduct disorders between ages 10 and 18; conviction for violent crimes by age 26) than those with low levels of MAOA activity (Caspi et al., 2002). The authors wisely suggest that “until this study's findings are replicated, speculations about clinical implications [are] premature” (p. 853).

Parental Alcoholism

Rutter (2000) posits the possibility that environmental interventions may be most needed for children who are genetically at risk. Relatively neglected in longitudinal

research has been the largest group among these children—the children of alcoholics. A report on U.S. children, based on the 1992 National Longitudinal Alcohol Epidemiological Survey, estimates that some 28 million lived in households where one or both parents had abused or been dependent on alcohol at some time before their offspring reached age 18 (Grant, 2000). This extraordinary number defines one of today's major public health problems.

Few longitudinal studies have looked at the life course of these children who are especially vulnerable to the negative impact of adverse family environments because of their genetic susceptibility to substance abuse (Werner & Smith, 2001; Zucker, Wong, Putterl, & Fitzgerald, 2003). Reports from the Kauai Longitudinal Study—on children of both sexes who were the offspring of alcoholic parents—and from the Michigan State University Longitudinal Study—on sons of alcoholic fathers (Zucker et al., 2003)—agree in their findings. Children of alcoholics who coped successfully despite numerous family adversities were less emotionally reactive and less externalizing in their behavior in *both* middle childhood and adolescence. They were also more intelligent and had better reading skills than their troubled peers.

Data from the Kauai Longitudinal Study also demonstrated the positive effects of (a) a close personal relationship with a parent or parent substitute who was not alcohol dependent; (b) successful school experiences; (c) membership in a religious community that provided a sense of coherence; and (d) the emotional support of a close friend (Werner & Smith, 1992, 2001).

EVALUATION STUDIES OF THE EFFECTIVENESS OF PROGRAMS DESIGNED TO FOSTER RESILIENCE

Scarr (1992) points out that it is not easy to intervene deliberately in children's lives. We know how to rescue children from extremely bad circumstances and to return them to normal developmental pathways, but only within the limits of their own heritable characteristics, such as intelligence, temperament (activity, excitability, sociability), and psychobiologic reactivity (cardiac and immunologic responses under stress). Since the 1980s, many "competence enhancement" and "strength" or "asset" building programs for high-risk children have been introduced in North America, most of which have focused on preschool and school-age children. So far, there have been very few evaluation programs that have examined the long-term effectiveness of these programs.

A notable exception is the Chicago Longitudinal Study, begun in 1983, an ongoing investigation of the effects of the Child-Parent Center Program (CPC), the oldest extended childhood intervention program in the United States of America and the second-oldest federally funded preschool program (after Head Start). The program stresses center-based language learning and parent participation and provides educational and family support services to disadvantaged children from preschool to the early elementary grades (3–9 years). The data available on more than a thousand participants in the Chicago public schools cover nearly two decades of life.

Reynold and Ou (2003) reported the results of several path analyses that modeled the effects of preschool participation (from year 3–5), cognitive skills (at age 5), parent involvement at school (in the years 8–12), quality of school (at ages 10–14) on school

achievement and grade retention (at ages 14–15), and on the diminished likelihood of special education placement and dropping out of high school by age 20.

Effect sizes on measures of social competence averaged .70 standard deviations, modest, but higher than those reported from several meta-analyses of the effectiveness of preventive mental health programs (average .34 SD) and of a wide range of psychological and behavioral treatments (.47 SD). Children who attended programs in the poorest neighborhoods benefited most from the CPC programs.

Because the pathways that lead to positive adaptation despite childhood adversities are complex and greatly influenced by context, it is not likely we will discover a “magic bullet,” a model intervention program that will succeed every time with every youngster who grows up under adverse circumstances. Knowing this does not mean we should despair. But it does mean, as Rutter (2002) admonishes us, that “caution should be taken in jumping too readily onto the bandwagon of whatever happens to be the prevailing enthusiasm of the moment” (p. 15).

CONCLUSIONS

Large-scale longitudinal studies, extending from childhood to adulthood, have documented the shifting balance between stressful life events and risk factors that increase children’s vulnerability, and internal dispositions and outside sources of support that enhance their resilience. This balance may change at different stages in life for each gender and is affected by the cultural context.

The frequency with which the same predictors of resilience emerge from longitudinal studies conducted with different ethnic groups and in different geographic settings is impressive. In most cases the factors that mitigated the negative effects of childhood adversity also benefited children who lived in stable and secure homes, but they appear to have particular importance when adversity levels are high.

Large-scale longitudinal studies have demonstrated that an early history of developmental competence, engendered by consistent and supportive care, is a powerful and enduring influence on children’s adaptation at later stages of the life cycle and increases the likelihood that they will rebound from a “troubled” adolescence.

The pathways that lead to positive adaptation, despite childhood adversity, are complex, and there is great need to map the interconnections between individual dispositions and outside sources of support that increase competence and self-efficacy, decrease negative chain effects, and open up opportunities, whether in natural settings or in structured intervention programs.

Longitudinal research needs to focus more on the role of gene-environment interactions that moderate an individual’s response to stressful life events. It also needs to acquire a cross-cultural perspective that focuses on immigrant children from the developing world who have been exposed to many biological and psychosocial risk factors that increase their vulnerability far beyond that of their peers born in more stable and affluent conditions. We need to know more about individual dispositions and sources of support in the family and community that enabled these children to transcend cultural boundaries and to operate effectively in a variety of high-risk contexts. Only then will we know what makes the young of our species survive and thrive despite life’s adversities.

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8

Measuring Resilience in Children

From Theory to Practice

Jack A. Naglieri and Paul A. LeBuffe

We begin this chapter with the recognition that concepts and their defining constructs in clinical psychology must contain certain characteristics in order to be subjected to experimental testing and applied to benefit our constituency. The study of any topic, in this case resilience, requires that we define the construct, devise a way to measure it, and demonstrate if, how, when, and where it can be useful. Constructs have to be sufficiently defined so as to be operationalized in a way that is reliable across time, subjects, and researchers. Once a concept is operationalized in a reliable manner, then its validity can be examined. Finally, when we have sufficiently operationalized a concept and there is evidence that it can be measured in a reliable and valid way, then application in clinical and educational settings is reasonable.

Clinical psychology has two masters: research and applied practice. In practice, there is great emphasis on helping clients and pressure to implement new approaches even if they have only been minimally tested. If an idea is logical and appears to help clients, then it seems reasonable to believe that the construct possesses validity, however ill defined that may be. Unfortunately, what seems logical and consistent with clinical experience may not be true. As noted by Garb (2003), "Results from empirical studies reveal that it can be surprisingly difficult for mental health professionals to learn from clinical experience" (p. 32). This sobering point suggests that we should weigh empirical findings more heavily than clinical experience, not vice versa. Science should temper enthusiasm. This is especially true when a new approach to treatment or a new concept is introduced.

There is a natural and desirable interplay between scientific research and applied practice in psychology because of the very nature of the field. We can assume that ultimately the field will advance because of the mutual respect and collaboration of those that emphasize science more than practice, and practice more than research. The need for the balanced

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contribution of science and practice is well illustrated by the study of factors related to resilience. Clearly, this area of study has benefited from the outstanding contributions made by those professionals whose goal has been to help children and adults survive in the face of adversity and by those researchers who have studied the complex interrelationships of variables that can be predictive of a good outcome. All of these individuals, however, must be able to clearly define their constructs and measure them reliably before the validity of the concept can be assessed. That is the focus of this chapter—the challenge of reliable and valid measurement of factors related to resilience.

RESILIENCE: MEASUREMENT ISSUES

Defining the Concept: What Is Resilience?

Although resilience has been studied and described since the 1950s, it has only been in about the past decade that some consistency has emerged in the definition of this construct. Most contemporary researchers now agree that resilience refers to positive outcomes, adaptation, or the attainment of developmental milestones or competencies in the face of significant risk, adversity, or stress. As Masten (2001) points out, the claim of resilience in an individual requires two judgments: first, that the individual has been exposed to significant risk or adversity, and, second, that the individual has attained at least typical or normal developmental outcomes.

The paradigm for resilience research therefore consists first of enumerating or measuring the risks and sources of adversity in individuals' lives. Two general approaches have been used to ascertain and measure risk. The major life events approach focuses on episodic, traumatic events such as the death or divorce of a parent. Typically, major life events are measured using checklists that assess a wide range of traumatic events, for example, the *Sources of Stress Inventory* (Chandler, 1981) or the *Life Events Checklist* (Work, Cowen, Parker, & Wyman, 1990).

Although major life events are clearly important sources of risk and adversity, a reliance on this approach in isolation has been criticized as incomplete. To gain a more complete picture of risk and adversity, a measure of daily hassles is recommended. Daily hassles refers to sources of risk that have lower severity but greater chronicity when compared to major life events. Examples for young children might include frequent changes in caregivers, poor quality childcare, and inconsistent or overly harsh discipline. The *Daily Hassles Scale* (Kanner, Coyne, Schaefer, & Lazarus, 1981) is a good example of this approach.

After having ascertained the risk in an individual's life, developmental outcomes can be assessed. This can consist of the attainment of developmental milestones or the accomplishment of major developmental tasks within normal limits. Positive outcome has also been characterized as the absence of psychopathology in an at-risk population. If the individual has attained typical or superior outcomes in the presence of risk or adversity, then resilience is inferred.

How We Have Measured Resilience

Measurement of those variables that allow some children to cope successfully with adversities in their lives is not simple. This is especially so because resilience is assessed on an

inferential basis by an examination of risk and positive adaptation factors (Luthar & Zelazo, 2003). Resilience is an outcome, rather than a psychological construct in and of itself, that can be defined and, perhaps, measured. This has led to efforts to identify variables that lead to and, therefore, can be used to predict, resilience rather than measure it directly. These factors that lead to resilient outcomes are referred to as protective factors and are defined as characteristics or processes that moderate or buffer the negative effects of stress resulting in more positive behavioral and psychological outcomes than would have been expected in their absence (Masten & Garmezy, 1985). Further complicating the issue is the understanding that resilience is a function of the complex interaction of protective and risk factors, and therefore, perhaps is a multivariate construct. Finally, it is important to consider that measuring a child's potential to be resilient to future life events is even more distant.

Further complicating the situation is the fact that researchers in this field have found very diverse variables that influence resilience. Werner (Chapter 7) and O'Dougherty Wright and Masten (Chapter 2) in this volume, for example, describe a number of variables relevant to resilience. The list includes characteristics of the child (ranging from variables such as cognitive ability to faith); family (ranging from financial status of the family to psychological well-being of the parents and sibling relationships); community (ranging from safety to clean air and water); and cultural group (ranging from value of education to attitudes toward physical violence). How can these variables be reliably measured? How can these variables be aggregated to yield a reliable predictor of resilience?

Measurement of the wide variety of variables used to study resilience in children has been accomplished using a variety of experimental methods as well as formal and informal tests and standardized and unstandardized methods. The list ranges from published behavior rating and self-concept scales to informal ratings based on clinical criteria; sociometric ratings to social skills rating scales; tests of achievement to yearly grades and IQ test results; parent interviews to parenting quality questionnaires; and positive and negative emotionality, to name just a few. The field is awash in variables that have been studied. It appears that measures of most of the major psychological and educational constructs have been included. It leads one to ask the questions: What has *not* been included in the study of protective and risk factors? Is there any variable or variables that are *unique* to this line of research?

The inclusion of such a wide variety of variables used to assess the potential for resilience suggests that researchers have taken a case-study approach to the research question. The typical list of measures of protective factors reads like a psychological report that includes major areas such as the child's history (physical attributes); status of the home environment (socioeconomic status, parents, siblings, etc.); current academic performance (class grades, standardized achievement test scores); intelligence test scores; and behavioral and emotional status (parent and teacher rating scales, interviews, measures of self-concept, clinical classifications). The goal of casting such a broad net has been to determine which of these many variables are most important. This assessment, however, is complicated by the fact that not all of these variables share equal psychometric qualities.

The use of both formal and informal measures of protective factors offers a means of studying the field but the disadvantage of leading to inconsistencies within and across research investigations. For example, social status can be assessed using interviews, unstandardized questionnaires, and peer nominations, but the extent to which such methods can be reliably reproduced by other researchers should also be studied. Moreover, the

transition from research setting to practical application will require more refined instrumentation. Although these methods can assist in the development of the research base for the study of resilience, well-developed, reliable, and valid measures are required if the important theoretical contributions made thus far can be operationalized so that children benefit.

In order to begin to wrestle with the psychometric issues, we will present some suggestions to researchers and practitioners. In the sections that follow we will discuss some basic measurement issues and illustrate their relevance to clinical practice. Our emphasis is on the application of concepts of resilience by the clinician.

BASIC MEASUREMENT ISSUES

Reliability

Good reliability of measurements used for research as well as for applied purposes is an essential psychometric quality to ensure accuracy. Reliability is also important to the practitioner because it reflects the amount of error in the measurement. Recall that any obtained score is comprised of the true score plus error (Crocker & Algina, 1986). We can never directly measure the true score so we describe it on the basis of a range of values within which the person's score likely falls with a particular level of probability. The size of the range is determined by the reliability of the measurement. This is why in practice we say a child earned an IQ of 105 (± 5) and state that there is a 90% likelihood the child's true IQ score falls within the range of 100 to 110 (105 ± 5). The range of scores (called the confidence interval) is computed by first obtaining the standard error of measurement (SEM) from the reliability coefficient and the standard deviation (SD) of the score in the following formula (Crocker & Algina, 1986):

$$\text{SEM} = \text{SD} \times \sqrt{1 - \text{reliability}}$$

The standard error of measurement is considered the average standard deviation of a person's scores around the true score. Thus, if we add and subtract one SEM from an obtained score, we can say that there is a 68% chance (the percentage of scores contained within \pm one SD) that the person's true score is contained within that range. Recall that 68% of the cases in a normal distribution fall within $+1$ and -1 standard deviation. Second, the SEM is multiplied by a z value of, for example 1.64 or 1.96, to obtain a confidence interval at the 90 or 95% levels, respectively. The resulting value is added to and subtracted from the obtained score to yield the confidence interval. So in the example provided above, the confidence range for an obtained score of 100 is 95 ($100 - 5$) to 105 ($100 + 5$).

It is important to note, however, that technically, the confidence interval (and SEM) is centered on the estimated true score not the obtained score (Nunnally & Bernstein, 1994). In practice, however, most professionals bracket the obtained score when they apply a confidence interval around the scores used to describe a person's level of performance. Some tests (e.g., *Wechsler Intelligence Scale for Children* 4th edition (Wechsler, 2003) and the *Cognitive Assessment System* (Naglieri & Das, 1997) provide tables that include intervals that are centered around the estimated true score for greater precision. Regardless of the method used, the higher the reliability the smaller the interval of scores that can

be expected to include the child's true score. The smaller the range, the more precise practitioners can be in their interpretation of the scores, resulting in better decisions regarding the child.

The SEM is, of course, most important when interpretive decisions are made because the larger the SEM the more likely individual variables will differ as a function of low reliability. The lower the reliability, the more likely there will be disparity among scores, for example, on a variety of measures of protective factors. When a child's score on a measure of school compliance is examined in relation to scores on a measure of personal well-being, the reliability of these measures will influence their consistency. The lower the reliability, the more likely they will be different.

Reliability of specific scores also influences the comparisons among such scores. If a researcher or practitioner is concerned with several variables that reflect different protective factors, the difference between a pair of protective factors is directly related to each factor's reliability coefficient. In fact the formula for the difference between two scores earned by an individual is calculated using the standard error of measurement of each score.

$$\text{Difference} = Z \times \sqrt{\text{SEM}_1^2 + \text{SEM}_2^2}$$

For example, we can calculate the SEMs for these two variables assuming reliability coefficients of .85 for well-being and .78 for school compliance and using a typical IQ metric SD of 15. Using our example, this means that scores on measures of school compliance and personal well-being would have to differ by 19 points (more than an entire SD) to be significant. Stated another way, scores on these two variables could differ by 18 points due to *measurement error alone*. Clearly, in both research and clinical settings, variables with high reliability are needed.

$$\text{Difference} = 1.96 \times \text{SQRT} (5.8 \times 5.8) + (7.5 \times 7.5) = 19$$

Bracken (1987) provided suggested thresholds for acceptable levels of test reliability. He suggested that subscales should have at least an internal reliability of .80 or greater and total scales an internal reliability of .90 or greater. These guidelines should be further considered in the light of the decisions being made. For example, if a score is used for screening purposes where overidentification is preferred to underidentification, a .80 reliability standard for a total score can be acceptable. If, however, important decisions are made, for example, dealing with special educational placement, then a higher (e.g., .95) standard should be deemed more appropriate (Nunnally & Bernstein, 1994).

In summary, it is advisable that researchers and clinicians who examine protective factors use variables that have internal reliability estimates of .80 or higher and composite scores comprised of several variables that have an internal reliability estimates of .90 or greater. If a variable cannot be constructed to meet these requirements, then their inclusion in research should be questioned. This is particularly important because the extent to which two variables can reliably correlate is influenced by the reliability of each variable. Clinicians are advised not to use measures that do not meet these standards because there will be too much error in the measurement to allow for confidence in the result. This is especially important because the decisions clinicians make can have a significant impact on the life of a child.

Validity

Validity refers to the extent to which empirical evidence and theory support an interpretation of scores that represent a construct of interest. Researchers who study resilience are faced with the first responsibility of carefully and clearly defining the construct they intend to evaluate. Given the inferential nature of the study of resilience, the second challenge facing the field is to determine which factors should be measured that are associated with or predictive of resilience. The third goal is to evaluate the predictive validity of the putative, protective, and risk factors. Much of the research conducted in this area has attempted to examine these three issues to varying degrees. The field has increasingly focused on identifying those variables that predict resilience in the face of adversity.

Validity of a measure of resilience is, therefore, more complicated than demonstrating the validity of an achievement test or measure of depression, for example. The number of variables that have been examined is substantial, there is considerable inconsistency in the psychometric quality of the variables studied, and the research on the relative importance of the many variables is still evolving. This makes for an exciting area of research, but one that clinicians should apply with appropriate cautions.

EVALUATION OF MEASURES RELATED TO RESILIENCE

The assessment of factors related to resilience in clinical practice is in its early stages. For this reason there is a paucity of formal standardized measures that can be used in this field. We are aware that informal measures of factors related to resilience have been used by psychologists in the field and in research. Although informal nonstandardized tests and procedures are valuable as initial approaches to assessment, they lack the needed research and development base as well as norms calibrated on a representative national standardization sample to make them maximally useful and defensible. The complete development of any scale of measurement must follow a carefully prescribed series of steps to ensure the highest quality and utility.

Development of a system for measuring variables related to resilience is a task that requires important test development procedures be followed. The many methods and issues are amply described, for example, by Crocker and Algina (1986), Nunnally and Bernstein (1994), and Thorndike (1982). Essentially, the typical test development process involves a series of steps designed to yield a defensible measure of a construct or constructs.

The process begins with a clear definition of the construct or constructs that can be operationalized. This means that all variables of interest must be defined with such clarity that they can be assessed via some method, be that a rating scale, observational method, or performance test. In the area of resilience, this means that even concepts such as surgency, sociability, negative affectivity, adaptability, and self-referent social cognitions would have to be defined with clarity because without a clear definition, hopes for reliable and valid measurement would be difficult at best. Definitional clarity is the sine qua non for good item writing. This task is made considerably more difficult because of the evolving nature of the field of resilience.

The next step is the development of an initial pool of items to measure the construct or constructs specified, followed by pilot testing of the items. Pilot tests are designed to evaluate the clarity of the items and the general approach to obtaining scores. At this initial stage the ways the items are presented on the page—size of the fonts, clarity of the directions,

colors used on the form, position of the items on the sheet of paper, and so on—are considered. At this point, questions like reliability and validity are not of interest because sample size typically precludes adequate examination of such questions. The goal of pilot testing is very simple: Does the form seem to work? Do the users understand what they need to do? Are we on the right track?

The next step is to conduct experiments with larger samples that allow for an examination of the psychometric qualities of the items and their correspondence to the constructs of interest. This phase is repeated until the author has sufficient confidence that the items and the scales have been adequately operationalized. In each of the many iterations, experimental evidence is used to answer questions such as:

- What is the mean and SD of each item?
- Do items designed to measure the same construct correlate with the sum of all those items designed to measure that same construct?
- Do items designed to measure the same construct correlate with other items designed to measure that same construct higher than items designed to measure different constructs?
- What is the internal reliability of those items organized to measure each construct?
- What effect does elimination of each item have on the reliability of the scale on which it is temporarily included?
- What is the factor structure of the set of items, and how can item elimination be used to clarify the factor structure?
- Does the scale seem to have validity (defined in a number of different ways)?

This phase, sometimes referred to as a “tryout” stage, is repeated until the scale is ready for standardization. The number of actual data collection efforts depends upon the quality of the original concepts, the quality of the initial pool of items, the quality of the sampling used to obtain the data used to examine these questions, and the results that are found. The goal is to produce a version that is ready to be subjected to large-scale national standardization. The idea is that the cost of standardization is so great that the current status of the instrument must be of high enough quality that the risk of error is greatly reduced.

The next to the last step in development of a measure for use in clinical settings is standardization and data collection to establish the reliability and validity of the final measure. This process first requires that a sample of persons who represent the population with whom the measure will be used is administered the measure so that (a) a final group of items and scales is determined and (b) normative values can be computed. Typically, this is a nationally representative sample. Development of norms is an art as much as a science, and there are several ways in which this task can be accomplished (see Crocker & Algina, 1986; Nunnally & Bernstein, 1994; Thorndike, 1982). The second task at this stage is collection of data for the purpose of establishing reliability (internal, test retest, interrater, intrarater) and validity (construct, predictive, and content, for example). Of these two, validity is clearly the more difficult psychometric quality to assess.

There are many types of validity, and, therefore, validity is not established by any single study. According to the Standards for Educational and Psychologist Testing (AERA, APA, NCME, 1999), evidence for validly “integrates various strands of evidence into a coherent account of the degree to which existing evidence and theory support the intended interpretation of test scores for specific uses” (p. 17). That book provides 24 standards that relate to

validity issues that should be addressed by test developers. This includes, for example, the need to provide evidence:

- that evidence exists to support interpretations based on the scores the instrument yields;
- about the internal structure of the test;
- about the organization of scales and composites within a test;
- of the relationship between the scores the instrument yields and one or more criterion variables;
- for the utility of the measure across a wide variety of demographic groups or its limitations thereof;
- that the measure differentiates between groups as intended.

This list represents some of the issues that need to be addressed and is not intended to describe all the issues that should be examined. In the field of resilience we believe that there are some particularly salient validity issues, for example: Can variables related to resilience be operationalized into some measurable system? How effective is the measure for differentiating between children who are at risk and succeed and those who do not? How many variables need to be measured to maximally predict resilience? Is a combination of variables related to protective factors in the environment, family, and the child, the best way to predict resilience? Do protective factors enhance outcomes only for children who are at significant risk or all children? Can the extensive lists of child protective factors be reduced to a few key characteristics that predict which children might be resilient? The answers to these questions will help define the future of this field.

Once development of an instrument is completed, the important task of documentation begins. There is wide variation in the extent to which test authors document the development, standardization, reliability, and validity of their measure. Some test manuals provide little if any information of the types we have described above; other provide ample descriptions. We refer the reader to examples such as Bracken and McCallum's Universal Nonverbal Intelligence Test (1997); the Devereux Scales of Mental Disorders (Naglieri, LeBuffe, & Pfeiffer, 1996), and the Cognitive Assessment System (Naglieri & Das, 1997). We use these examples because not only do these authors provide detailed discussion of the various phases of development, but they provide extensive discussion of how the tests should be used and the scores the tests yield interpreted.

Development of a measure does not end with the writing of the sections in the manual that describe the development, standardization, and reliability/validity of the instrument. Authors have the added responsibility to inform the users about how the scores should be interpreted (AERA, APA, NCME, 1999). This includes how test scores should be compared with one another and with scores from other tests (if appropriate). Additionally, authors should provide the users with suggested procedures for comparing values contained in a measure as well as the values needed for significance when the various scores are compared. The test manuals cited above provide excellent examples of how authors can provide both interpretive methods and values needed for significance to the clinician. This is a critically important task that will enable the user to interpret the scores from an instrument in a manner that is consistent with the intent of the authors and the reliability and validity evidence that was accumulated.

Our view is that clinicians have a responsibility to use measures that have been developed in the manner we have briefly outlined above, and that nonstandardized approaches should be avoided. For this reason we will only discuss standardized scales of factors related to resilience in the sections that follow. We recognize that because efforts to develop

formal measures for assessment of those factors related to resilience have only recently begun, the list is very limited, but we hope that this discussion will illuminate the need for efforts in this area. We will, therefore, discuss the psychometric characteristics of two related standardized measures developed by the Devereux Foundation: the Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999) and the Devereux Early Childhood Assessment Clinical Form (DECA-C; LeBuffe, & Naglieri, 2003). The former is intended for use by individuals such as preschool administrators and teachers, and the latter by mental health professionals working with preschool children.

DECA

The Devereux Early Childhood Assessment (LeBuffe & Naglieri, 1999) is a nationally standardized rating scale designed to be used by preschool program directors, teachers, preschool mental health, and early childhood special educators to evaluate protective factors related to resilience in children aged 2 through 5. The rating scale also includes a brief rating of behavioral concerns. One of the main goals of the DECA is to help determine if children have developed adequate skills in three areas (initiative, self-control, and attachment) that are related to resilience. Children who receive comparatively low scores in these three strength-based, within-child protective factors may be at risk. By identifying these at-risk children early, strategies can be implemented at school and at home to help develop these protective factors, increasing the odds that the child will be able to successfully adapt to future risk and adversity.

The DECA uses a behavior rating scale format that evaluates the frequency with which a child aged 2 through 5 demonstrates specific behaviors over the past 4-week interval. A family member or early care and educational professional completes the 37 items, which are then scored using a 0 (never) to 4 (very frequently) scale.

The DECA items are organized into two dimensions: protective factors and behavioral concerns. The protective factors included are initiative (11 items), Self-control (8 items), and attachment (8 items). A screener for behavioral concerns (10 items) is included to help identify children with emerging problem behaviors. Items on the Initiative scale assess the child's use of independent thought and action to meet his or her needs. The Self-control scale includes items about the child's ability to experience a range of feelings and express them appropriately using words and actions. Attachment items help determine if the child has developed mutual, strong, and long-lasting relationships with other children and adults. The Behavioral Concerns items measure a wide variety of problem behaviors seen in some young children.

The items included on the DECA are organized into five scales: one scale for each of the Initiative, Self-control, Attachment, and Behavioral Concerns scale, and a Total Protective factors scale, comprised of the sum of these scales except behavioral concerns. The rating a child is given for each of these scales is converted from a sum of raw scores to a T score. T scores have been set to have a mean of 50 and standard deviation of 10, so that direct comparisons across the various scales can be easily accomplished.

The DECA was standardized on a carefully selected national sample of 2,000 children aged 2 through 5. The sample, amply described in the manual, was used to compute reliability estimates for the scales. The total Protective Factors scale reliabilities for parents and teachers (.93) exceeded the .90 minimum for a total score suggested by Bracken (1987). The average reliabilities across raters for the separate scales are as follows: Initiative (.87), Self-control (.88), Attachment (.81), and Behavioral Concerns (.76). These values, with the exception of Behavioral Concerns, also meet Bracken's (1987) criteria of .80 for a scale.

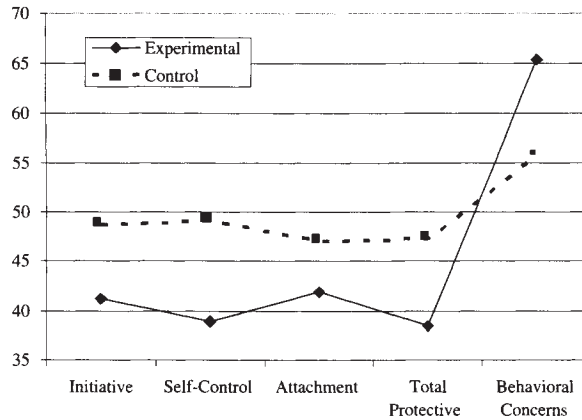


Figure 8.1 Comparison of DECA Scale T Scores Earned by Children with and without Known Emotional/Behavioral Problems

Internal reliability estimates are important, but similarity of scores earned when the same rater rates the same child (intrarater reliability) and when different raters rate the same child (interrater reliability) are also important. The values provided for the DECA are similar to results typically obtained from similar behavior rating scales. Internal reliabilities are consistently higher than inter- or intrarater reliability coefficients, which likely reflects the different ways children behave in differing environments or the differences between how adults evaluate children. The correlations among ratings by different informers is a limitation that has hampered all behavior rating scales (Achenbach, McConaughy, & Howell, 1987).

The examination of the validity of the DECA could not be determined in relation to other established measures of within-child protective factors in preschool children because none exists. This means that the authors had to rely on a method of establishing validity that involved the comparison of children who varied in their social and emotional health in some demonstrably valid way. To achieve this goal two samples of children were compared: one group (experimental) with known emotional/behavioral problems ($N = 95$) and another (control) that could be considered typical ($N = 86$).

The results of the examination of the validity of the DECA is presented in Figure 8.1. The findings show that the children with known emotional/behavioral problems earned lower scores (less desirable) on the measures of Initiative (d -ratio of .78), Self-control (d -ratio = 1.01), Attachment (d -ratio = .47), Total Protective Factors (d -ratio = .89), and higher scores (also less desirable) on the measure of Behavioral Concerns (d -ratio = 1.08). The d -ratio is a calculation of the differences between groups expressed in standard deviation units and is described as small (.2), medium (.5), and large (.8) by Cohen (1988). These results and others presented in the *DECA Technical Manual* (LeBuffe & Naglieri, 1999) indicated that the children with demonstrated emotional and behavioral problems earned scores that reflect the difficulties they have behaving in appropriate ways and their need for stronger factors that are associated with resilience.

DECA-Clinical Form

The Devereux Early Childhood Assessment Clinical Form (DECA-C; LeBuffe & Naglieri, 2003) is a clinical assessment instrument designed to assess factors related to resilience and

the nature and severity of a preschooler’s social, emotional, or behavioral problems. Whereas the DECA was developed to be used with all children as part of a mental health promotion program, the DECA-C is intended to be used with children experiencing signs of emotional or behavioral concerns. That is, the DECA was developed to be used at the universal level as part of a primary prevention program; the DECA-C at the targeted or indicated level as part of an assessment of a child’s emotional/behavioral health and to develop intervention plans to meet the child’s needs. The DECA-C is intended to be used by those professionals (e.g., psychologists, counselors, and those with clinical training) who have the necessary qualifications to interpret and use this clinical tool as part of child assessment.

The DECA-C is partially derived from the DECA, but it is an extension of that rating scale. The DECA-C includes the three DECA scales related to resilience (initiative, self-control, and attachment) but expands the measurement of behavioral concerns. The Attention Problems scale (7 items) assesses difficulties with focus, distractibility, impulsivity, and hyperactivity. The Aggression scale is comprised of 7 items used to measure hostile and destructive acts. The Emotional Control Problems scale has 8 items that measure the child’s difficulties in modifying the overt expression of negative emotions. The Withdrawal/Depression scale (9 items) addresses behaviors related to social isolation and lack of reciprocal interactions as well as depressed affect. These Behavioral Concerns scales are combined into a Total Score, as are the protective scales as shown in Figure 8.2.

The authors suggest that assessing both protective factors and behavior concerns provides at least three important advantages to clinicians. First, a balanced examination of the child from both positive and concern perspectives is achieved. Second, the examination of the relationships between these dimensions leads to a more complete understanding of how they individually and jointly influence the child’s behavior. Third, the inclusion of both dimensions provides important information for intervention planning.

The DECA-C uses the same rating scale format as the DECA and was standardized on the same sample as the DECA described above. These data were used to construct the norms (T scores set at a mean of 50 and SD of 10) and calculate internal reliability coefficients. The reliabilities for the protective factors are the same as previously reported; the average behavioral concerns scale internal reliabilities for parent and teacher raters are

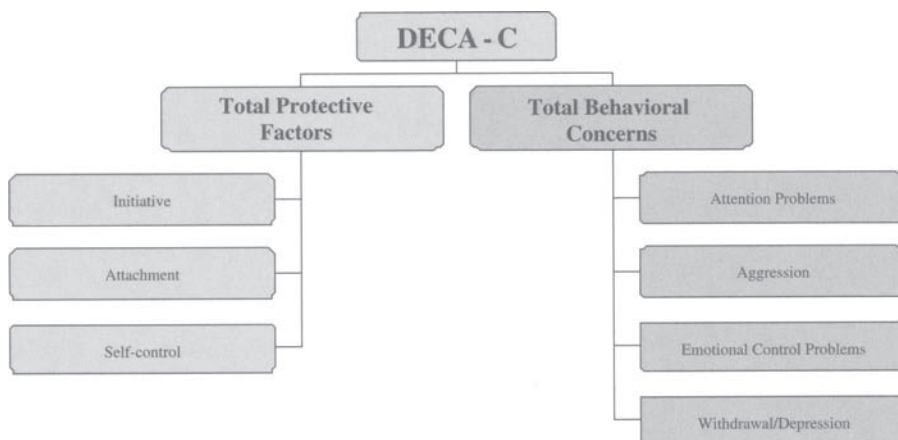


Figure 8.2 Organizational Structure of the DECA-C.

as follows: Withdrawal/Depression (.73), Emotional Control Problems (.83), Attention Problems (.83), and Aggression (.82) with the Total Behavioral Concerns scale (.91).

The validity of the DECA-C was also studied in much the same ways as the DECA. The same groups were examined and the results showed that the identified sample ($N = 95$) and community sample ($N = 86$) differed significantly and substantially on each of the Behavioral Concerns scales. The two groups differed by approximately half a standard deviation or more (d -ratios range from .42 to 1.12). The d -ratios for Total Protective Factors (.88) and Total Behavior Concerns (1.12) indicate that both of these dimensions differentiated the groups of children who had known emotion and behavior problems with a matched comparison group of typical preschool children (see LeBuffe & Naglieri, 2003 for more details).

The validity of the DECA-C was also assessed by examining the differences between the normative ($N = 1,107$) and clinical samples ($N = 123$) to determine what percentage of each group earned scores that were extreme enough to be considered a concern. For the Protective Factors this was a T score less than 40 (meaning too few Protective Factor items were rated as adequate), and for the Behavioral Concerns a T score of 60 or greater (meaning that the child exhibited many behavior problems). Each child's score was categorized on the basis of the number of individual scale T scores that met the criterion of a concern as defined by LeBuffe and Naglieri (2003). The results of this important study are shown in Figure 8.3.

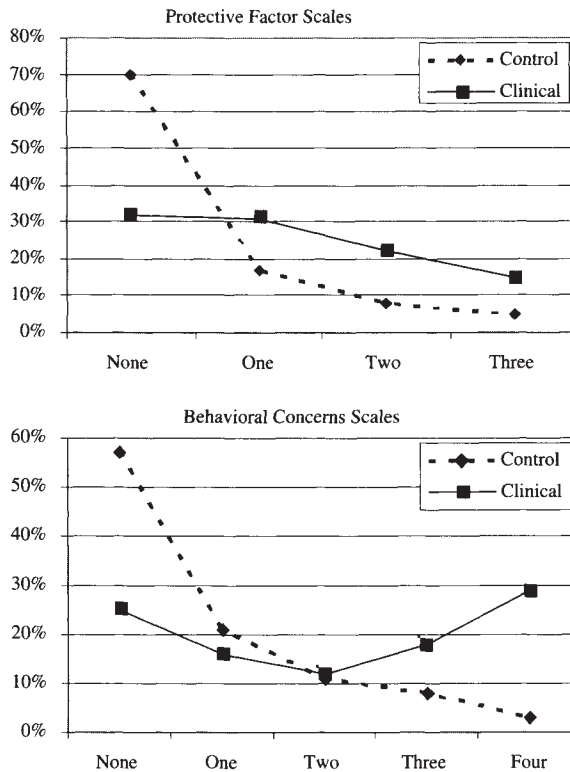


Figure 8.3 Percentages of Children who had Various Numbers of Protective Factor and Behavioral Concerns Scale Scores That Were Outside of Normal Limits.

The results of this study indicate that children with known emotional and behavioral problems showed more signs of behavioral concerns and fewer signs of strong protective factor scores than the DECA-C normative sample. The vast majority of children in the clinical sample (75%) earned scores on the behavioral concerns scales that exceeded a T score of 60. Nearly 30% of the clinical sample earned high scores on all four of the behavioral concerns scales. Importantly, nearly 70% of the children in the clinical sample earned scores low enough on the protective factors scales to be considered a concern. These data illustrate that the children with documented emotional and behavioral problems in this study had needs in the protective factors and behavioral concerns scales of the DECA-C.

The validity of the DECA-C was also assessed using several other studies, which are reported in the manual by LeBuffe and Naglieri (2003). For example, to evaluate the appropriateness of the DECA-C for use with minority children, mean scores for samples of African American and Caucasian as well as Hispanic and non-Hispanic children were compared. The results yielded similar scores for African American and Caucasian (d -ratio = .15) and Hispanic and non-Hispanic (d -ratio = .23) samples (LeBuffe & Naglieri, 2003). These and other studies in the DECA-C manual provide initial support for the measurement of both protective factors, as well as behavioral issues, to more fully evaluate a child.

The DECA and DECA-C are initial attempts at providing a standardized formal measure of variables that are related to resilience, along with more traditional measures of behavioral problems. This places these two measures at the forefront of a new area of study. The newness of these instruments provides considerable opportunities for research and refinement of those factors that are most important to assess. Researchers should study the interaction of protective factors and behavior concerns to further determine the extent to which strong protective factors might reduce the likelihood of emergent emotional and behavioral problems. Additionally, researchers should determine the utility of these particular protective factors in contrast to others that have been previously used in research settings. These and many other research questions remain to be answered in this exciting and new area of study.

CONCLUSIONS

Initial conceptualizations of psychological concepts and their defining constructs have a history of being retained across generations of psychologists. Once an idea is proposed, especially if it is operationalized in a practical method, it can become widely used before researchers have adequately determined the ultimate value and utility of the concept. Perhaps one of the best examples is the concept of intelligence, which has changed little since it was initially developed in the late 1800s and early 1900s. Similarly, because initial conceptualizations have such an important influence on the field, advocates of a concept such as resilience and the factors that lead to it should be mindful of the power of initial conceptualizations of a concept. Of course, the most important first step in the study of any psychological construct is a clear and operational definition.

Although there is a growing consensus there is, as yet, no universally accepted definition of resilience, particularly because it is an outcome presumably related to *many* factors. The definition of resilience is, therefore, intimately tied to those factors that are used to describe and measure it. The list of factors that influence resilience is very large and diverse, including the child's characteristics (psychological and physical); family; immediate, extended, and community environment. The determination of which combination of

variables best predicts resilience and the complex interactions of these variables is still evolving.

Researchers need to achieve consensus about questions such as: Is resilience an idea; a concept; a theory; a process? Why is resilience strongly related to factors such as IQ? Is resilience dependent upon adequate intellectual ability? Complicating this quest is the need for longitudinal research designs. These are just some of the current questions that require better examination. This is not an easy topic to investigate and an equally hard concept to apply in clinical settings.

Transformation of research findings to clinical practice is always tricky, and it is especially so for the concept of resilience. Prior to the application of this concept in the clinical environment more consensus is needed regarding the definition of resilience factors and what variables should be measured. Is measurement of characteristics of a child enough? What aspects of the child (emotional, intellectual, physical) should be measured? Does information about the environment (including presence of significant person, community supports, socioeconomic levels, etc.), in combination with within-child characteristics, improve the likelihood that a child will be resilient to risk factors? Most important, which protective factors, especially in the within-child domain, can be strengthened, and how?

Clinicians should be cautious when applying the concept of resilience and they should be particularly mindful of the psychometric issues that limit application. We suggest that when given the option, measures that have documented psychometric characteristics should be used within the boundaries specified by the authors. Methods that have been standardized have obvious advantages, but even these have limitations. For example, the two DECA instruments measure only within-child characteristics. The extent to which additional variables would improve the prediction of resilience is not known. Methods that have not been standardized and tested should be viewed with extreme caution by clinicians because psychometric issues such as reliability can have considerable influence on the variability of scores. This in turn can dramatically influence interpretation of results. The use of well-developed, psychometrically sound assessments will greatly enhance the likelihood that we will be able to answer many of these important questions.

NOTE

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II

ENVIRONMENTAL ISSUES

9

Poverty in Childhood and Adolescence

A Transactional–Ecological Approach to Understanding and Enhancing Resilience in Contexts of Disadvantage and Developmental Risk

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The number of children in the United States who grow up in conditions of chronic poverty and social disadvantage remains a tragedy of epidemic proportions. Currently, approximately one out of every five children under age 18 lives in poverty (U.S. Bureau of the Census, 2003). Further, the overall numbers grew by approximately 400,000 from 2001 to 2002, to exceed 12 million children and youth who now live below the poverty line. When those who are considered “near poor”—calculated by the U.S. Census as those who have household incomes of less than 1.25 times the poverty income level—the percentage of all children below the age of 18 in the United States who experience serious economic hardship each day edges close to one fourth (22.3) of all children and youth. Poverty rates among minority children are even higher, with this level of severe economic disadvantage affecting approximately 30% of both Hispanic and African American children (U.S. Bureau of the Census, 2003). Studies of the effects of poverty and other forms of socioeconomic disadvantage have underscored the potentially devastating impact that these conditions can have on the emotional, physical, and intellectual development of children and youth (cf. Mrazek & Haggarty, 1994; Felner et al., 1991; Felner, Silverman, & Adan, 1992). Summarizing these findings, Schorr (1988) concluded:

poverty is the greatest risk factor of all. Family poverty is relentlessly correlated with school-aged childbearing, school failure, and violent crime. . . . Virtually all other risk factors that make rotten outcomes more likely are also found disproportionately among poor children. (p. xxii)

Little has changed since Schorr wrote those words to change the prognosis for children in poverty. Indeed, as will be discussed below, because of changes in society many of the conditions that have been associated with poverty, such as school failure, may be more likely to result in other compounding, comorbid difficulties than at any time in our nation's history.

Elsewhere in this volume there are extended discussions of approaches to building specific competencies, or specific supports (e.g., parental skills) to enable all children and youth, including those in poverty, to better withstand stressors and challenges, including ones from both nature and nurture (Deater-Deckard, Chapter 4 in this volume), that they confront as they develop. It is neither the intent nor within the scope of the current chapter to cover that same ground in significant detail, except to refer to it as necessary. Rather, my intent is to offer a framework for more fully understanding the pathways by which poverty impacts and shapes the developmental course for children and youth, one that has shown promise for guiding both policy and other interventions that can be effective in reducing the ongoing toll of poverty among our young. To be sure, what is offered here is but one element of what must be a far more extensive and comprehensive approach to enabling children and youth to be resilient in the face of the myriad developmentally hazardous conditions that are associated with living in poverty. Further, the discussion offered here, although potentially making a useful contribution to considering the impact of poverty in non-Western countries, would be vastly different both in its focus and recommendations, even though the transactional-ecological perspective is one that does generalize to the basic developmental processes of all living organisms, and in that way may have some utility.

When considering where to focus the discussion of this chapter for such a vast area (poverty) about which so much has been written, perhaps what was easiest was to list what it did *not* need to do, although a chapter recounting all of the ills associated with poverty or one that had little utility for guiding action was one thing that was clearly not need. There are literally hundreds, if not thousands, of government and public/private sector reports that recount the costs and impacts of poverty for children, adolescents, families, and others. This chapter does not do that. Similarly, it is not about the definitions of poverty; that is left to the economists. Instead, my focus is on the ways in which chronic disadvantage can act both directly and through other social institutions to negatively impact the developmental course of children and youth, as well as to offer some general understandings and specific examples of how we can reduce the population-level impacts of disadvantage.

A MEDIATED EFFECTS APPROACH TO DEFINING AND UNDERSTANDING THE EXPERIENCE OF POVERTY IN CHILDHOOD AND ADOLESCENCE

Transactional (Felner & Felner, 1989; Sameroff & Fiese, 1989) and ecological perspectives on human development (Bronfenbrenner, 1979), taken together as a transactional-ecological perspective (Felner, Felner, & Silverman, 2002), provide an important organizing theoretical framework for understanding the ways in which conditions such as poverty and correlated forms of social and economic disadvantage (e.g., parental educational and occupational attainment) can impact adaptational outcomes. Here, it is important to distinguish poverty and related forms of socioeconomic disadvantage from other, conceptually distinct aspects of the ecology of child and adolescent development (Bronfenbrenner, 1979; McLoyd, 1990, 1998). In articulating this view, Felner, Silverman, and Felner (2000) noted that social structural stress, major life events, and associated conditions from which they may

derive, such as the forms of disadvantage noted above, are “distal” in that they do not directly describe the life circumstances and demands that result from them nor the adaptive processes they require. That is, although there may be some conditions for which “poverty” can, for all children and youth, increase the marginal probability of experiencing, to talk about the experience of “poverty” can be very misleading.

Illustratively, given poverty’s economic definition, where the level of income for a family is often the “yardstick,” a family where the primary breadwinner is a well-educated, but new school teacher with several children can easily be seen as potentially meeting the standard for being either “in poverty” or at least “near poverty.” Similarly, within the group of children/youth in poverty may be families where the parent(s) is very young, has little education, has few other resources, and yet has approximately the same income.

Families with the same income levels can also live in dramatically different communities where the developmental contexts experienced by their children can vary significantly. Kozol (1992) and others have talked about the “savage inequalities” that can be present in the educational settings that are provided to students in neighborhoods and communities where pervasive poverty and social disadvantage are present. At the “next level” of the ecology of communities, Wilson (1987, 1996) has shown the way that neighborhoods with high levels of unemployment or “dense” or “concentrated disadvantage” can be developmental contexts where the effects of family poverty are potentiated and magnified. Such neighborhoods often have substandard housing, where high lead or other toxin levels may be present, significantly greater levels of crime, substance abuse, and violence, and fewer high-quality after-school or childcare options, and they may also lack exposure to positive models or opportunities that shape the dreams and aspirations of youth. It is also clear from both the works of Wilson (1987, 1996) and census reports that for some poverty or near poverty is a transitory experience, often persisting less than 1 year. For others, however, it may be ongoing, pervasive, and can characterize much or all of the developmental period from prenatal to maturity. What is clear from the work of Sameroff and his colleagues (Sameroff & Chandler, 1975; Sameroff & Fiese, 1989) is that exposure to additional conditions of risk is not simply additive in their impact but can, in fact, exponentially increase the probability of developmental difficulties. Hence, to discuss resilience in the face of poverty requires a framework that both reflects a full awareness of the “nested” and variable nature of poverty and that can guide action for affecting resilience in the vastly different contexts and conditions that might be associated with it.

According to this perspective, it is the more proximal person-environment transactions and developmental circumstances that define the particular experience of poverty by a child or adolescent. And, it is those immediate, day-to-day experiences that most directly shape the adaptation of youth and the developmental challenges they confront (Felner, Farber, & Primavera, 1980, 1983). Many of us know people who have said that they “were poor as a child, but did not know it. We didn’t know it because there was always food, the same house (housing stability), a safe place to play, and clean clothes.” But, for others who have grown up in poverty the developmental contexts were far harsher.

There are several important implications of this view. First, conditions of social and economic disadvantage can, at least in part, exert their impact on adaptational outcomes via their effects on the relatively more proximal environmental conditions and experiences that characterize the lives of youth. The conceptual model implied by this view is one in which conditions of socioeconomic disadvantage influence proximal environmental experiences, and the same proximal experiences, in turn, have effects on child and adolescent adjustment. The model also allows for the possibility of direct effects of conditions of socioeconomic disadvantage on adjustment.

A second implication is that the more proximal developmental contexts (e.g., schools, neighborhoods, families) can provide and create powerful “compensatory effects” (Felner et al., 1995) that are not only protective in their own right, but that provide developmental experiences that facilitate the development of individual level competencies in the children and youth and then magnify the potential for positive outcomes. Here, we see the opportunity for the complement to “rotten outcomes cluster.” That is, where developmentally enhancing, compensatory settings are provided, “strengths may magnify in reciprocal ways through transactions that enhance both protective features of the context and individual strengths of the inhabitants.”

As noted, consistent with the hypothesized ecological-mediational linkages in the proposed model, numerous prior investigations have established both (a) associations between indices of household socioeconomic disadvantage and the relatively more proximal experiences of children and youth in primary developmental contexts, including, but not limited to, heightened levels of parent-child conflict, family disorganization, negative experiences in school, and greater degrees of exposure to both acute and potentially chronic stressors (Garmezy, 1983; Mash & Dozois, 2003; McLoyd, 1998; Sameroff & Fiese, 1989; Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987), and (b) associations between indices of proximal environmental experiences in many of these same domains and various aspects of child and adolescent adjustment including, but again not limited to, relative levels of self-esteem, symptoms relating to depression and anxiety, behavioral problems in home and school contexts, and academic achievement (Cicchetti, Rappaport, Sandler, & Weissberg, 2000; DuBois, Felner, Brand, Adan, & Evans, 1992; Felner, Aber, Cauce, & Primavera, 1985; Mash & Dozios, 2003; Nolen-Hoeksoema, Girgus, & Seligman, 1992; Rowilson & Felner, 1988).

Findings from the relatively few studies that have examined patterns of association among all three types of variables provide some support for distal-proximal adjustment mediated pathways (see McLoyd, 1990, for an excellent review of this literature). In her review, which focused on the effects of economic hardship among African American families and children, she concluded that there was support for the hypothesis that the socioemotional functioning of children living in poor families is mediated by the effects of poverty on proximal contextual conditions in children’s lives, such as the psychological functioning of parents and levels of distress in family interaction patterns. Of particular note for a mediated pathways perspective are those studies that have found that measures of relatively distal environmental factors no longer relate significantly to adjustment outcomes after their shared variance with key proximal conditions is removed. For example, in reviews of the literature concerning conduct disturbances several authors have, over the years (Hinshaw & Lee, 2003; Rutter, 1979) noted that in at least some studies the correlation between social class and conduct disturbance was either no longer evident or far reduced, after controlling for measures of family discord and disorganization that were associated with social class differences.

In pursuing the line of inquiry outlined above, the manner in which relative levels of socioeconomic disadvantage has been assessed is critical to understanding and interpreting any findings. Although this would appear to be a straightforward issue, a consideration of prior work shows that it is anything but clear-cut (Allen & Mitchell, 1998; Institute for Research on Poverty, 1992; Ruggles, 1992; Wilson, 1996). Instead, in studies of socio-economic disadvantage the defining parameters are often inconsistent, not well articulated, or embrace a broad spectrum of what even the most casual observer would agree are quite different conditions (cf. Featherman, Spenner, & Tsunematsu, 1988;

Proctor & Dalaker, 2003). Of particular concern in the present work are distinctions between economic forms of disadvantage and those that co-occur and are frequently combined with economic circumstances to create a single index of socioeconomic status (e.g., educational disadvantage). When combined to create single indicators of socioeconomic status the differential relationships among various forms of disadvantage and child and adolescent adaptation can be obscured. Consistent with this view, Hollingshead (1975), in revising his classic scale for the assessment of socioeconomic status levels, argued strongly for the need to attend to distinctions between occupational and educational dimensions of socioeconomic disadvantage.

Relatedly, there is also a need to address the ways in which relative levels of advantage and disadvantage are defined. One area requiring greater attention in this regard is the extent to which, within each form of disadvantage, quantitative (i.e., continuous) versus qualitative (i.e., discrete “level”), assessments can differentially shape our understanding of the nature and magnitude of patterns of association between socioeconomic disadvantage and adjustment. In most prior work, indices of socioeconomic status typically have been represented through interval scales or continua. An implicit assumption of this approach is that there is an equivalent level of “distance” between each pair of adjacent scale points on the indices of socioeconomic status employed. As a result, qualitative and/or unequal differences in the adaptive implications among various status levels, which may be important for understanding linkages between socioeconomic disadvantage and adjustment, have largely been ignored in this work. Illustratively, on some indices of socioeconomic status the “distance” or number of scale points separating a “middle-class” background and an upper-class one is roughly equal to the distance between the former and a highly impoverished one (see, e.g., Hollingshead’s [1975] 9-point occupational status scale). Although in some ways this may be true, in others, such as their association with increased exposure to risk-related stressors, there may be a far greater “distance” between poverty and middle class than between the upper two points of the scale.

Felner et al. (1995) conducted one of the most extensive studies that both sought to attend to the above issues and that investigated all three aspects of the proposed mediated pathway simultaneously, for example, household disadvantage, proximal environmental conditions, and child and adolescent adjustment. Among youth whose families were relatively economically or socially disadvantaged, those who were from homes in which adults were employed in low-income, unskilled occupations were found to have lower levels of school performance and achievement compared to those from homes in which adults were employed in semiskilled or skilled/professional occupations. Further, youth from families in which neither parent had graduated from high school exhibited significantly poorer socioemotional and academic adjustment than did those whose parents had higher educational levels, independent of family income levels. Youth who lived in relatively more disadvantaged homes also reported more negative experiences of proximal environmental conditions relating to family and school contexts and greater exposure to stressful life events. Most critically for a perspective that an ecological-mediational perspective is important for understanding patterns of linkage between socio-economic disadvantage and levels of adjustment were the findings that proximal environmental experiences were significant predictors of adolescent adjustment, independent of their shared variance with conditions of household disadvantage, whereas conditions of disadvantage in several instances were no longer related significantly to indices of adjustment once their association with proximal environmental conditions was taken into account.

One of the more intriguing aspects of their findings was that economic and educational forms of disadvantage had somewhat differential patterns of association with indices of adjustment and proximal environmental experiences. Youth from families where there was more serious economic hardship experienced more problematic parenting, felt less connected to school, and had greater exposure to other major stressful events themselves repeatedly documented as relating to developmental negative outcomes (Mrazak & Haggarty, 1994). But, a marker of family disadvantage that is combined with occupational status to create an aggregate indicator of socioeconomic status—parent education—had a notably different and more pervasive pattern of association with the proximal risk experiences of youth. Students from homes in which neither parent had graduated from high school experienced more “across the board” developmentally negative experiences, including higher levels of rejection from parents, less social support and emphasis on intellectual-cultural issues in their families, more negative feelings about school, and heightened levels of exposure to both major and relatively minor stressors.

These findings suggest that levels of parental education can be related to relatively greater or lesser levels of resilience amount students, as well as to other developmental conditions that, even for children and youth who are not experiencing economic hardship, have been linked to resilience and/or disorder.

Collectively, the studies discussed above provide support for the view that the effects of household disadvantage on socioemotional adaptation are mediated by the developing child’s experiences at school, in the neighborhood, and in the other primary developmental contexts that define their life spaces. It seems clear that at least part of the impact that conditions of social and economic disadvantage have on developmental outcomes is accounted for by the ways in which these larger, more distal conditions, shape the more proximal environmental experiences of individuals. They suggest that, as we move toward attempting to build and enhance resilience among youth in poverty, the approach must address the multiple ecologically mediated pathways linking conditions of family occupational and educational disadvantage to poorer child and adolescent adjustment.

A TRANSACTIONAL–ECOLOGICAL FRAME FOR UNDERSTANDING AND BUILDING RESILIENCE ABOUT CHILDREN AND YOUTH EXPERIENCING POVERTY AND DISADVANTAGE

Given the above understandings, what is now required is a broader, systemic framework for understanding and predicting the differential emergence of resilience among children and youth from households and backgrounds characterized by poverty and disadvantage, as well as for guiding actions that can be useful for making significant gains in the face of conditions of risk that are so widespread.

A transactional–ecological perspective is best suited for explicating pathways to disorders that are congruent with tasks of understanding and building strengths and resilient outcomes for children and adolescents in poverty (Felner et al., 2000; Felner & Felner, 1989; Lorion, Price, & Eaton, 1989; Sameroff & Fiese, 1989; Seidman, 1987). If the impact of poverty is mediated through the conditions that define the contexts and transactions that children and youth experience and with which they must cope, then a framework that enables us to consider both the relationships between individuals and those environments and the ways in which those environments and their experience can interact with each other, across contexts, is required. Research on developmental psychopathology and preventive interventions suggests that the principles of “healthy or normal” development

are central for understanding the emergence of disorder as well as resistance to disorder and dysfunction (Felner et al., 2002; Mash & Dozois, 2003; Sroufe & Rutter, 1984). Here, the focus is on understanding normal developmental trajectories as they are shaped by the interactions between the individual and the primary contexts in which they grow, as well as understanding the ways that contextual conditions can “bend” those pathways to build competencies or increase vulnerability.

Applying this developmental view to the issue of resilience among those in poverty we can identify a critical set of tasks that must be addressed if these understandings are to be useful for guiding action. These tasks are:

1. Assessment of the ways in which poverty is associated with disruption in normal developmental processes and contexts;
2. Identification of the ways that poverty and its correlates shape and impact the nature of disruptions and distortions in developmental processes;
3. Design and implementation of policies and interventions whose goals are to modify and “correct” these disrupted processes until they closely approximate those that lead to healthy, resilient, developmental outcomes.

Hence, this developmentally based approach starts by identifying those processes and contextual conditions that relate to “healthy” forms of the outcomes of concern (e.g., academic success instead of academic failure) even in the face of other challenges (e.g., economic hardship). They then consider the ways in which the proximal conditions experienced by those in poverty are different from those that would be desirable. Resilience building strategies are then aimed at closing this “gap” in the desired direction. Critically, when thinking about what makes for “resilience,” problematic outcomes are now seen as predictable and even “normal” results of the deviations in developmental conditions since the mechanisms and processes that lead to problematic developmental outcomes are the same as those that lead to positive ones. It is only the levels and forms of these processes that differ when problematic outcomes emerge. Thus, a guiding assumption of a developmentally based model is that any “healthy” child, youth, or adult, if exposed to the problematic developmental process of concern, is likely to show the similar problematic outcomes. Conversely, actions to attain resilient outcomes require that the disruptions in the proximal contexts of children and youth that have resulted from economic hardship be addressed.

Adopting this broad “developmental” approach is an important first step. But clearly such a broad developmental perspective does not possess sufficient specificity concerning the conditions and processes that shape “resilience” and the emergence of one specific set of outcomes over another. To attain such specificity we need greater precision and agreement in our definitions of the central concepts that mark potential points for intervention in developmental pathways to resilience or disorder. Of particular concern are the ways in which we define risk, vulnerability, resilience itself, protective conditions, and onset, as the failure to draw clear distinctions among these concepts may lead to ambiguity and confusions that hamper the systematic accumulation of a body of knowledge for guiding our understanding of “why some kids do well when they shouldn’t” or, more scientifically, for reducing the marginal probability of the emergence of disorder in the face of serious economic hardship and disadvantage. Understanding Developmental Pathways to Resilience: Disentangling Vulnerability, Risk, Protective Factors, and Onset of Disorder or Maintaining Positive Developmental Trajectories as is discussed elsewhere in this volume most perspectives on disorder or health start with a fundamental “diathesis-stress” perspective. This model holds that individuals may have either genetically based or otherwise *acquired* vulnerabilities to the onset of disorder. These vulnerabilities are the diathesis side of the

equation. They “set” the person’s threshold of susceptibility to environmental conditions (e.g., stress; disadvantage) or hazards (e.g., high levels of contextual disorganization, restrictive opportunity structures, sharp changes in developmental demands; other forms of danger) that may precipitate the onset of disorder.

What is important to understand is that, although often misused and misapplied, the concept of *risk* is defined epidemiologically (Felner et al., 2000). It is

a conditional statement about the probability that any member of a given population or subpopulation will develop [a] later disorder. Often overlooked in discussions of risk is that the designation of being a member of an “at risk” group says little about any specific member of that group other than that they have been exposed to the condition(s) of risk under consideration. If the conditional probabilities of disorder in a population are “X”, it is not that all members of that group possess “X” levels of predisposition or “riskness” for disorder.” . . . A risk designation is no more than an actuarial statement about the members of a selected group. (Felner et al., 2000)

As discussed, there is perhaps no more widespread and pervasive set of conditions of risk to which children and youth are exposed than poverty and disadvantage. Efforts to build resilience have as one implicit, if not explicit, goal a focus on addressing the probabilistic ways in which conditions of risk (poverty and its correlates) disrupt developmental processes in the lives of all children and youth in a cohort.

What is also important to understand in this discussion is that it now makes the widespread view that children or youth in poverty are “high risk” completely inappropriate. They have clearly been potentially exposed to relatively greater levels of conditions of risk, and they may also be seen to be a *population* “at risk.” But they are not “high risk” individuals. Unfortunately the term “risk” has been frequently used to imply that all individuals in a “high-risk” group are somehow more fragile or *vulnerable* than all of those in lower risk groups. This is simply not the case. Indeed, from a resilience perspective, depending on other developmental attributes, individuals may have acquired (see below) or proximal environmental conditions in their homes or schools, on an individual basis they may be far less likely, and therefore less at risk, than certain specific youth not in poverty.

This conceptual slippage stems, at least in part, from the practice of individual-level variables, especially when aggregated for a population or group, being spoken about as risk markers (cf. Hawkins, Catalano, & Miller, 1992; Mrazak & Haggarty, 1996). For example, children who are shy, who show signs of behavioral problems in the classroom, or who have reading/learning problems are often designated “at risk.” So, as a first step to differentiating among critical elements of pathways to resilience for children/youth in poverty it is important to prevent this terminology and be clear that actuarial statements cannot be made about particular individuals.

As we move to understanding risk for those exposed to poverty and disadvantage there are several corollaries of our definition of risk that are important. First, conditions of risk are primarily environmental in nature—disadvantage and poverty, as well as proximal disruptions in developmental contexts, clearly fall into this category. This is not to say that being part of a population group with some genetic risk characteristics would also qualify, so long as we remember we are talking about a population-level attribute.

Second, and critical for understanding the nature and emergence of resilience for children and youth in poverty, such environmental conditions can have two quite distinct roles—as predisposing conditions and as precipitating/compensatory conditions. When environmental conditions act in a predisposing (or risk-enhancing) fashion, vulnerabilities,

which in my definition are always person-level variables, are acquired. This acquisition can result either from problematic interactions with environmental conditions that are present, or the lack of exposure to important developmentally promoting conditions and resources. For example, poor early parent–child interactions can lead to the development of vulnerabilities and delays in a number of areas of child functioning.

Strengths and personal competencies can also be acquired from positive, more proximal and primary developmental contexts, and are again person-level variables. In keeping with the mediational model discussed above, one way of enhancing resilience is by supporting or enhancing the ability of proximal conditions (family patterns, opportunity-to-learn conditions in schools) to withstand the frequent negative impacts that can result from a lack of economic resources and the stresses or paucity of resources that can accompany such economic hardships. Failure to accurately understand that these person-level characteristics are, in fact, “first-order” developmental outcomes (i.e., acquired vulnerabilities and competencies/strengths) has, in the past, led to their being incorrectly labeled as individual-level *risk conditions* or as *early signs of “onset” of specific disorders*.

The levels of acquired competencies, strengths, and vulnerabilities all influence the probability that an individual will be resilient in the face of the experience of the more problematic contextual or conditions of risk that frequently define the developmental conditions that surround children and youth whose families lack economic resources. But, as we have seen, they are not markers of individual risk nor are they typically direct and inevitable markers of the onset of a disorder. But it is important to note that examining what builds resiliencies in individuals also muddies these concepts. *Resilience, in a population level framework*, is an *outcome*, defined by a person or population’s response to challenge and stress. Discussions of building “resiliencies” lose this essential defining element and obscure important differences between such outcomes and aspects of developmental pathways that produce them. What is “built” or acquired are strengths; vulnerabilities are acquired or avoided, and environmental resources and stressors interact with those in very specific ways so that even if vulnerability were acquired, without exposure to triggering conditions, no difficulties would emerge. In this instance resilience simply results from the child avoiding exposure to certain developmental demands, even though heightened vulnerability levels have been acquired. Indeed, put this way, primary development contexts that are resistant to being disrupted by poverty may themselves be resilient, that is, have or maintain positive developmental functioning in the face of serious risk and challenge.

Let us explore these issues a bit further. Environmental circumstances are now seen as potentially acting as precipitating or protective conditions, rather than simply predisposing ones. They can interact with *existing*, previously acquired, vulnerabilities and competencies to trigger the onset of more serious dysfunction. Similarly, protective conditions in proximal environments and developmental contexts can act in a compensatory fashion, reducing the likelihood that existing vulnerabilities will be “activated” when the child experiences conditions of risk.

Implicit in this view of unfolding pathways to disorder is that exposure to conditions of risk or the acquisition of vulnerabilities does not inevitably lead to the onset of disorder (see Figure 9.1). Neither does exposure to protective factors or the acquisition of competencies always result in health and resilience. Rather, these are the sequential, dynamically interactive elements of developmental trajectories to dysfunction and well-being (Felner et al., 2002). And it is these elements of the developmental trajectory that are the appropriate direct targets for change for efforts that seek to enhance resilience and prevent disorder. Framed this way resilience enhancement efforts for children and youth whose lives are

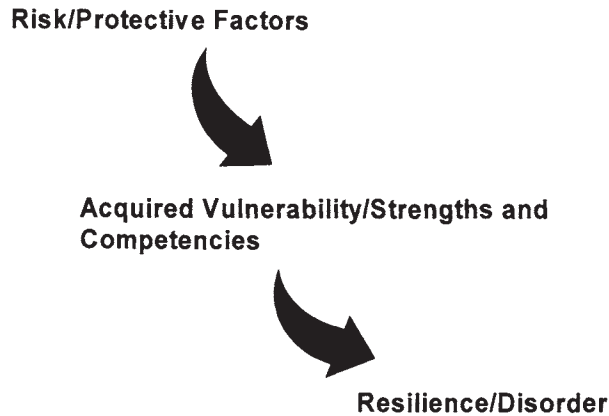


Figure 9.1 Felner Risk/Protective Factors Acquired Vulnerability/Strength and Competencies Resilience/Disorder.

characterized by poverty and disadvantage should include focused strategies that: (1) seek to reduce levels of conditions of risk or increase levels of protective factors; (2) directly, or indirectly through the previous step, reduce the incidence rates of person-level vulnerabilities or the enhancement of personal competencies and strengths; and (3) alter levels of conditions of risk and of protective factors that have been shown to interact with acquired vulnerabilities and strengths to trigger the onset of a more serious disorder or to produce resilience in the face of serious challenge.

This conceptualization of developmental pathways has direct implications for the evaluation of resilience-focused initiatives. The initial assessments of the efficacy of such efforts can take place far sooner than is often thought to be possible. Illustratively, for some efforts that seek to enhance the resilience of children as they move through life it may be a number of years before the primary conditions and disorders we seek to impact are likely to develop. A perspective based on the above understandings of developmental pathways makes it far more possible to obtain relatively rapid assessments of the degree to which the program or policies and their effects are “on course” and likely to have the desired long-term effects. This can be done by assessing the degree to which the initiative has produced changes in the desired directions in key conditions that are earlier in the developmental pathway, even when they are far distant from the time when we might expect the onset of dysfunction. They also help us to better understand the levels of change and program required to obtain the desired effects.

For example, our first assessments of program impact would focus on the degree to which levels of risk have been reduced and levels of enhancing conditions increased. Next, we would assess the degree to which the incidence and prevalence of vulnerabilities and competencies in the population have been changed. Finally, as population members experience identifiable conditions that have been shown to have a high likelihood to act as precipitants (e.g., school transitions; being approached by gangs) and/or moves through developmental periods when maximum onsets are expected, we would examine differential rates of the occurrence of adaptive difficulties in order to assess the levels of resilience obtained. But, it is also the case that when we have clearly identified increased levels of strengths/reductions of vulnerabilities (e.g., marked increases in the reading skills and levels of children in poverty and reductions in “equity gaps”) we would have clear evidence

for the probability of having enhanced resilience in the population group (those in poverty) across the life span.

Mediating Conditions

Let us now revisit the issue of mediating conditions and mediated pathways as they fit within the current framework so that we can link this perspective to the initial studies presented. Mediating conditions can now be seen to be a subset of the conditions of risk we have discussed above. They are those proximal circumstances in the child's developmental contexts that most directly shape daily experiences. For example, when children experience "poverty" it is, as we have seen, the associated changes in the conditions of the child's life that are actually responsible for the impacts that have been observed. For example, within families, poverty and economic scarcity are often associated with negative changes in parenting patterns, parental depression, and intraparental conflict—conditions that have, themselves, been found to be frequently associated with multiple, comorbid, and complex patterns of developmental difficulties. From this perspective poverty, disadvantage, and their correlates are seen as markers of the potentially higher levels of these more proximal changes and mediating conditions in the person's developmental context (Felner et al., 1983). In the model I have proposed in this chapter the direct focus of resilience-building interventions would be on reducing the levels of these negative mediators (conditions of risk) as experienced by the entire population.

IMPLICATIONS FOR THE NATURE AND TARGETING OF RESILIENCE ENHANCEMENT-FOCUSED PROGRAMMING AND POLICIES

Let us now consider the implications of the above framework to the targeting and appropriate shape of programmatic efforts that seek to enhance resilience among those children and youth who live in poverty. The first implication is that an approach that is based on individual screenings is neither advisable nor required as we seek to identify appropriate target populations for resilience enhancing efforts. Instead, we can employ epidemiological data to focus accurately on entire populations whose members have a high probability of both experiencing the critical mediators and for identifying the specific vulnerabilities and strengths that can be the appropriate first-order outcomes on which the programmatic efforts should focus to enhance resilience in that population.

To this point I have built an argument that, as Lamb (1992) has noted, poverty is an economic, not a psychological, variable. Its implication for developmental outcomes lies in its association with the ways these economic conditions relate to altered societal, community, material, and psychological conditions of risk that mediate or translate the economic conditions to direct daily experiences (Felner, 1992, 2000). Based on epidemiological data we can predict, with a high degree of certainty that children in economically distressed neighborhoods (here the neighborhood variable further defines the nature of the poverty and disadvantage with which the efforts will be concerned) will be exposed to substandard schooling, high levels of environmental stresses, a paucity of local conditions that lead to high expectations and aspirations, and literally dozens of other negative mediators (Wilson, 1987).

Efforts that address these and other risk or developmentally promoting conditions, for all children living in such neighborhoods, will be far more cost effective and efficient in reaching our target group than would screening-based efforts that seek to target only some children and families (Felner, 1992, 2000; Felner et al., 2000). Illustratively, to screen all of the children in just one public housing community in a city like Chicago for the presence of conditions that might mediate the development of problem social and emotional outcomes would be incredibly costly. It would almost certainly require all of the funds available for conducting the intervention. Instead, interventions that target mediators who have a high probability of being of concern for the entire population would be far more cost effective and reduce the marginal probabilities of disorder across the population group, while building important strengths that further facilitate the ability to deal with the range of challenges that stem from economic and neighborhood disadvantage. For example, the intervention might be provided to all children and families' preschool programs, high-quality educational environments, efforts to enhance the safety of the neighborhoods, and/or the modification or removal of policies that create disincentives for family success or that create barriers to access to quality employment opportunities. More than a decade ago Zeigler (1990) succinctly summarized the prospects and problems of early intervention programs and underscored the importance of efforts that target the entire contexts by noting, "No amount of counseling, early childhood curricula, or home visits will ever take the place of jobs that provide decent incomes, affordable housing, appropriate health care, optimal family configurations, or integrated neighborhoods where children encounter positive role models" (p. xiii).

Summary

In the model I have proposed thus far, the first-order, direct, or "immediate" targets of change in resilience enhancement efforts will typically be nonindividual level elements of developmental trajectories to adaptation and disorder. Strategies will focus on direct efforts to increase or decrease, as appropriate, the levels of conditions of risk, protective factors, and developmentally enhancing experiences to which a population is exposed. Changes in levels of these first-order elements of the developmental pathways of populations will, in turn, radiate to impact the degree to which second-order changes are accomplished. These second-order elements of developmental pathways should show changes, in desired directions, relatively soon after attainment of the first-order changes. These "early intermediate outcomes" provide preliminary evidence that the strategy is on course for being effective in achieving its long-term goals. Second-order targets of change in developmental pathways include levels of acquired vulnerabilities as well as strengths and competencies that can be required to attain resilient outcomes. Interventions will thus involve systematic actions aimed at modifying the reciprocal and interactive influences of conditions of risk, strengths, vulnerabilities, and resources in shaping trajectories to the developmental outcomes of concern.

Given these understandings about those aspects of developmental pathways that are the direct and indirect, intermediate targets of change, I turn to the question of what the appropriate long-term goals of resilience building interventions are. The answer chosen for this question is critical as it defines those specific conditions found earlier in developmental pathways, with which we will now be concerned, for example, it answers the questions of conditions of risk and the vulnerability to the development of functional outcomes.

TARGETING RESILIENCE ENHANCING EFFORTS FOR CHILDREN AND YOUTH IN POVERTY: ISSUES OF OUTCOME SPECIFICITY AND PATHWAYS TO DISORDER

Outcome Specificity

Elsewhere in this volume several authors raise the questions and issues of the appropriate level of specificity of the “targeting” of developmental difficulties. Some of the approaches in those chapters have focused on broad approaches to the enhancement of resilience, while others have discussed more focused concerns, such as issues of resilience as they relate to delinquency, depression, self-control, and learning disabilities. In considering the question of what the appropriate goals of resilience efforts for children and youth in poverty are, I now turn to the issue of whether programmatic efforts should have as their goal(s) the reduction of highly specific disorders or whether, at least when the issue of poverty serves as the focal condition of risk, our efforts should be focused on broad-based and multiple outcomes.

Historically, a major dimension on which most efforts to enhance resilience and resistance to risk, or prevent disorder, reflects two quite different assumptions about the specificity and uniqueness of developmental pathways. Single outcome-focused programs, such as those targeted to substance abuse, delinquency, school failure, depression, teen suicide, and teen pregnancy, reflect a *specific disease/disorder pathway* model that rests heavily on classic medical paradigms of disorder. These paradigms hold that dysfunction is caused by specifiable deficits, disease agents, or predispositions that interact with individual vulnerabilities that can also be specified.

A contrasting perspective to this position is one that holds that there is a need for a *comprehensive, multicausal, and nonspecific developmental pathway/root cause* focused approach (cf. Felner & Felner, 1989; Mrazak & Haggarty, 1996). This model recognizes that: (1) most of the disorders we seek to prevent have a large number of common risk factors; (2) that conditions that protect against one disorder generally also protect against many others; and (3) that there are nonspecific personal vulnerabilities that increase a person’s susceptibility to the onset of a wide array of dysfunction. The pathways to most of the social, emotional, and adaptive difficulties with which we are concerned are generally complex and shared by more than one disorder. Hence, for a wide range of developmental outcomes and sociopathologies it appears that efforts to identify specific and unique etiological “causal” agents are not appropriate.

For children and youth in poverty, given the wide array of different elements of the developmental pathway that poverty can impact, and that the condition of risk here is *entirely outside the control of individual*, comprehensive, broadly targeted approaches are clearly the most appropriate. Further, recent research from a number of converging research traditions shows the potential efficacy of such an approach to a population that has heightened probability of the onset of a broad array of disorder and dysfunction that is large and has such a broad set of potential disruptions in the proximal, mediating contexts that define the developmental experiences of the focal population. Studies of the adaptive impact of a wide array of developmental circumstances have shown that there are common developmental antecedents, such as family resources and interaction patterns, economic and social deprivation, other life stresses, powerlessness, and an array of nonspecific protective resiliency factors (e.g., social support, sense of self-efficacy, hope), all relating to the probability that individuals in a population will develop an extraordinary assortment

of mental and physical disorders (Allen & Mitchell, 1998; Mrazak & Haggarty, 1996; Sameroff & Fiese, 1989; Silverman, 1989). Converging with this developmental evidence, the data on the epidemiology of serious disorders (Allen & Mitchell, 1998; Mrazak & Haggarty, 1996) have also pointed to the high levels of comorbidity among these more severe instances and further underscored the fact that they appear to share a common constellation of antecedent developmental experiences and root causes in their emergent pathways.

The nonlinear and overlapping nature of pathways to disorder, particularly among those who may be exposed to a wide array of developmental circumstances that are problematic, such as those in poverty, are further underscored by a third set of studies on the stability of the developmental course of such difficulties (Cantwell & Baker, 1989).

Summarizing the early findings pertaining to high levels of comorbidity of disorder, Rutter (1989) concluded, "Perhaps the most striking finding to emerge from all developmental epidemiological studies . . . has been the extremely high levels of comorbidity" (p. 645). These findings have only been reinforced in subsequent years, including major studies by such groups as the Institute of Medicine (Mrazak & Haggarty, 1996). Similarly, in discussing commonalities across root causes and the need to consider broadly focused prevention approaches rather than that focus on specific outcomes, Sameroff and Fiese (1989) state that, "Whereas clear linkages have been found between some 'germs' and specific biological disorders, this has not been true for behavioral disorders" (p. 24). Less technically, but more succinctly, Lisbeth Schorr (1988) has, as noted, summarized the interconnectedness among social problems by noting that "rotten outcomes cluster," and that children from high-risk environments (such as severe, pervasive, and/or dense poverty neighborhoods) encounter developmental experiences that are so severe as to increase the rates of morbidity they will develop across the full spectrum of human social, emotional, and health problems.

To this point we have emphasized in our discussions sets of interrelated but still discreet issues and understandings that need to be woven for a more complete conceptual framework to guide the enhancement of resilience in the face of the multiple risks and challenge confronted by children and youth in poverty. I now turn to a brief discussion of the application to this task of an integrative theoretical framework that I have proposed for this purpose (Felner et al., 2002) that allows us to accomplish this weaving.

TRANSACTIONAL–ECOLOGICAL MODELS FOR PREVENTION OF RISK

The transactional–ecological (T–E) model is a framework that I and my colleagues (Felner & Felner, 1989; Felner, Silverman, & Adix, 1991; Felner et al., 1992; Felner, Favazza, Shim, Brand, Gu, & Favazza, 2001) have both refined and demonstrated its utility for guiding interventions and policy over the past several decades, particularly as it applies to prevention, promotion, and resilience enhancement. Other authors have also made important contributions to the model (cf. Seidman, 1987, 1990). I (Felner, 2000) have argued that the framework contains critical features for guiding strategies that have the necessary levels of comprehensiveness to address the range of issues raised above, while also providing for the degree of specificity required for interventions that meet the test of intentionality (Cowen, 2000).

This T–E model obtains from a conceptual synthesis of two other highly complementary frameworks—the transactional (cf. Sameroff & Fiese, 1989) and ecological

(cf. Bronfenbrenner, 1979) models of development. Full discussion of each of these approaches is beyond the parameter of this chapter. But I will capture the key features of each for the issues of concern here.

The *transactional model* has been articulated by Sameroff and his colleagues (Sameroff & Chandler, 1975; Sameroff & Fiese, 1989) as a guide for efforts to enhance the developmental outcomes of children and youth preventive efforts. The model emphasizes the dynamic, reciprocal interactions between the individual and his or her context, with bidirectional influence being a fundamental element (Sarason & Doris, 1979). For example, the interactions between an infant and his or her parent, or between a youth and his or her peers, are thought to be a result of the child's influence on the parent or group, and the reciprocal effect of the environmental influence on the child.

A transactional perspective has, as its focal targets for change, key developmental processes that lead to strengths or disorder. But, it is not sufficient for addressing the full range of conditions that must be considered by interventions when the concern is the developmental course of children and youth living in poverty. The transactional model is still, at best, dyadic. It can only deal with those proximal environments in which the person directly participates, and many of the contexts that impact the life of children in poverty, and others, extend well beyond their direct experience. Further, since the transactional model always views the sources of influence as bidirectional (Sarason & Doris, 1979), there are some proximal contexts on which individual behavior has little influence (e.g., schools) and for which it is not well suited for providing directions for intervention. To address these limitations and provide for a comprehensive model of prevention I, along with my colleagues and others (Felner & Felner, 1989; Felner et al., 2000, 2001; Felner, Silverman, & Adan, 1992; Seidman, 1987, 1990), have advocated for the joining of an ecological model of development (Barker, 1968; Bronfenbrenner, 1979; Lewin, 1951) to the transactional one.

Combining the ecological and transactional perspectives to create a transactional-ecological (T-E) model broadens the focus of each in important ways. Consistent with transactional perspectives, an ecological view holds that developmental trajectories are shaped by "Progressive, mutual accommodation between an active, growing human being and the changing properties of the settings in which the developing person lives" (Bronfenbrenner, 1979, p. 21). The ecological framework also provides for the consideration of additional elements of human contexts. It offers a comprehensive and integrative means of *viewing the interactions between the various parts of total ecological and psychological systems*, not just between individuals and their proximal environments. In particular, this perspective allows for the consideration of influences that shape the dynamic relationships between systems, and the ways in which being part of these multiple systems influence human development. Given the breadth of the impact of poverty, typically both on all or most of the systems in which the child can participate directly and on those in which their parents/primary caregivers function, a perspective that considers the reciprocal influences of proximal systems across both the individuals who inhabit them and on each other is critical to fully appreciating the challenges and outcomes that are confronted by youth in poverty and in these systems.

There are at least three important ways in which the synthesis of ecological and transactional models enables us to address these concerns. First, it enables us to consider the etiological significance of conditions with which the child comes into direct contact, but on which the child's behavior does not have a significant bidirectional influence. Included in this category of conditions are such "social structural conditions" as the density and

distribution of poverty and social disadvantage (Jencks & Peterson, 1991; Schorr, 1988; Wilson, 1987), shifting economic conditions that influence both the prognosis of poverty and motivation (W. T. Grant Foundation, 1988; Judy & D'Amico, 1997), and the regularities or structures of such primary developmental contexts such as schools (Sarason, 1982).

Of particular interest for the current chapter is that this level allows us to consider those system-wide conditions that distort, in pathogenic ways, all of the dyadic transactions that take place within their reach. Clearly, poverty, particularly when dense and persistent, is one of those system-wide conditions with such pervasive impact. These conditions can occur at several different system levels. The smallest system level of this type has been termed a *microsystem* (Bronfenbrenner, 1979), or the immediate settings-level contexts. This microsystem is the primary developmental contexts in which people live. It includes such contexts as schools, religious congregations, the family, the worksite, and peer groups. The regularities of these settings can only be influenced slowly, if at all, by the dyadic interactions that take place within them. For example, the overwhelming flux and disorganization that accompanies the transition to a high school “fed” by multiple middle schools is a condition that can seriously disrupt many of the dyadic patterns that are taking place within the school and peer groups (Felner, Ginter, & Primavera, 1982; Felner & Adan, 1989). Similarly, the social regularities of a school or workplace, its resource patterns, and other formal system regularities can shape the nature of the interpersonal interactions that take place within it (Sarason, 1982). But, in neither case will the dyadic interactions rapidly nor necessarily impact the system regularities that are shaping them.

At the *macrosystems* level (i.e., social structural conditions and regularities) (Bronfenbrenner, 1979), the individual's behavior often has little effect. But, with more proximal settings (microsystems), these conditions have significant adaptive implications for individual behavior, both directly and through their impact on the other system relationships that a person experiences. For example, when considering the definition of a resilient outcome for those in poverty it is important to understand that shifts in macrosystemic conditions have both “raised the bar” about what is expected and shifted the value of what was, in the past, a motivating goal with clear rewards associated with it. Illustratively, due to societal changes the earning potential of a high school graduate has dropped more than 40% in the decades between 1970 and 1990 and has continued to decline (W. T. Grant Foundation, 1988; Judy & D'Amico, 1997). This is a structural condition over which the individual has little control. But this shift can have profound effects both on the nature of those behaviors students view as adaptive. When this condition is coupled, for example, with others that indicate to youth that they have little hope for attending college—even if they complete high school—this fundamental shift in the economic meaning of graduation may make alternative, societally undesirable behaviors, such as early school leaving, early parenthood, and/or involvement in illicit activities to earn money, appear to be intelligent and attractive choices.

A second enhancement for efforts to understand and promote resilience in children and adolescents that derives from joining ecological views to transactional ones is that this synthesis allows for consideration of the ways in which interactions between individuals and any specific setting are influenced by differences and similarities between that setting and others that make up their life context (i.e., it allows for consideration of cross-contextual effects). Such relationships between microsystems have been labeled *mesosystems* (Bronfenbrenner, 1979). The need to consider transcontextual influences rests on the understanding that individuals have a number of primary settings that comprise the *ecological map* of their life context. Each of these settings has unique demands that shape the

nature of the transactions required by them. The solutions, skills, and abilities required by one context may, when applied in other settings, be complementary, antagonistic, and/or irrelevant. Illustratively, for students in poverty, the skills and interaction styles required to be adaptive in an inner-city environment where safety may be an issue, when applied to a school setting, can be maladaptive or irrelevant. Such conditions can result in children from inner-city environments being mislabeled as lacking in social competence or other abilities when, in fact, the actual problem is not that these children are deficient; rather, there is a poor match in the skills required among the different developmental contexts that make up their lives. For children and adolescents who often have little ability to impact or select the primary settings that define their lives, understanding the dynamics among those settings as they act reciprocally to shape both adaptation of individuals and each other is perhaps even more important than it is for adults, who may at least more easily “opt out” of settings that are poor matches for the others in their lives.

These mesosystemic relationships also add to our understanding of pathways to resilience and efforts to enhance it. They bring attention to conditions that surround resilience-promoting efforts that can play a limiting role in the impact of such efforts and, if not adequately considered, can lead to false conclusions that a program effort, or the building of a particular set of skills that is relevant to resilience, is ineffective when, in fact, it is a necessary but not a sufficient element of a more complete resilience development strategy.

There are a number of instances where this might occur. Illustratively, the impact of a resilience-focused emotional and social/behavioral problem-solving, skill-building curriculum will certainly be attenuated if the school context in which it takes place does not also provide adequate academic experiences to enable the students to develop the necessary skills in these critical academic areas. Even with the best decision-making skills and the motivation to make pro-social decisions, outcomes will be limited if the student is unable to read. Likewise, parent training programs for parents who have few economic resources might enable parents to gain important knowledge and skills, but, the degree to which they apply this new knowledge in their interactions with children will be influenced by conditions in other systems in their lives. If they are experiencing severe stress from economic hardship or concerned over the adequacy and safety of the school, they might not be as likely to use those new skills at the requisite levels of quality and intensity. As the most highly trained developmental psychologists can tell you, when it has been a “bad day” outside the home, the quality of the parenting can be sharply diminished. Such “bad days” are, unfortunately, the stark day-to-day reality for parents with few economic resources, those in negative job surroundings, those in poverty, and other groups with chronic stressors. These conditions will all certainly reduce the degree to which newly acquired parenting skills are translated to action. Thus, an ecological analysis of the interrelated systems of the lives of those we seek to impact is critical for ensuring that change efforts are adequately comprehensive and that research on them does not lead to the incorrect conclusion that intervention elements that may be necessary, but not sufficient, do not have utility for the building of resilience.

Third, a comprehensive model for understanding the adaptation and resilience of children and youth must provide for consideration of the impact of settings on individuals with which they do not come into direct contact. Again, this is particularly important for children and youth whose caregivers, throughout the day, are often parts of systems in which the child does not participate at all but which may shape the transactions of those caregivers with the child (e.g., parental workplaces, social welfare offices, teacher unions). Bronfenbrenner (1979) has referred to these as *exosystems*. Illustratively, a child may never have direct contact with the neighborhoods and conditions in which their parents or grandparents were raised or

with the workplaces of their parents. But traumas suffered in these earlier developmental contexts (Garbarino, 1990), values learned in them (Sarason, 1981), or conditions within the workplace must all be part of a broader analysis of influences that contribute to the nature of the parent-child interactions that occur. And, of course, for those children living in poverty, the likelihood that those caring for them are experiencing stressful or even problematic interactions elsewhere in the settings that define their lives is clearly elevated (e.g., high stress levels high levels of job instability and underemployment difficult, exhausting work). These setting-level regularities would then be directly targeted by introducing system-wide conditions (e.g., on-site child care centers that promote parent involvement linking parents to appropriate employment opportunities) that reduce workers' stresses and enhance well-being and family support resources, thereby enhancing the resilience of children and youth in poverty without ever directly engaging them. These changes would also be expected to radiate to the family/microsystem level interactions of all workers in the setting for enhancing the probability or the acquisition of important strengths and reducing the acquisition of vulnerabilities that may have resulted in the case of more problematic family functioning.

To briefly summarize, joining an ecological perspective to a transactional one to create a T-E model expands our focus to include the ways in which person-setting interactions are impacted by relationships between settings, as well as the broader, macrosystemic contexts in which they may be nested. Equal weight is given to understanding dyadic transactions and to the analysis of the impact of and interactions among various settings, mesosystems, and macrosystems that can significantly influence developmental pathways.

There is an important corollary of the above features of the T-E model that makes it particularly useful for providing a more fully contextualized definition of resilience than might otherwise be developed. That is, the T-E model affords us the ability to view the definition of resilience as one that must be considered, and often can only be understood, in context. Some behaviors and outcomes that we would seek to reduce or promote do not require the assumption that there are deficits or defects in the persons/population targeted, a core factor in victim blaming and disorder-focused approaches to interventions. The T-E framework allows us to consider the ways in which the target "disorders" can, in fact, be *adaptive solutions to contextual conditions that are disordered or at least incongruent with broader societal expectations and demand*. Hence, an important understanding here is that acquired strengths that might enable a child to be resilient in a dysfunctional or problematic context, for example, where peer values and rewards may be at odds with those of the broader society requirements, may well be, in those other contexts (those same strengths are) vulnerabilities that lead to a lack of resilience. By utilizing the lens of a T-E perspective, many of the target conditions with which we are concerned can be seen to be the result of highly appropriate and adaptive efforts in disordered or alternative contexts. That is:

what might appear to be deviant outcomes may be those that any healthy child would exhibit in the environments and systems that define their lives . . . what might have been seen as disorder or disease may be better understood as a result of the child's appropriate, predictable, and highly adaptive attempts to adjust to contexts and conditions that require responses which are incompatible with those in other contexts in which they live. That is, . . . what might have been seen as a disorder or disease may be better understood as the child's appropriate, predictable, and highly adaptive attempts to adjust to contexts and conditions [that are developmentally inappropriate or disordered]. (Felner & Felner, 1989, p. 21)

Applying this view to understanding and defining resilience and children's efforts to adapt in the contexts of poverty, the first, fundamental questions that must be asked are: In what

ways were the conditions and adaptive patterns (e.g., behavior, belief system, etc.) that we wish to modify adaptive at the time they developed? and, Are there factors that are associated with poverty or its correlates in the contexts of the child's life that make the interaction patterns, or the lack of them, continue to be adaptive? A basic assumption of this model is that any adaptive pattern—however problematic—*originated as an attempt to positively adapt to conditions that existed at the time*. Given this assumption, efforts to understand or change any developmental pathway or outcome cannot take place independent of a consideration of the full set of historical, familial, economic, social, and political contexts that provide meaning to a person's life experiences. And, as is clear, for children and youth in poverty, particularly when coupled with racial or ethnic disadvantage, such consideration in the understanding of resilience and its enhancement are essential. Such an approach will allow us to see that many of the behaviors or interaction patterns we may have viewed as "not resilient" actually reflect high levels of resilience as they were simply intelligent, effective attempts at adaptive solutions to disordered contexts.

Illustratively, in the case of families in poverty, until recently social welfare policies often punished recipients for earning income, acquiring savings, and attempting to accumulate equity (Moynihan, 1986). These conditions may have led welfare recipients to behave in ways that society viewed as inappropriate (e.g., not saving, not seeking employment). Instead, the recipients were actually showing intelligent and adaptive problem solving in the face of disordered contextual demands. To avoid the confusion that places the locus of such difficulties inside the person, particularly when dealing with individuals in communities where dense poverty and a lack of positive employment opportunities are pervasive, we might better refer to these and other positive adaptations to disordered contexts, those that are dysfunctional in later or other developmental settings, such as *sociopathology* rather than *psychopathology*, with the latter's inherent individual focus. This view further sharpens our focus on the characteristics of contexts that systematically distort normal developmental pathways to produce what appears to be a deviant outcome, but which are, in fact, better understood as positive, resilient, and often highly adaptive efforts to dysfunctional contexts when considered in their full ecological-developmental context.

Creating Resilience-Enhancing Contexts

As should be clear from our discussion, broad-based, population-level programs are those that hold the most promise for being adequate to the challenge of addressing the levels of need and the forms of adaptive challenges confronted by children and youth in poverty. It is also the case that such resilience-developing approaches may be well served by shifting their attention to, or at least making certain to include in their design, strategies and programmatic elements that impact the contexts in which children and youth in poverty grow, even if those contexts never directly engage the children. Indeed, a failure to attend to modifying these contexts, in ways that "naturally" build strengths and help youth avoid the acquisition of vulnerabilities, may limit the efficacy of any efforts that focus more directly on skill building or other individual-level enhancement approaches.

The most promising of these initiatives are those that seek to understand the ways in which elements of the school, community, peer, or home environment can be structured or reorganized to improve their match to the developmental needs and competencies of the populations that inhabit them, as well as to increase the degree of congruence in the developmental demands and expectations across the multiple settings inhabited by children in poverty. Such approaches promise to build resilience in a comprehensive and highly

impactful way and to more fully reflect the recommendations of the Institute of Medicine that state, "The ultimate goal to achieve optimal prevention should be to build the principles of prevention into the ordinary activities of everyday life and into community structures to enhance development over the entire life span" (Mrazek & Haggarty, 1994, pp. 298–299, 323).

To correct this overly narrow view of resilience and its development, particularly if we are to deal with the enormity of the task of dealing with the epidemic levels of disorder and failure associated with poverty, what must be recognized is that legitimate efforts will include a focus on changes in social and educational policies and programming that increase the developmental appropriateness and resources and reduce the conditions of risk in all significant human contexts. School and welfare reform and transformation efforts; restructuring of work sites to increase worker participation, satisfaction, access, and productivity; community development efforts to change opportunity structures, safety, sense of community, and resource patterns for families; and family support programs, including and social and recreational "youth development programming" (Carnegie Council on Adolescent Development, 1992) are but a few of the domains of initiatives that seek to change the ecology of the people's lives and that have, in the past, not been adequately recognized for their potential as core strategies in resilience development.

There are numerous other such efforts that can be targeted to children and families that are more ecologically congruent with the existing regularities and systems of their lives than those of the earlier generations of such efforts. For families in poverty and economically disadvantaged neighborhoods and communities, comprehensive efforts that target changes throughout the context are not only advisable but necessary for almost any more individually focused efforts to be viable. Parents who are concerned about their children cannot and will not go to work or obtain additional education if it means leaving their children without adequate adult supervision and support in high-risk neighborhoods. Hence, although clearly not typically thought of as enhancing resilience, initiatives that provide childcare can do so both directly, through their impact on the children who participate, but also indirectly, through the profound effects that such access can have on the lives of the parents of children in poverty. Indeed, it is important to understand that social programs and policies that require parents to go to work or pursue training without providing for high-quality childcare are, in fact, asking parents to engage in what may well be chargeable neglect. These are precisely the kinds of problematic policies that can emerge without sufficient attention to the way in which what appear to be dysfunctional behaviors are, in fact, found to be adaptive ones when contextual regularities are considered. Indeed, given the changing nature of society quality childcare and after-school programming that provide both supervision as well as social and educational development aspects can be one of the most powerful setting-level interventions that can be mounted, for all families, under the "flag" of resilience enhancement and the promotion of positive outcomes. Additional family-support programs, such as those that provide homeless families and/or those who are socially and educationally disadvantaged with coordinated and necessary residential stabilization, medical, human service, and food resources, also fall into this category.

CONCLUDING COMMENTS

I have presented in this chapter what I see as a framework that can guide the development of the next generation of efforts to enhance the live outcomes of children and youth in

poverty. As such efforts move toward their next generation of efforts, the contributions of those who provide the shoulders on which we stand in gaining our current vision should not be underestimated or underappreciated. Given this perspective and their “boost,” I hope that the perspective provided in this chapter further changes our ways of “thinking about what we are thinking about” in the continued evolution of approaches that seek to ensure that all children have the developmental experiences and circumstances that allow them to grow to fully empowered adults, with all of the choices and opportunities that enable them to live satisfying and successful lives.

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10

Family Violence and Parent Psychopathology

Implications for Children's Socioemotional Development and Resilience

Sara R. Jaffee

Family violence, which refers to child maltreatment and intimate partner violence, is a widespread problem in the United States. In 2002, the most recent year for which figures are available, 896,000 children were found to be victims of maltreatment, including physical, sexual, and psychological abuse, and neglect (U.S. Department of Health and Human Sciences, 2004). A recent survey found that approximately 1.5 million women and 834,700 men are victims of intimate partner violence annually (Tjaden & Thoennes, 1998). Many victims of partner violence live with children. A U.S. Bureau of Justice Statistics special report found that between 1993 and 1998, the average number of victims of intimate partner violence who lived with children under the age of 12 was 459,590 (Rennison & Welchans, 2000). Child maltreatment and intimate partner violence co-occur in families (Appel & Holden, 1998; Edleson, 1999), with data from U.S. community samples showing that, on average, 6–11% of children who live in families characterized by interparental violence are also at risk of physical abuse (Appel & Holden, 1998). Reviewing data from community and clinical samples, Edleson (1999) estimated that among those who were exposed to one form of family violence (i.e., child maltreatment or partner abuse), 30 to 60% were exposed to the other form of family violence as well.

Children who are exposed to intimate partner violence and children who are maltreated are at risk for a range of adverse outcomes in childhood and adolescence, including conduct problems, anxiety and depression, cognitive dysfunction, poor school performance, low self-esteem, and difficulties with peers (for a review see Margolin & Gordis, 2000). Thus, child maltreatment and intimate partner violence constitute significant public health problems because of their high prevalence and co-occurrence rates and because of the adverse outcomes for parents and children involved in family violence.

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In their efforts to understand the etiology of family violence, researchers in different fields have developed models that call on a subset of potential explanatory variables (Belsky & Vondra, 1989; Parke & Collmer, 1975). For example, psychiatric models of family violence emphasize the role that an individual's rearing history and psychological characteristics (e.g., low impulse control, alcohol and drug problems, depression or personality disorders) play in increasing risk for child (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962; Spinetta & Rigler, 1972) or partner abuse (Dutton, 1995). Sociological models of family violence emphasize the degree to which social stressors (e.g., unemployment, poverty) and societal attitudes and values about violence undermine family functioning and are thus implicated in child or partner abuse (Gelles, 1973; Sugarman & Frankel, 1996; Tolan & Guerra, 1998). Finally, the "child effects" model highlights the degree to which the behavior of hard-to-manage children (e.g., premature infants, children with difficult temperaments) elicits harsh and abusive discipline from adults (Kadushin & Martin, 1981) or causes disagreements about how to manage children that result in intimate partner violence (Straus, Gelles, & Steinmetz, 1980).

Working from a developmental-ecological framework, Belsky (1980, 1993) proposed that maltreatment occurs as a result of interactions between "contexts of maltreatment." Although Belsky's developmental-ecological model was formulated to explain child maltreatment, it can be generalized to other forms of family violence like intimate partner violence. According to the developmental-ecological model, factors that influence whether an individual will be abusive toward a child or an intimate partner operate at and across several levels of the ecology from the most proximal to the most distal. These include the level of the individual (e.g., individual personality or mental illness), the level of the microsystem (i.e., family-level factors including poverty, single parenthood, or unemployment), the level of the "exosystem" (Belsky, 1980) (e.g., community-level violence, unemployment rates, or social cohesion), and the level of the macrosystem (e.g., cultural attitudes to violence, regional policy on family violence). The developmental-ecological model underscores the fact that family violence is multiply determined and, as Belsky (1993) concluded, there appear to be no necessary or sufficient causes of family violence. Thus, although the focus of this chapter is on the association between mental illness in parents and family violence, I do not advocate the psychiatric model. Rather, as the following review of the literature will demonstrate, it is assumed that family violence has many causes and that the degree to which parents psychopathology increases risk for family violence depends on the balance of other potentiating and compensatory factors that can change over time (Cicchetti & Rizley, 1981). Clearly, not all parents with a history of mental disorder are involved in family violence, and not all of those involved in family violence, have a history of mental disorder. However, a focus on parent psychopathology is worthwhile given the central role that parent personality plays in theories of the determinants of parenting. Personality is what links a parent's developmental history (e.g., early experience of caregiving) with his or her current functioning as a parent. Personality also influences a range of contextual factors (marital quality, job satisfaction, and stability) that increase or decrease risk for family violence (Belsky, 1984).

The goal of this chapter is to review the literature on the association between parent mental illness and two forms of family violence: violence against an intimate partner, referred to as partner violence, and violence against a child, referred to as child maltreatment. Although child maltreatment comprises physical, psychological, and sexual abuse as well as neglect, most of the studies reviewed in this chapter concern child physical abuse.

A review of the literature on family violence and parent mental illness is merited at this time because of the growing use of nationally representative data sets to (a) estimate

the strength of the association between family violence and parent mental illness in community samples and (b) compare the magnitude of this association to estimates derived from clinical samples in which family violence and parent mental illness may be correlated with a host of other psychosocial risk factors that inflate co-occurrence estimates. Moreover, research based on nationally representative, *longitudinal* data sets has addressed questions regarding the temporal association between mental illness and family violence. The temporal nature of these data has allowed researchers to explore whether parent mental illness is a predisposing risk factor for family violence or whether parent mental illness arises from the experience of violence victimization in the family.

In this chapter I will review the evidence linking parent mental illness to family violence. I will then review evidence on what accounts for the link between parent mental illness and family violence. Finally, I will discuss the implications for children's well-being of growing up in a home where they are exposed to both family violence and parent mental illness. Despite the risk for poor adjustment associated with family violence and with parent psychopathology, many children who are exposed to such adversities in their family-of-origin show remarkable resilience over time and across a range of domains of functioning. I will consider the degree to which the *co-occurrence* of parent psychopathology and family violence can decrease the likelihood that children will manifest resilience.

MENTAL ILLNESS IN PARENTS AND PARTNER VIOLENCE

Associations between mental illness and intimate partner violence have been detected in both clinic and community samples. Clinic samples refer to those in which individuals are selected because they have perpetrated violence (usually men; e.g., samples from batterer treatment programs) or been the victim of partner violence (usually women; e.g., samples from battered women's shelters). In a metaanalysis of the association between intimate partner violence and mental health problems, Golding (1999) reported that women's violence victimization significantly increased the odds of suicidality, posttraumatic stress disorder, and substance use/dependence in samples taken from psychiatric patient settings, battered women's shelters, and emergency rooms. Although Golding concluded that these results supported a model in which violence victimization was a cause of mental disorder in women, the analysis did not address the possibility that women who were victimized by their partners had a pre-existing mental disorder that may have influenced their likelihood of entering abusive relationships.

Personality disorders appear in up to 90% of males in domestic violence treatment programs (Craig, 2003), and clinical elevations in passive-aggressive and antisocial personality disorders best predict domestic violence (Dutton, 1994). However, associations between psychopathology and partner violence perpetration mask considerable heterogeneity among groups of batterers (Dixon & Browne, 2003; Holtzworth-Monroe & Stuart, 1994). Holtzworth-Monroe and Stuart (1994) proposed a typology of batterers, classifying men as family-only batterers, borderline-dysphoric batterers, or generally violent-antisocial batterers. These groups were distinguished on the basis of three dimensions: the severity and frequency of marital violence, the generality of violence (i.e., familial vs. extrafamilial), and the presence of psychopathology and personality disorders. In an empirical test of the batterer typology, Holtzworth-Monroe, Meehan, Herron, Rehman, and Stuart (2000) reported that 16% of the batterers in their sample corresponded to the generally violent antisocial group. These men were characterized by high levels of psychopathy, substance use and abuse, and involvement in crime. Fifteen percent of the sample corresponded to the

borderline-dysphoric group. These men were characterized by borderline personality organization and high scores on a number of *Diagnostic and Statistical Manual* (American Psychiatric Association, 2000) Axis I scales, including major depression, anxiety, posttraumatic stress disorder, and symptoms of disordered thought. The generally violent antisocial and borderline-dysphoric groups differed significantly on these variables from a nonviolent control group. However, over a third of the violent men in the sample (36%) corresponded to the family-only group, and they were indistinguishable from the nonviolent control group in terms of psychopathology and criminal behavior.

Consistent with the notion that psychopathology characterizes only a subset of batterers, Gleason (1997) conducted a review of psychological and social dysfunction among battering men and identified two types of batterers: one group characterized by frequent alcohol abuse, antisocial personality disorder, low intelligence, and criminal behavior, and the other group characterized by relatively low levels of psychological and social dysfunction.

Community samples refer to those in which unselected individuals report whether they have perpetrated or been the victim of intimate partner violence. In an epidemiological study of a birth cohort of young adults, Danielson, Moffitt, Caspi, and Silva (1998) reported that over half of the women victimized by any intimate partner violence suffered a DSM-III disorder, and nearly two thirds of those who experienced severe partner violence (being kicked, bit, or hit with a fist; hit with an object; beat up; choked or strangled; threatened with a knife or gun) met the criteria for at least one of the following: mood disorders, eating disorders, substance dependence, antisocial personality disorder, and symptoms of schizophrenia. Among men who perpetrated partner violence, over half met the criteria for some type of disorder. Virtually all of those who perpetrated severe partner violence met the criteria for one or more disorders, including anxiety and mood disorders, substance dependence, antisocial personality disorder, and symptoms of schizophrenia.

Research that establishes an association between intimate partner violence and mental illness can be interpreted in at least three ways: (1) mental disorder causes individuals to perpetrate or fall victim to intimate partner violence; (2) the experience of having been physically abused by an intimate partner increases the risk for mental disorder; (3) the association between mental disorder and intimate partner violence is spurious and can be accounted for by a third set of variables (e.g., low socioeconomic status). As longitudinal data on partner violence and mental illness have become available, researchers have begun to exploit the temporal nature of these data to answer questions about whether the link between mental disorder and partner violence reflects social selection (individuals with a history of mental disorder are at increased risk of entering violent relationships), social causation (partner violence causes mental disorder), or a spurious association.

A number of national survey studies have found that most individuals who perpetrate violence against a partner have also been victims of violence (Magdol et al., 1997). Thus, mental health problems can predict violence perpetration against a partner because perpetrators have themselves been victims of violence in the past and have developed mental health problems as a result. Using data from the National Survey of Families and Households, Anderson (2002) found that depressive symptomatology increased the odds of partner violence perpetration, even controlling for a range of sociodemographic variables and controlling for violence victimization. Thus, individuals who reported symptoms of depression were at increased risk of violence perpetration, even accounting for the fact that they might have been victims of violence in the past. In contrast, the authors detected

a spurious association between drug and alcohol problems and violence perpetration. Drug and alcohol problems were associated with the perpetration of partner violence because both stemmed from the experience of having been the victim of violence in the past. These findings may be gender-specific. For example, Anderson (2002) reported that being the victim of violence was associated with high levels of depressive symptomatology and substance abuse problems for women more so than for men. Similarly, Magdol and colleagues (1997) reported that being the victim of severe partner violence was associated with elevated levels of anxiety for women, but not for men.

Using data from a longitudinal study of a birth cohort, Robins, Caspi, and Moffitt (2002) explored the association between personality factors and relationship quality, conflict, and abuse. Although not measures of psychopathology per se, some personality dimensions are thought to underlie Axis I and II disorders. For example, negative emotionality (indexed by a low threshold for the experience of negative emotions like fear, anxiety, and anger) underlies anxiety and depression, whereas negative emotionality combined with low constraint (indexed by an incautious and unrestrained manner, thrill-seeking, breaking social norms) has been hypothesized to underlie antisocial behavior (Krueger, Caspi, & Moffitt, 2000; Watson, Clark, & Harkness, 1994). Robins and colleagues (2002) found that individuals prone to negative emotionality in adolescence experienced progressively more abusive relationships in their early- to mid-twenties. This was true regardless of whether these individuals remained with the same partner or changed partners during this period. This finding suggests that relationship-specific dynamics are, in part, manifestations of stable, individual differences in personality with some individuals re-creating conflictual and abusive dynamics in each new relationship.

In summary, both clinical and nationally representative samples have established an association between partner violence and mental disorder, although a substantial number of individuals involved in partner violence are not characterized by mental disorder (Holtzworth-Monroe, Meehan, Herron, Rehman, & Stuart, 2000). Studies that have assessed the temporal association between violence perpetration, violence victimization, and mental disorder find that some forms of disorder increase the risk of perpetration, regardless of an individual's history of victimization, whereas other forms of disorder appear to be associated with violence perpetration because both stem from a history of victimization. More longitudinal research is needed to further explore the question of (a) whether psychopathology arises from the experience of partner violence, (b) whether partner violence exacerbates an underlying diathesis for psychopathology, or (c) whether partner violence is a manifestation of stable individual differences as indexed by an individual's history of psychopathology. Finally, relatively little research has explored whether "third variables," such as poverty, single parenthood, or unemployment, account for the association between mental disorder and partner violence. Alternatively, mental disorders and partner violence may be linked only when these other factors are present.

MENTAL ILLNESS IN PARENTS AND CHILD MALTREATMENT

As is true for studies of mental disorder and intimate partner violence, researchers who study the association between parent mental disorder and child maltreatment have collected data from both clinical samples (e.g., studies of parents on protective service caseloads) as well as from parents in population samples.

Clinical Samples

State child welfare records indicate that substance abuse is one of the top two problems exhibited by families in 81% of reported cases (Lung & Daro, 1996). Among confirmed cases of child maltreatment, 40% involve the use of alcohol or other drugs by a parent (Children of Alcoholics Foundation Inc., 1996). Researchers and social workers have attributed skyrocketing child protective service caseloads in the 1980s and early 1990s to the growing use of crack cocaine over that period (Curtis & McCullough, 1993). Children of alcoholics are at increased risk of neglect, as evidenced by research showing that such children suffer more injuries and poisonings than do children in the general population (Bijur, Kurzton, Overpeck, & Scheidt, 1992).

Substance abuse can influence the course and consequences of child maltreatment. In a comparison of drug and alcohol substance-abusing and nonsubstance-abusing parents involved in over 200 child protective cases brought to court in Massachusetts, Murphy and colleagues (1991) reported that parents with documented substance abuse histories were more likely than other maltreating parents to be repeat offenders with regard to child maltreatment and to have longer histories with child protective services. Parents with substance abuse histories were rated by court investigators as being at higher risk of continuing to maltreat their children, were more likely to reject court-ordered services (71% vs. 39%), and were more likely to eventually lose care and custody of their children (80% vs. 58%). These differences between substance-abusing and nonsubstance-abusing families remained significant even after controlling for socioeconomic status, as indexed by receipt of welfare benefits. Thus, in families where maltreatment co-occurs with a parent's substance abuse problem, maltreatment is more persistent, parents are more resistant to treatment, and children are more likely to be placed in care.

Although these studies show substantial rates of mental disorder among parents who maltreat their children, they do not clarify whether rates of disorder are significantly higher among these parents than among sociodemographically matched controls. In a study of 53 families who had been reported (and indicated) to child protective services, De Bellis and colleagues (2001) reported that prevalence rates of lifetime DSM-III and IV diagnoses for any anxiety disorder, any mood disorder, and alcohol and substance abuse/dependence disorders were significantly higher among maltreating mothers compared to sociodemographically similar control mothers. Compared to control mothers, mothers of maltreated children were also more likely to have had a history of violent behavior toward other adult family or community members, although the two groups did not differ with respect to criminal arrests.

Famularo and colleagues (Famularo, Kinscherff, & Fenton, 1992; Famularo, Stone, Barnum, & Wharton, 1986) matched 50 court-referred maltreating parents with 38 parents whose children were inpatients at a general pediatric hospital on age, income, race, and marital status. Maltreating parents were significantly more likely than control parents to meet research and diagnostic criteria for lifetime diagnoses of alcoholism (38% vs. 8%) and major depression (28% vs. 8%).

The clinical studies reported above have estimated rates of mental disorder among samples of parents on child protective service caseloads. Another approach to studying the link between parent mental disorder and child maltreatment is to estimate how many parents who are receiving mental health services maltreat their children. At least two studies have detected elevated rates of physical abuse and neglect among cocaine-using mothers compared to sociodemographically matched controls (Kelley, 1992; Wasserman &

Leventhal, 1993). For example, Kelley (1992) reported that nearly 60% of the drug-exposed infants in her sample were subjects of subsequent substantiated reports of abuse or neglect compared to just over 8% of the control children. At 11 months of age, all of the control children were still living with their biological mothers in contrast to just over half of the drug-exposed children, 42% of whom had been placed by child protective services in foster care, with relatives, or others.

In summary, when compared to sociodemographically matched controls, the association between child maltreatment and mental disorder (including major depressive, personality, and substance use disorders) is detected (a) in samples where prevalence rates of mental disorder are assessed in parents referred to child protective services and (b) in samples where the prevalence of child maltreatment is assessed prospectively among mothers who abuse drugs. Several caveats bear noting. First, several samples included parents who were judged potentially unfit to retain custody of their children (e.g., Famularo et al., 1992; Murphy et al., 1991). These families represent a particularly severe group of maltreating parents, and prevalence rates of disorder in this group may not represent prevalence rates of disorder among maltreating parents in general. Second, the over-representation of parents with substance abuse problems on child protective service caseloads may reflect detection bias, wherein such parents are perceived as being at greater risk to their children than other parents (Benjet, Azar, & Kuersten-Hogan, 2003).

Population Samples

Several studies have reported on the association between child maltreatment and mental disorder using data from the representative St. Louis Epidemiological Catchment Area (ECA) sample (Robins & Regier, 1991). Dinwiddie and Bucholz (1993) reported that the lifetime rate of self-reported child physical abuse among parents in the ECA sample was 4.1%. Compared to nonabusers, those who reported perpetrating child physical abuse were significantly more likely to have a lifetime history of alcohol abuse/dependence, drug abuse, antisocial personality disorder, major depressive disorder, and panic disorder. Egami, Ford, Greenfield, and Crum (1996) explored the link between mental disorder and child maltreatment among all adults in the ECA sample and found that a lifetime history of any mental disorder increased the odds of child physical abuse 2.72 times. A lifetime history of alcohol abuse or dependence and a lifetime history of affective disorders increased risk for physical child abuse, even controlling for a range of sociodemographic variables as well as other psychiatric diagnoses. Finally, Chaffin, Kelleher, and Hollenberg (1996) utilized the prospective, longitudinal design of the ECA survey to predict the onset of child physical abuse and neglect from sociodemographic and psychiatric data measured at a previous time point. Controlling for sociodemographic factors that were significantly associated with child physical abuse, they found that parents who reported physically abusing their child were significantly more likely to have been diagnosed with depression and substance abuse disorders one year before. Parents who reported neglecting their child were significantly more likely to have been diagnosed with substance abuse and obsessive compulsive disorder (OCD) one year before (though the numbers diagnosed with OCD were small and the association with neglect could be artifactual). In models controlling for sociodemographic factors and psychiatric disorders, substance abuse retained a strong association with child physical abuse and mediated the association between a range of sociodemographic factors (e.g., parent's age, number in household, marital status, race) and the emergence of neglect.

This pattern of findings from the ECA study has been replicated in other large population samples. In a study of 1,200 unselected adults, the odds of engaging in violence against a spouse or partner, against a child, against someone outside the family, or of engaging in child neglect were from 1.6 to 4.7 times higher among those who had a definite or possible diagnosis of antisocial personality disorder, alcohol abuse or dependence, or recurrent depression (Bland & Orn, 1986). Among individuals who were comorbid for two or more disorders, the odds of engaging in familial or extrafamilial violence were exponentially greater. Parent criminality and substance abuse were also implicated in child maltreatment in a study of 644 families who were part of a larger, unselected sample (Brown, Cohen, Johnson, & Salzinger, 1998). The odds of physical child abuse, neglect, and sexual abuse were 4 to 6 times higher among mothers who reported involvement with drugs, alcohol, and/or the police.

Summary

Clinic and population studies have detected an association between parent mental disorder and child maltreatment, even controlling for a range of sociodemographic factors that might explain the association. Substance abuse and affective or antisocial personality disorders have consistently been found to increase risk for child maltreatment. Although parent psychopathology has traditionally been conceptualized as directly increasing risk for child maltreatment, alternative interpretations of the data are possible. First, as is true for studies of partner violence and mental disorder, it is possible that a set of third variables (e.g., poverty, unemployment) accounts for the link between parent mental disorder and child maltreatment. Although a number of clinic and community studies have controlled for a range of sociodemographic factors, it remains possible that unmeasured variables account for the link between parent psychopathology and child maltreatment. Second, children born to parents who have a history of psychopathology are themselves at risk for problem behaviors, including internalizing and externalizing problems. Thus, it is possible that children's problem behaviors elicit abusive reactions from parents who are ill-equipped to deal with parenting stresses. Third, few studies have explored the possibility that the association between parent mental disorder and child maltreatment is moderated by other factors (e.g., social support, single parenthood, etc.). Finally, an additional interpretive complication arises from the fact that in most studies, diagnoses of parent mental disorder are made on a lifetime basis, leaving it unclear as to whether the parent was experiencing an episode of disorder when the child was maltreated and, thus, the precise role of parent disorder in child maltreatment (Kraemer, 2003). It may be that parenting dysfunction (as manifested by maltreatment) is more strongly associated with the severity and chronicity of disorder as opposed to the presence or absence of disorder per se (Hammen & Brennan, 2003), suggesting that researchers should pay more careful attention to the timing, duration, and severity of a parent's mental health problems in their efforts to understand why mental illness is linked to child maltreatment.

WHY IS PARENT MENTAL ILLNESS A RISK FACTOR FOR FAMILY VIOLENCE?

Very few studies have explored why it is that parents who have a history of mental illness are at increased risk for family violence. Potential explanations may be common across

mental disorders or may relate to specific disorders. For example, the link between parent antisocial personality disorder and family violence can be explained if child maltreatment and intimate partner violence are manifestations of an underlying predisposition for antisocial, aggressive behavior that emerges early in childhood (Newcomb & Loeb, 1999). Support for this hypothesis comes from studies showing that childhood aggression predicts partner violence and child maltreatment in adulthood (Capaldi & Clark, 1998; Magdol, Moffitt, Caspi, & Silva, 1998) as well as a host of other antisocial behaviors (Moffitt, Caspi, Harrington, & Milne, 2002).

The association between family violence and parent mental disorder can also be explained in terms of social-cognitive models of parenting. For example, one hypothesis posits that negative emotions bias parents' perceptions, interpretations, and evaluations of their children's behavior (Azar & Twentyman, 1986; Dix, 1991; Milner, 2003). Parents who are characteristically angry, depressed, or anxious are more likely to perceive children as acting in deliberately negative ways (Dix, 1991). Indeed, research shows that maltreating parents are more likely to attribute children's misbehavior to stable, global, and internal causes (for reviews see Azar, 2002; Milner, 2003). Similarly, negative emotionality can bias an individual's perceptions of an intimate partner's behavior (Noller, Beach, & Osgarby, 1997).

A parent's depressogenic cognitive style (e.g., Abramson, Metalsky, & Alloy, 1989) can contribute to the perception that she or he is not competent in the parenting role and can cause the parent to withdraw from interaction with the child. In families where rates of parent-child interaction are low, children's misbehavior can be reinforced because it elicits a reaction from the withdrawn parent. These coercive exchanges can further undermine parents' perceptions of their competency (Azar, 2002). Low self-esteem and perceived control in parenting are characteristic of abusive parents (Trickett & Susman, 1988), suggesting the possibility that such parents have little faith in their ability to manage the child's behavior through less power-assertive means.

A third hypothesis proposes that parents who maltreat their children have difficulties managing stress relative to other parents (Whipple & Webster-Stratton, 1991). Although exposure to social stressors can precipitate the onset or recurrence of mental disorder, a history of mental illness can also increase the risk of experiencing a range of social stressors, including marital conflict, relationship and job instability, and the erosion of social supports. Thus, a parent's history of mental disorder can increase the probability of child maltreatment because of the greater number of stressors to which the parent is exposed and the parent's impaired capacity to manage stress.

IMPLICATIONS FOR RESEARCH

Children who grow up in abusive families or who grow up with a parent who has a history of psychopathology are at risk for a range of adverse outcomes in adolescence and adulthood. Nevertheless, many children who face such adversities manifest resilience (Cicchetti & Garmezy, 1993). When family violence and parent mental illness co-occur, are children as likely to manifest positive psychological adjustment as when they are exposed to just one or the other risk factor? I argue that children who are exposed to family violence and parent mental illness are less likely than children exposed to just one or the other risk factor to show positive psychological adjustment because of (a) genetic risk for maladjustment associated with parent mental illness and (b) the accumulation of psychosocial risks in families where parent psychopathology and family violence co-occur.

Genetic Risk

Problem behaviors such as depression and antisocial behavior can be more prevalent among children who are exposed to family violence and whose parents have a history of mental illness because risk for problem behaviors will be transmitted genetically from parent to child. Both childhood depression and antisocial behavior are moderately to highly heritable (Arseneault et al., 2003; Rutter, Silberg, O'Connor, & Simonoff, 1999). Thus, children who are exposed to family violence and whose parents have a history of mental illness are more likely to exhibit problem behaviors because (a) genetic predispositions directly increase risk for problem behaviors, (b) genetics and family violence increase the risk for problem behaviors in an additive fashion, (c) family violence exacerbates underlying genetic vulnerabilities for problem behaviors, or (d) genetic predispositions for problem behaviors provoke family violence (e.g., when marital conflicts arise over disagreements about how to discipline a difficult child or when a child's hard-to-manage behavior provokes an abusive response from a parent).

Although twin and adoption studies have shown consistently that genetic factors account for moderate to large amounts of variance in antisocial behavior and depression (Kendler & Prescott, 1999; Rhee & Waldman, 2002; Sullivan, Neale, & Kendler, 2000), molecular genetic studies that identify specific genes show that genetic variations (i.e., polymorphisms) do not increase risk for disorder directly, but rather do so by influencing sensitivity to environmental stressors (Caspi et al., 2002, 2003). In the absence of environmental stressors, these polymorphisms (e.g., having the "long" or "short" form of a gene) are not reliably associated with disorder, suggesting an absence of genetic "main effects" on disorder (Hamer, 2002).

Three recent studies have reported an interaction between environmental and genetic risk, showing that the effect of maltreatment on antisocial behavior and depression in childhood and adulthood depends on the individual's genetic makeup. Using data from a sample of 2,232 5-year-old twins, Jaffee and colleagues (in press a) found that conduct problems were elevated among children who were at high genetic risk for conduct disorder and who experienced physical maltreatment. However, conduct problems were not as elevated among children who were at low genetic risk for conduct disorder, even though they too experienced physical maltreatment.

Similarly, using data from a prospective, longitudinal study of 500 adult males, Caspi and colleagues (2002) found that antisocial behavior was elevated among men who had the low-activity monoamine oxidase A (MAOA) genotype and who experienced childhood maltreatment. However, antisocial behavior was not as elevated among men who had the more common high-activity MAOA genotype, even though they too experienced maltreatment. Finally, Caspi and colleagues (2003) reported that childhood maltreatment predicted adult depression only among individuals carrying the short version of the serotonin transporter gene (5-HTTLPR), but not among those who carried only the long version of the gene. These findings suggest that what parents are transmitting to children is not genetic risk for disorder per se, but rather genetically influenced sensitivity to environmental stressors. If so, then children who are raised in families in which family violence and parent psychopathology co-occur will be at increased risk of antisocial behavior and depression because they will be more likely to inherit a genetic variant that is highly reactive to environmental stressors.

Although children who are victims of abuse can be at genetic risk for antisocial behavior, it does not appear to be the case that children's genetic predisposition for

antisocial behavior provokes maltreatment from adults. In the sample of 2,232 twins mentioned earlier, the experience of having been maltreated was not heritable, indicating that genetically influenced characteristics of the child did not elicit abuse from adults (Jaffee et al., in press b; Jaffee, Caspi, Moffitt, & Taylor, 2004).

Accumulation of Psychosocial Risk Factors

Children who are exposed to family violence and whose parents have a history of mental disorder may be less likely to show positive psychological adjustment because they are exposed to a greater number of risk factors than other maltreated children. Studies have shown that it is the accumulation of risk factors, rather than individual risk factors, that are associated with maladjustment in children (Rutter, 1979). These stressors can act in an additive or interactive fashion to increase children's risk of maladjustment. Some evidence suggests that mental illness in a parent exacerbates the frequency and severity of family violence. For example, Holtzworth-Monroe, Meehan, Herron, Rehman, and Stuart (2003) reported that the subgroup of batterers who were most likely to be characterized by psychopathy, substance abuse, and criminal behavior were the least likely to desist from violence over a 3-year period. These individuals also engaged in the most severe and frequent violence. Similarly, in a study of 4- to 12-year-old children and their mothers living in a battered women's shelter, Hughes and Luke (1998) found that mothers who reported relatively lower levels of depressive and anxious symptomatology also engaged in relatively less verbal aggression toward their partners. Their children experienced the fewest externalizing or internalizing problems and reported higher than average levels of self-esteem. Thus, in families in which children are exposed to both family violence and parent mental disorders, family violence is likely to be relatively more severe, pervasive, and persistent than in families in which violence does not co-occur with parent mental illness, and children show correspondingly poorer adjustment as a result.

Finally, if resilience results from a balance of risk and protective factors that change over time (Masten & Coatsworth, 1998), it is important to consider how the course of a parent's mental illness can alter this balance and, consequently, alter the child's ability to maintain positive psychological functioning. Depression, for example, tends to recur throughout adulthood (Post, 1992), and the timing of a parent's depressive episodes can influence not only the likelihood that family violence will occur (e.g., partner violence is more likely to occur when a parent is experiencing an episode of depression), but also the parent's interactions with the child (Downey & Coyne, 1990; Goodman & Gotlib, 1999). For example, a parent may be better able to buffer a child against exposure to interparental violence when the parent is suffering relatively few symptoms of psychopathology than when a parent is experiencing a clinical episode of disorder.

Whether children who are exposed to family violence and parent mental illness manifest resilience depends a great deal on how resilience is defined, with some researchers defining resilience as positive functioning in a single domain and others requiring that children exhibit positive functioning across a range of domains (Luthar, Cicchetti, & Becker, 2000). Several studies have shown that rates of resilience decrease as the number of domains in which children are expected to show positive functioning increases (Kaufman, Cook, Arny, Jones, & Pittinsky, 1994; McGloin & Widom, 2001). The implications of this for children who are exposed to family violence and whose parents have a mental disorder are that

their chances of positive adjustment across multiple domains are lessened by the relatively greater number of risk factors to which they are exposed.

In summary, although family violence is multiply determined, the association between family violence and parent mental illness is robust across studies, particularly for mood disorders, antisocial personality disorder, and substance abuse disorder. I argue that resilience is less characteristic of children when family violence and parent psychopathology co-occur rather than when they appear singly. Children's inherited vulnerability to disorder can be exacerbated by exposure to family violence, children's risk for a range of adverse outcomes increases with the number of psychosocial risk factors to which the child is exposed, and violence in families where a parent has a history of disorder is likely to be more severe, persistent, and pervasive than in families where violence and mental disorder do not co-occur. Clinicians working with victims or perpetrators of family violence should be especially aware of the degree to which mental illness can be a cause or consequence of violence as well as the ways in which the co-occurrence of family violence and mental illness can jeopardize the chances that children will manifest positive adjustment.

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11

Families as Contexts for Children's Adaptation

Susan M. Sheridan, John W. Eagle, and Shannon E. Dowd

THE ROLE OF FAMILIES

During the past few decades, the landscape of the family structure has changed dramatically. The United States has seen a decrease in the “traditional” family, complete with two biological parents and consisting of one parent in the workforce and the other in a caregiver role. It is now being replaced with an ever-increasing diverse family structure. The population of children living with two parents has decreased to 69% in 2002, down from 72% in 1990 and 77% in 1980 (U.S. Census Bureau, 2003). Single-parent families and stepparent families have become more common, despite the fact that children in single-parent or divorced families are at greater risk for lower academic achievement and more likely to drop out of school or bear children at an early age, as well as displaying psychological factors including depression, anxiety, stress, and aggression (Fields, Smith, Bass, & Lugaila, 2001; McLanahan & Sandefur, 1994). The proportion of single-parent families headed by women more than doubled between the years 1960 and 1988 (Carlson, 1996), and grandparents are playing a larger role as caregivers, even when a parent is present (Fields, 2003).

The cultural and economic climate of the American family has also changed over the years. In 2000, 64% of all children were identified as White, non-Hispanic; at least 4% of children living in the United States were foreign-born with at least one foreign-born parent; 7% of children were reported to have difficulty speaking English well; 19% lived in crowded housing; and 16% of children lived in poverty (U.S. Census Bureau, 2000). Given the large percentage of American families facing serious hardships, it is critical that resilience and well-being in children and families be promoted consistently.

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Importance of the Family Context

As the composition of the family system continues to change, the caregivers' role has become increasingly important in fostering healthy developmental trajectories for their children. Family relationships and interaction styles are central to developing competence and promoting adaptive educational, social, and behavioral functioning. Families give a child an informal education, which is considered a prerequisite for successful experiences in the classroom (Adams & Christenson, 2000). Whereas the school environment sets up developmental tasks for students, the family serves as an important resource for the acquisition of these developmental tasks (Stevenson & Baker, 1987). Parents are also responsible for the "curriculum of the home," or family-supported activities that enhance a child's learning and educational success, which is essential for a child's educational development in school (Walberg, 1984). Parents can affect educational outcomes by providing academic guidance and support, modeling effective work habits and educational activities (e.g., reading), and demonstrating interest and expectations for academic growth (Christenson, Rounds, & Gorney, 1992; Kelleghan, Sloane, Alvarez, & Bloom, 1993; Walberg, 1984).

Clearly, families serve a primary role in their children's development. Parents are considered to be providers of linguistic and social capital by presenting learning experiences from the beginning of their childhood through their adult years. Such experiences consist of (a) exposing a child to ideas and activities that promote the acquisition of knowledge; (b) assisting in the socialization of gender, cultural, and peer roles; (c) establishing standards, expectations, and rules; and (d) delivering rewards and praise (Clark, 1988). The extent to which families successfully support their children's development is influenced by the presence of protective factors. Therefore, promoting protective family characteristics is crucial for helping families build competence in their children, which enables them to deal more effectively with challenging life circumstances (Seccombe, 2002).

THE CONCEPT OF FAMILY RESILIENCE

Resilience refers to the process of successfully overcoming adversity (Patterson, 2002b). Traditional theories of resilience focused upon individuals and individual factors associated with adaptive adjustment, such as personality traits and coping strategies (Walsh, 1996). Gradually, resilience research has expanded to include a broader social context, including families and communities (Patterson, 2002a; Seccombe, 2002). Patterson (2000a) established three concepts of individual resilience (Masten and Coatsworth, 1998) that can be paralleled to family resilience: (1) the conceptualization of a family-level outcome; (2) the presence of some risk in which a family may not be successful; and (3) the need for understanding the protective factors that will prevent undesired outcomes.

The notion of family resilience considers not only key processes that help families face persistent challenges but also those that strengthen the family unit; thus, family resilience enables the family to foster resilience in all members (Walsh, 1996). Although multiple definitions exist, family resilience incorporates (a) rising in the face of hardship, (b) returning to previous levels of functioning, and (c) being viewed in terms of wellness versus pathology (Hawley & De Haan, 1996). For the purposes of this chapter, we borrow the definition offered by Patterson (2002a) who suggested that family resilience is "the processes by which families are able to adapt and function competently following exposure to significant adversity or crisis" (p. 352).

Systemic/Developmental View of Resilience

To understand family resilience, it is important to adopt an ecological perspective that considers contextual features. An ecological approach attends to both the characteristics of the family and the reciprocal interactions between the family unit and other systems (e.g., community). Bronfenbrenner's (1979) ecological theory provides a conceptual foundation for understanding the interface between multiple systems. The theory contends that child development is not only influenced by conditions and events existing in the child's immediate environment, but also by experiences occurring in the larger political, social, economic, and cultural contexts within which the family unit is embedded.

A developmental perspective is also essential in understanding family resilience (Walsh, 1996). In contrast to perspectives that view family resilience as a set of fixed traits or attributes, a developmental perspective views resilience as a process in which interactions between risks and protective factors mediate a specified outcome. Within a developmental framework, a family's ability to adapt and cope with adversity is a multidetermined process occurring over time and developed in response to complex and changing conditions (Walsh, 1996).

The concept of family resilience, embedded within an ecological and developmental framework, is an ongoing and developing process occurring at multiple levels (Patterson, 2002b). One level focuses on the interactions between individual family members within the family unit, whereas a second level centers upon interactions between the family unit and the broader ecology. This view of family resilience highlights the connection between the family system and the larger community context, thereby emphasizing the importance of both family and community efforts in fostering resilience.

Family Characteristics and Resilience

Relational processes within families are highly influential in fostering resilience among its members. Family relationship patterns can be separated into two distinct dimensions: family cohesion and family adaptability. The level of cohesion and adaptability describes the nature of interactions within the family system and between family members and the larger community (Olson, Sprenkle, & Russell, 1979). Not only do these dimensions provide insight into family dynamics, but they also have implications for how community members can support and strengthen the family unit.

Family Cohesion

According to Turnbull and Turnbull (1997), family cohesion is defined as "family members' close emotional bonding with each other as well as the level of independence they feel within the family system" (p. 108). The degree of emotional connectedness varies significantly between and within families and is influenced by the culture, age, and stage of life of the family members. Cohesion exists on a continuum, ranging from enmeshed (very high), to connected (moderate to high), to separated (moderate to low), to disengaged (very low) (Olson, 1993). An enmeshed style of interaction is characterized by overidentification with the family, resulting in extreme levels of consensus and limited individual autonomy and independence. Within connected relationships, family members display emotional closeness and loyalty while maintaining some friendships and leisure activities outside the family unit. Connected families place an emphasis on shared time together. In contrast, separated relationships share few activities and interests with family members, spending

more time with individuals outside the family. In these families there is some emotional closeness, but family members place a higher priority on independence. The final level of the continuum represents a disengaged relationship pattern. Disengaged families are marked by high autonomy and low bonding, in which there is little attachment to the family system (Olson, 1993). Under the umbrella of cohesion, there are several specific domains. One domain particularly relevant for the present discussion is emotional bonding, which includes family involvement and parent–child interactions (for a comprehensive review, see Walsh, 1993).

Family Involvement

One correlate of resilience is active and affective family involvement. Affective involvement refers to the extent to which family members value and display interest in the activities of other family members (Epstein, Bishop, Ryan, Miller, & Keitner, 1993). An emphasis is placed on the amount of interest as well as the manner in which family members demonstrate their interest and investment in one another. Involvement exists on a continuum, ranging from minimal to total involvement. The first level on the continuum, *lack of involvement*, represents a complete absence of interest or investment in other family members. Level two, *involvement devoid of feelings*, refers to some involvement, however, it is typically intellectual in nature. Within the third level, *narcissistic involvement*, family members display interest in others, but only to the degree that the behavior reflects on one's self. The optimal level, *empathetic involvement*, refers to genuine interest. Family members are invested for the sake of others in the family unit. *Overinvolvement* represents the fifth level, in which there is an excessive degree of involvement with one another. Finally, within families displaying a *symbiotic involvement* style, interest is so extreme that there is marked difficulty differentiating one person from another (Epstein et al., 1993).

The development of resiliency and healthy adjustment among children is enhanced through empathetic family involvement practices. One key area positively influenced by active family involvement is educational outcomes for children. Through active participation, children experience increased positive attitudes regarding school, resulting in better school attendance, fewer behavior problems, and better study and homework habits (Christenson & Sheridan, 2001). Further, family involvement is linked to improved student performance. Specifically, under optimal levels of family involvement, children earn higher scores on pre-reading (Hill, 2001), reading (Clark, 1988), and math tasks (Galloway & Sheridan, 1994).

Parent/Caregiver–Child Interactions

Child outcomes are also mediated by the affective nature of parent–child interactions. Effective attachment, defined as the affective bond between a child and their caregiver, provides the child with a sense of security, assuring the child that the caregiver is available during times of adversity (Pianta & Walsh, 1996). Formation of an affective bond is related to the quality and quantity of caregiver responses (Epstein et al., 1993). Responses marked by warmth, nurturance, and sensitivity to the child's needs facilitate resiliency and adaptive development (Maccoby & Martin, 1983).

The link between caregiver responsiveness and child functioning permeates numerous areas of development. A highly connected response pattern is related to positive socioemotional outcomes in children (Clark & Ladd, 2000). Specifically, parent–child connectedness is associated with peer acceptance (Cohn, 1990), higher quality friendships (Kerns, Klepac, & Cole, 1996), and higher levels of altruism and moral development (MacDonald, 1992).

The nature of the affective bond also sets the stage for cognitive development and school achievement. Children with secure attachment bonds display improved problem-solving capabilities, emergent literacy skills, and overall school adjustment (Pianta & Walsh, 1996). In contrast, insecure attachments have been linked to low levels of mastery and peer competence in school settings (Sroufe, 1989).

Family Adaptability

Every family faces situations throughout the course of life that present challenges to the manner in which family members relate to one another or how the family unit functions within the community (Patterson, 2002b). Family adaptability or flexibility refers to a family's ability to modify its rules, roles, and leadership; thus, restoring balance between (a) family members and the family unit and (b) the family unit and the community (Olson, 1993; Patterson, 2002b). Families have differing degrees of adaptability that fall along a continuum from *rigid* (very low), to *structured* (low to moderate), to *flexible* (moderate to high), to *chaotic* (very high) (Olson, 1993). Similar to the construct of family cohesion, moderate degrees of adaptability (e.g., structured or flexible) can allow for healthier degrees of family functioning than those on the extremes (e.g., rigid or chaotic).

At one extreme, a rigid relationship has one individual who is highly controlling and makes most of the decisions. A structured relationship is characterized by a more democratic family leadership that includes some consulting with children before making decisions. In this instance rules are fairly consistent and are enforced with very little change in family roles. Families depicted by a flexible relationship have an equal leadership and democratic decision making between members of the family. Flexible relationships allow for open discussions between parents and children, rules that change according to developmental appropriateness, and roles that are shared among family members. At the other extreme, a chaotic relationship is defined as one devoid of consistent leadership.

To function as a healthy system, families must be both adaptive and stable. Families that are able to determine the appropriate times to maintain stability or address change are more likely to be healthy, functional families (Olson, 1993). Families that are successful in being adaptive (a) are proactive in the socialization and development of individual family members, and (b) understand the importance of maintaining the family unit (Patterson, 2002a). Accordingly, there are two central components of family adaptability: adoption of optimal parenting styles and problem-solving practices, and developing a shared set of beliefs or values within the family unit. This is consistent with an ecological framework that views both the interactions among family members and the relationship between the family unit and the community as essential pieces in developing family resilience.

Parenting Styles and Problem Solving

Observation of parenting styles and problem-solving practices provides insight into the process of family adaptation because it reveals how family members relate to one another and how they adjust their roles and relationships over time. Parenting style is defined as "a constellation of attitudes toward the child that are communicated to the child and that, taken together, create an emotional climate in which the parents' behaviors are expressed" (Darling & Steinberg, 1993, p. 493). Baumrind (1968) outlined three types of parenting styles: authoritarian, permissive, and authoritative. The authoritarian parenting style is marked by high levels of authority and control, with limited negotiation regarding standards of behavior. In contrast, permissive parents allow children to regulate their own activities,

standards, and rules, with few decisions imposed by caregivers. Authoritative parenting, considered the optimal parenting style, is marked by a balance between freedom and responsibility. Within this style, family members engage in problem-solving processes to negotiate compromise and manage conflict.

The parenting style and practices adopted by the primary caregiver play a critical role in the growth and development of children. Authoritative parenting has been linked to academic achievement, positive peer relationships, and greater independence among children (Keith & Christenson, 1997). Likewise, family problem-solving practices are associated with appropriate interpersonal and conflict resolution skills in children (Costigan, Floyd, Harter, & McClintock, 1997). Further, parenting practices characterized by positive, consistent discipline are correlated with greater resiliency to stress in children (Wyman, Cowen, Work, & Parker, 1991). Conversely, authoritarian and permissive styles are less positively related to child development and resilience. Authoritarian or harsh, inconsistent parenting has been associated with increased verbal aggressiveness and argumentativeness (Bayer & Cegala, 1992; Grusec & Goodnow, 1994), conduct problems (Frick, 1993), and conduct disorders (Short & Shapiro, 1993). Deficits in family problem-solving skills are related to several types of childhood problems, including depression (Sanders, Dadds, Johnston, & Cash, 1992), delinquency in adolescence (Krinsley & Bry, 1991), and reduced psychosocial competence (Leaper et al., 1989).

Shared Beliefs and Values

Another important component for the development of family adaptability is the establishment of shared beliefs within the members of the family. Shared values and beliefs are essential for family resilience and reinforce specific patterns in how a family reacts to new situations, life events, and crises (Antonovsky & Sourani, 1988; Walsh, 1996). This concept of shared beliefs, values, and expectations appears in the literature under similar constructs: family schema (McCubbin, McCubbin, & Thompson, 1993), family worldview (Patterson & Garwick, 1994), and family coherence (Antonovsky, 1987; McCubbin, Thompson, Thompson, Elver, & McCubbin, 1994).

A strong family schema indicates a belief in the family unit that views its interaction with the world from a collective “we” versus “I” orientation (McCubbin et al., 1993). Families with a strong schema are also likely to perceive life in a realistic manner and not expect perfect solutions to difficulties that life presents (McCubbin et al., 1993). The concept of family schema is similar to Patterson and Garwick’s (1994) construct of family worldview (Hawley & DeHaan, 1996). A family’s worldview pertains to how a family perceives reality, its environment, and its situation in the world. Resilient families often have a shared set of values for critical aspects of family life, including financial issues and time management (McCubbin & McCubbin, 1988). Based on Antonovsky’s (1987) concept of coherence, family coherence is related to both family schema and family worldview (Hawley & DeHaan, 1996). Family coherence is defined as a shared worldview within the family that indicates the degree of confidence that the outcomes of situations will be positive (McCubbin et al., 1994).

Building Resilience in Families

Families often need community support to develop competencies consistent with resilience. Cohesion, affective interactions, effective parenting styles, and family involvement are often

goals among professionals concerned with building family resilience. To achieve such goals, both family empowerment and enhanced family functioning are essential. Ultimately, for families to be resilient, they must be empowered. Empowerment models support families in proactively identifying needs, mobilizing resources, and accomplishing goals through the development of personal capacities, strengths, and abilities. This is contrasted to expert models, which often lead to dependency on the professional, fail to produce personal resources and positive belief systems, and result in limited skills in assessing personal needs and mobilizing familial resources in the future. Procedures for empowering families are best conceptualized through an asset-based, family-centered approach (Dunst, Trivette, & Deal, 1994). Such an approach is founded on several premises or principles that together form the basis of service delivery (Dunst, Trivette, & Deal, 1988).

Family-Centered Service

Simply put, the goals of family-centered services are to promote positive child, parent, and family functioning and increase the likelihood that family members will become self-sustaining in addressing their needs over time. Family-centered services are based on an intervention model articulated by Dunst and Trivette (1987) that is based on four operating principles: (1) base intervention efforts on family identified needs; (2) use existing strengths and capabilities to mobilize family resources and promote family abilities; (3) maximize the use of the family's personal social network as a source of support; and (4) use helping behaviors that promote acquisition of competencies. These principles, along with a fifth related to the importance on outcomes for family services, are briefly reviewed next. Much of the information is drawn from seminal writings by Dunst and Trivette (1987), Dunst, Trivette, Davis, and Cornwell (1988), and Dunst et al. (1994).

Base Intervention Efforts on Family-Identified Needs. Family-centered services are responsive to the priorities identified by the family based on the recognition that families are in the best position to identify their most salient needs. Likewise, commitment to change can be greatest when families' needs are self-determined. To build resilience, professionals can assist families in determining objectives essential to attain short- and long-term goals and can use collaborative strategies to help define foci for intervention.

As a process that promotes engagement, self-determination, and skill development, family-centered services assist family members to actively participate in enhancing their own lives. Families are engaged in identifying their own needs, mobilizing resources on their own behalf, and accomplishing self-determined goals through the development of personal capacities, strengths, and abilities. Through such processes, attainment of long-term, generalized positive outcomes is maximized.

Use Existing Family Strengths and Capabilities to Mobilize Family Resources. A central tenet of family-centered services is that all families have strengths and abilities. However, systemic or environmental conditions can pose challenges to families, thereby limiting their ability to access or use their strengths. To build family resilience, family members can be assisted to identify, access, and mobilize their strengths and use them to attain their self-determined goals (Garbarino, 1982).

Maximize Social Networks and Supports. The development of intra- and inter-systemic collaborations and partnerships is essential to facilitate families' development of

resilience. Positive, proactive linkages and networks help family members mobilize resources and supports that are available to them but that may have been perceived as inaccessible. The notion of “partnership” implies that family members are coequal partners in the identification of needs and goals, determination of strategies and plans, and evaluation of outcomes as programs and resources are utilized (Christenson & Sheridan, 2001; Welch & Sheridan, 1995). Thus, services are not delivered “to” or “for” families, but “with” family members as active partners and participants.

The school is an essential interacting system for families with children. Schools and classrooms represent significant contexts for development, and teachers are meaningful individuals in a child’s life (Pianta & Walsh, 1996; Sheridan & Gutkin, 2000). The establishment of partnerships between families and schools can be critical for maximizing the growth potential for a child. Positive, constructive relationships with other primary systems (i.e., schools) can be instrumental in helping families develop competencies and utilizing resources on behalf of their child’s development (Dunst et al., 1988).

Use Helping Behaviors That Promote the Acquisition of Competencies. When building resilience through a family-centered framework, professional roles focus on developing capacities. Capacity building begins with an understanding and appreciation for “where the family is.” Rather than utilizing strategies to “treat” problems or remediate deficiencies, family-centered approaches strive to promote the acquisition of family and child competencies. Models based on “correcting a problem” result in a limited, often short-term resolution of one presenting concern. To build family resilience, services must attend proactively to growth-producing behaviors. The development of strengths, assets, and skills is expected to lead to generalization and maintenance of resources to address a range of presenting challenges in the future.

Concern Is With Process as Well as Outcomes. The emphasis in family-centered services is not only on the final outcome, but also the processes by which families work toward desired outcomes. Indeed, the process by which professionals assist families is the cornerstone of family-centered service delivery. By helping family members identify and prioritize needs, establish reasonable goals, and develop appropriate plans, opportunities for positive family outcomes (i.e., goal attainment) are maximized. Furthermore, strategies that are relevant and feasible for families, that result in desired outcomes, and that provide new knowledge and skill will likely be used by family members in the future when similar needs are present.

Although principles around family-centered services have been present for over a decade, specific evidence-based models guiding practice are less prevalent. Consultation models provide a structure for services that promote acquisition of competencies and attainment of goals. Although many forms of consultation exist in the literature (Gutkin & Curtis, 1999), behavioral consultation has received the most empirical support (Sheridan, Welch, & Orme, 1996). Conjoint behavioral consultation (CBC; Sheridan, Kratochwill, & Bergan, 1996), a derivative of behavioral consultation, was developed with the specific goals of addressing children’s needs, developing cross-system partnerships, and enhancing families’ skills. This model will be reviewed next, with attention on its ability to promote family resilience.

Conjoint Behavioral Consultation

Conjoint behavioral consultation is “a structured, indirect form of service-delivery, in which parents and teachers are joined to work together to address the academic, social, or

behavioral needs of an individual for whom both parties bear some responsibility” (Sheridan & Kratochwill, 1992, p. 122). In CBC, parents and teachers engage in a structured problem-solving process with a consultant to collaboratively address the needs of children across home and school settings. Parents and teachers work as joint consultees to share in the identification of needs for children and to develop, implement, and evaluate interventions to address those needs.

Based on an ecological-systems perspective, CBC acknowledges that families do not exist in a vacuum, and that children function within and across various systems in their environment (Bronfenbrenner, 1977; Sheridan et al., 1996). The two primary systems in children’s lives are the home and school systems. CBC recognizes that children, families, schools, and other systems have a bidirectional, reciprocal influence over one another, and that the connections between systems are essential for facilitating positive outcomes for children. CBC secures these connections by bringing together families, schools, and other support systems in a collaborative manner to address the needs of children. The process of CBC acknowledges the vital role of families and includes family members as equal participants in the problem-solving process.

CBC services are based on several principles that parallel family-centered constructs (see Table 11.1). The indirect nature of services allows professionals to work with families and other caregivers (e.g., teachers), who are ultimately responsible for implementing programs and plans. By definition, consultation models (and CBC) strive to enable

Table 11.1 Characteristics of Family-Centered Services and Conjoint Behavioral Consultation

| Characteristics of Culturally Sensitive, Family-Centered Services (Dunst & Trivette, 1994) | Principles of Conjoint Behavioral Consultation (Sheridan, Kratochwill, & Bergan, 1996) |
|---|---|
| <p>Help-giver:</p> <ul style="list-style-type: none"> • Employs active and reflective listening • Helps clients clarify concerns and needs • Pro-offers help in response to help-seeker needs • Offers help that is congruent and matches the help-seeker’s appraisal of needs • Promotes acquisition of competencies to meet needs, solve problems, and achieve aspirations • Allows locus of decision making to rest with the family member • Promotes partnerships and parent–professional collaboration as the mechanism for meeting needs | <p>Consultant:</p> <ul style="list-style-type: none"> • Uses open-ended questions and frequent summarizations to ensure understanding • Provides help that is congruent with parents’ needs • Does not determine target behaviors and/or interventions independent of parents’ priorities • Develops data collection and intervention strategies based on what works in families’ environments • Focuses on existing skills, strengths, and competencies • Creates opportunities for families to acquire knowledge to manage concerns (e.g., problem-solving approach, data-based decision-making strategies, specific interventions) • Encourages skills learned in CBC to generalize for future problem solving • Focuses on increased sense of self-efficacy and empowerment among parents • Promotes collaborative problem solving • Promotes joint responsibility among home and school systems for problem and problem solutions • Assists parents in learning strategies for working across systems to meet needs of the child • Approaches systems work in a positive and proactive manner • Focuses on common goals across systems rather than on problems within systems |

Source: Adapted from Sheridan et al. (2004). Perceptions of helpfulness in conjoint behavioral consultation: Congruity and agreement between teachers and parents. *School Psychology Quarterly*, 19, 121–140.

individuals (including families) to “become better able to solve problems, meet needs, or achieve aspirations by promoting the acquisition of competencies that support and strengthen functioning in a way that permits a greater sense of individual or group control over its developmental course” (Dunst & Trivette, 1994, p. 162). Like family-centered services, CBC is implemented in a manner that is responsive to clients (and families) needs, builds competencies and resilience within members, and promotes participation and collaboration among systems (Dunst et al., 1994).

The CBC process consists of four stages, implemented in a collaborative manner. Three of the four stages are initiated in the context of a structured interview with parents and teachers. The stages are: (1) conjoint needs identification, (2) needs analysis, (3) plan implementation, and (4) plan evaluation (Sheridan et al., 1996). During the needs-identification stage, consultants work with parents and teachers to identify a child’s needs across the home and school settings, and consultees decide on targets for intervention. Consultants also assist parents and teachers in identifying valid procedures for collecting baseline data on the target behaviors across settings. In the conjoint-needs analysis stage of CBC, parents and teachers evaluate the baseline data, decide upon behavioral goals for the child, and discuss various factors that can influence the behaviors. Hypotheses are generated regarding the environmental or functional conditions that can contribute to the occurrence of the behaviors, and a plan is developed collaboratively to address the needs of the child.

The third stage of CBC consists of plan implementation. During this stage, parents and teachers implement the intervention procedures in the home and school settings, supporting implementation across settings. The consultant remains in close contact with parents and teachers throughout implementation of the intervention to provide support, ensure understanding of the plan, offer assistance, reinforce parent and teachers’ intervention efforts, and determine the need for any immediate plan modifications. The final stage of CBC is conjoint-plan evaluation. During this stage, parents and teachers examine the behavioral data collected to evaluate the effects of the treatment and determine if the goals of consultation have been met across the home and school settings. The team discusses plans for continuation, modification, or termination of the intervention based on the child’s progress toward his or her goal, and the family’s ability to maintain that progress.

Goals of CBC

The CBC process described above provides a logical format for operationalizing the principles of family-centered services, as the goals of CBC directly address these important principles. Paralleling the goals of family-centered services outlined above, important goals of CBC include: (a) address the needs that consultees have for children; (b) use consultee strengths to address concerns; (b) establish partnerships; and (c) develop and enhance the skills and competencies of consultees (Sheridan et al., 1996). These relevant CBC goals and family-centered services principles are described below.

Address the Needs That Consultees Have for Children

The primary goal of CBC is to effectively address the needs that parents, teachers, and other caregivers have for children. These needs comprise the focus of consultation and are the basis for the services provided across settings. CBC consultants do not make assumptions regarding the needs of families (i.e., the focus of consultation services); rather, they

provide opportunities for families to voice their concerns and determine mutual goals with other caregivers. This is the central objective of the needs identification stage of CBC.

As described above, consultants provide an opportunity for families to describe and prioritize their needs, thus ensuring that the greatest need is addressed in consultation. In this way, the needs addressed in CBC are those that are most central to families, thus increasing the probability that families will devote their resources of time and energy to data collection, plan implementation, plan evaluation, and maintenance and generalization procedures. Consultants also incorporate a measure of flexibility in the process of prioritizing concerns for intervention. For example, through data collection, parents can learn that the initial needs were misidentified and identify new priorities later in the CBC process. This flexibility helps to ensure that the needs of the parents and the child are met.

Similarly, the consultant incorporates flexibility in developing interventions and data collection methods used throughout the CBC process, helping families determine those that fit within their culture and environment. Successful data collection is more likely to occur if an effective, practical, and efficient method of information gathering is developed—one that fits within the family's routine. The same principle applies to selecting and implementing an intervention. The likelihood that families will feel both comfortable with and empowered by implementing a plan for their child increases as the plan matches the schedule and culture of the family.

Consultants encourage families to assess the various factors that can contribute to or influence the target behaviors of consultation primarily in the conjoint needs-analysis stage of CBC. This analysis allows the consultation team to examine various systemic factors that contribute to children's behavior (e.g., negative interactions with the child, ineffective routines, and/or lack of resources).

Use Consultee Strengths to Address Concerns

Importantly, the CBC process allows for an examination of teacher and family competencies and strengths that can be used to address the needs of children. In CBC, consultants acknowledge that teachers have expertise in educational interventions and managing classroom behavior, and families have expertise relevant to the home environment. Families have skills and resources (e.g., supports in the home, interactions with children, knowledge of developmental history) that can be used to address children's needs in consultation. Consultants identify and further develop families' strengths throughout the consultation process, which contributes to intervention development. For example, the consultant would assess and highlight intervention procedures families are already using in their daily routines. Highlighting families' existing strengths in the home setting provides a sense of self-efficacy for consultees by acknowledging their abilities to affect positive change in their child's life (Dunst et al., 1988).

Rather than focusing on families' lack of resources to cope with or effectively manage their children's behavior, CBC consultants provide an atmosphere that supports families and allows their existing resources to set the foundation for building strengths and resilience. Such a strength-based approach ensures that the focus of consultation is on families' capabilities rather than on what is lacking in parenting skills and resources. Building on existing family strengths is essentially a matter of "meeting the family where they are" (Dunst et al., 1988) and viewing family members as having strengths to be utilized to address the child's needs. In this way, consultants provide services that are congruent and consistent with consultees' needs.

Maximize Partnerships and Support Networks

Strengthening social supports and promoting partnerships and collaboration among systems are important principles outlined in family-centered services (Dunst & Trivette, 1987). CBC's focus on establishing home-school partnerships directly operationalizes this principle. In CBC, home and school systems are collaboratively involved in addressing mutual goals for children. The CBC process allows schools and families to share in decision making and adopt equal responsibility for both the assessment of needs and development of solutions. Likewise, parents and teachers actively participate in data collection procedures and implementation of the interventions developed in CBC.

As a team, consultants, parents, and teachers examine and evaluate data to verify the nature and extent of children's needs. The consultant facilitates the process but ensures that the teacher and parent jointly determine goals and develop and implement plans. General agreement among the home and school systems regarding a shared goal for consultation helps ensure continued partnership between primary caregivers (i.e., parents and teachers) in the child's social support systems (i.e., the home and school), thereby promoting the immediate and future success of children and their families.

Develop and Enhance the Skills and Competencies of Parents and Teachers

Another important goal of CBC is to promote the acquisition of competencies, skills, and knowledge (Dunst et al., 1994; Sheridan et al., 1996). The CBC process achieves this goal through supporting and guiding the families' engagement in identifying needs and formulating solutions. Given their active involvement, parents, teachers, and other caregivers gather essential knowledge about aspects of the process, such as the importance of identifying and defining the child's or families' needs, assessing factors that can contribute to maintenance of a specific behavior, mobilizing families' strengths and resources, and developing interventions to achieve positive outcomes.

Through the CBC process, families learn to prioritize their concerns for children. During needs identification, consultants help parents identify specific behaviors to target for intervention, allowing for a more focused approach to problem solving. Likewise, detailed strategies for monitoring and evaluating concerns are discussed (i.e., methods of data collection and evaluation). Throughout the consultation process, parents and teachers collect data over time, as well as information regarding environmental conditions that can affect the child. Consultants assist parents in using this information to develop meaningful interventions that address children's needs. Similarly, data are used to develop socially valid goals and monitor progress. Continued assessment throughout the consultation process provides parents with an understanding of the data-based decision-making process. Parents learn strategies for determining if goals have been met based on existing data, rather than subjective accounts of child behavior. Additionally, team members learn procedures for modifying plans when behavioral goals are not met. Through this process, families learn the value of using data to guide decision making regarding the child's progress and the efficacy of the intervention.

Each of the aforementioned skills developed through participation in the CBC process provides families with tools that can be used to address future family needs. Families are empowered by recognizing their existing competencies, strengthening their skills, and acquiring tools for independence, thereby supporting resilience within family systems.

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12

Resiliency in Maltreated Children

Shadi Houshyar and Joan Kaufman

Child abuse is a pervasive societal problem, with nearly 1 million substantiated reports of child maltreatment each year (U.S. Department of Health and Human Services, 2001), many reported cases of actual abuse that are not verified (Kaufman & Zigler, 1996), and countless other cases that are never brought to the attention of authorities (Wolfner & Gelles, 1993). Extant research has identified a host of negative sequelae associated with child maltreatment, including deficits in interpersonal relationships, affect regulation, and self-development (Beeghly & Cicchetti, 1994; Crittenden, 1992; Egeland & Sroufe, 1981; Maughan & Cicchetti, 2002), as well as increased rates of multiple psychiatric diagnoses (Cicchetti & Carlson, 1989; Cicchetti & Toth, 1995; Ammerman, Cassisi, Hersen, & Van Hasselt, 1986; Egeland, Sroufe, & Erickson, 1983). Although not all abused children develop difficulties, many experience a chronic course of psychopathology, with posttraumatic stress disorder (PTSD), depression, and behavioral disorders constituting the common psychiatric sequelae of maltreatment reported in children (Briere, Berliner, Bulkley, Jenny, & Reid, 1996; Chu & Dill, 1990; Famularo, Kinscherff, & Fenton, 1992; Kaufman, 1991; McLeer, Callaghan, Henry, & Wallen, 1994; Pynoos, Steinberg, & Wraith, 1995) and adults (Windle, Windle, Scheidt, & Miller, 1995).

Given the deleterious and long-term effects of maltreatment, there is a continued need for research in this area. A resiliency framework can be especially productive in guiding maltreatment research given that resiliency research focuses on: (a) delineating the pathways to *positive adaptation* in abused children, and (b) examining *how* children who experience considerable risk factors and stressors, including physical trauma and neglect within the family context, come to “beat the odds.” Resiliency research explores the processes, moderators, and mechanisms that facilitate positive adaptation and can provide

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a guide for the development of targeted intervention practices aimed at attenuating the deleterious effects of maltreatment.

To date, pioneering investigators have set a strong foundation for resiliency research in widely disseminated empirical and theoretical reports (Cowen & Work, 1988; Cowen, Work, & Wyman, 1992, 1997; Garmezy, 1992, 1993; Garmezy, Masten, & Tellegen, 1984; Luthar, Cicchetti, & Becker, 2000; Luthar, Doernberger, & Zigler, 1993; Luthar & Zigler, 1991; Masten, 2001; Masten & Coatsworth, 1998; Masten et al., 1999; Rutter, 1990, 1995, 1996; Werner, 1992, 1993, 1995). Seminal works by resiliency researchers have led to considerable advancements in the conceptualization, implementation, and dissemination of resiliency research. Owing to notable progress, researchers have identified a host of protective factors and mechanisms that contribute to resiliency in high-risk populations.

One protective or modifying factor that has been recurrently associated with positive outcomes in maltreated children is the presence of a supportive and stable caregiver. The availability of a caring and stable parent or alternate guardian has been identified as one of the most important factors that distinguish abused individuals with good developmental outcomes from those with more deleterious outcomes (Beeghly & Cicchetti, 1994; Cicchetti & Toth, 1995; Kaufman & Henrich, 2000; Pynoos et al., 1995). In children, it decreases the likelihood of the development of PTSD and depressive disorders (Kaufman, 1991; Pynoos et al., 1995), reduces the risk for the development of behavior problems (Newton, Litrownik, & Landsvert, 2000), and is associated with better school achievement (Cook, Fleishman, & Grimes, 1991). Adults who were maltreated in childhood who report the presence of a supportive parent or foster parent as a child have been found to have more years of education (Cook et al., 1991; Zimmerman, 1982), greater housing stability (Meier, 1965), higher rates of self-support (Zimmerman, 1982), decreased risk of persistent violent antisocial behavior (Widom, 1991), decreased likelihood of early parenthood (Cook et al., 1991), better parenting skills, and lower rates of problems in caring for the next generation (Kaufman & Zigler, 1989; Zimmerman, 1982).

CHAPTER FRAMEWORK AND ORGANIZATION

This chapter is organized using a translational framework. Translational research in the behavioral and social sciences utilizes knowledge of basic behavioral and biological processes to inform clinical studies. This is becoming increasingly plausible with the growth and integration of brain and behavior research, the merging of the fields of developmental psychology and neuroscience, advancements in neuroimaging and genetics research methodology, and findings from preclinical (e.g., animal) studies that examine the impact of stress on behavior, physiological reactivity, neural circuitry, and gene expression (Cicchetti & Tucker, 1994; Maier & Watkins, 1998).

As an example of this approach, Field and her colleagues utilized findings from studies of rat pups separated from their mothers to design an intervention for preterm infants that required extended incubator stays and prolonged periods of mother–infant separation (Scafidi & Field, 1997; Schanberg & Field, 1987). Specifically, animal studies have long established that separation of a rat pup from its mother is associated with a host of negative behavioral and biological consequences, including decreased growth hormone secretion. Through a series of studies, investigators were able to determine that it was the absence of maternal tactile (e.g., licking) stimulation that was associated with decreased growth hormone secretion during periods of separation (Hofer, 1987), and they were able to prevent

separation-induced decrements in growth hormone levels by simulating maternal tongue-licking behavior with a wet paintbrush during periods of mother–infant separation (Schanberg & Field, 1987). These findings were instrumental to the formulation of massage therapy for preterm infants that require maternal separation during incubator treatment. Massage treatment of preterm infants has been found to increase growth hormone secretion, improve weight gain, decrease the time required for intensive care, and increase performance on measures of social and motor skill development (Scafidi & Field, 1997; Wheeden, Scafidi, Field, & Ironson, 1993). Cocaine- and HIV-exposed preterm infants have also been found to benefit from massage therapy (Scafidi & Field, 1997; Wheeden et al., 1993). This example demonstrates how basic research can be utilized to delineate mechanisms involved in producing different deleterious outcomes (i.e., an absence of touch leading to a decrease in growth hormone secretion and blunted growth) and suggests novel intervention strategies for high-risk populations (i.e., massage therapy for premature infants). It also highlights that even though biological mechanisms may be responsible for producing certain deleterious outcomes (e.g., reduced growth hormone secretion leading to blunted growth), psychosocial interventions can still be effective.

This chapter on resiliency in maltreated children is comprised of seven sections. The first section reviews key structures and neurotransmitter systems involved in the stress response, the second section reviews preclinical studies of the neurobiological effects of early stress, and the third section discusses factors that modify the impact of these experiences. The fourth section highlights similarities in the neurobiological correlates of stress and PTSD in adults, the fifth section discusses developmental issues in the application of these research findings, and the sixth section briefly discusses factors that modify the impact of early maltreatment identified in clinical studies. The data reviewed in these sections preliminarily suggest that: (a) *genetic* factors influence outcomes of maltreated children; (b) a positive supportive caregiver (i.e., attachment) is a protective factor that minimizes neurobiological changes and other negative sequelae associated with child maltreatment; and (c) more work is needed to understand gene–environment interactions in determining developmental outcomes of maltreated children. In the final section of this chapter, the clinical implications of this research are discussed in the context of the Adoption and Safe Families Act (P.L. 105-89), legislation aimed at promoting secure and stable attachment relations for maltreated children. The objective of this chapter is to highlight the benefit of multidisciplinary research efforts in resiliency research with maltreated children with foci that span from neurobiology to social policy.

KEY STRUCTURES AND NEUROTRANSMITTER SYSTEMS INVOLVED IN THE STRESS RESPONSE: OVERVIEW

The brain responds to stress in a complex and orchestrated manner, with both general and stimuli-specific components to the stress response (Lopez, Akil, & Watson, 1999). However, knowledge about the structural and functional components of the stress system is still evolving. The review of the stress response included in this section is not exhaustive. It focuses on key components of the stress system and emphasizes the structures and neurotransmitter systems most extensively studied in preclinical studies examining the long-term effects of early stress. The reader is referred to additional reviews for a more detailed discussion of the central and peripheral components of the stress system (e.g., Chrousos, 1998; Gold & Chrousos, 2002; Heim & Nemeroff, 2001; Lopez et al., 1999; Manji et al., 2003; Vaidya Duman, 2001).

Figure 12.1 depicts the functional connections among the different cortical and subcortical brain regions involved in the stress response (Kaufman, Plotsky, Nemeroff, & Charney, 2000). There is growing appreciation of the role of cortical inputs, with medial prefrontal cortex (PFC), anterior cingulate, and orbital PFC currently understood to play an important role in relaying information from primary sensory and association cortices to subcortical structures involved in the stress response (Lopez et al., 1999). The medial and orbital PFC are reciprocally interconnected, and each has connections with the hypothalamus and amygdala (An, Bandler, Ongur, & Price, 1988; Bernard & Bandler, 1998; Krout, Jansen, & Loewy, 1998; Ongur, An, & Price, 1998). These prefrontal regions appear to be critical in restraining the acute stress response (Herman & Cullinan, 1997). The mPFC is also reciprocally connected with the mediodorsal thalamic nucleus (Groenewegen, 1988) and has extensive connections with the ventral tegmental area, substantia nigra, nucleus accumbens, raphe, locus coeruleus, and brainstem autonomic nuclei (Drevets, Ongur, & Price, 1998).

Figure 12.2 depicts in more detail the relationship among subcortical structures involved in the stress response, and the neurotransmitter systems involved in the transmission of information between the different brain regions. Corticotropin releasing hormone (CRH) is the neurohormone that initiates the endocrine response to stress. It is secreted from the paraventricular nucleus (PVN) of the hypothalamus. Among the numerous inputs to the hypothalamus, noradrenergic inputs are primary in promoting the synthesis and

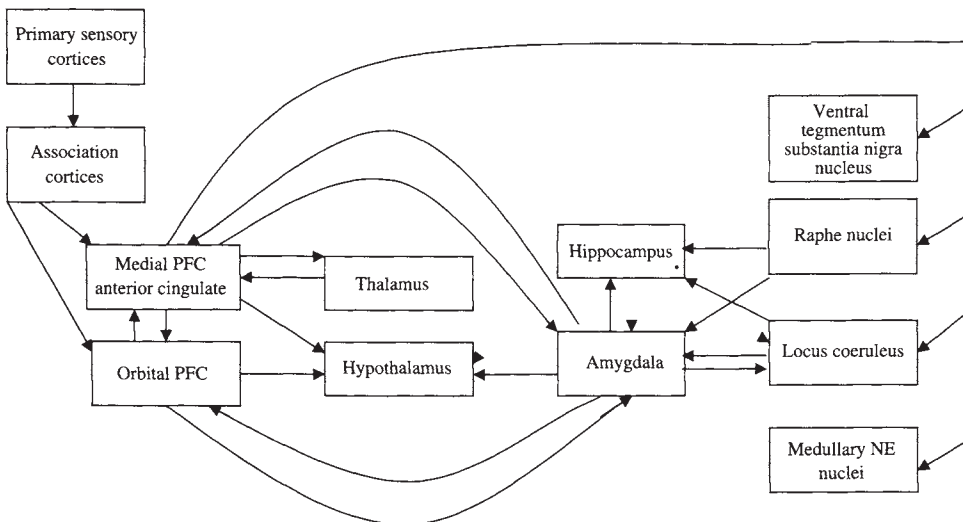


Figure 12.1 Key cortical and subcortical structures involved in the stress response. Medial prefrontal cortex (PFC), anterior cingulate, and orbital PFC relay information from primary sensory and association cortices to subcortical structures involved in the stress response. Medial and orbital PFC are reciprocally interconnected. The medial and orbital prefrontal cortices provide direct inputs to the hypothalamus, and are reciprocally connected with the amygdala. Not shown in the diagram are indirect connections from these prefrontal structures to the hypothalamus and amygdala via inputs to the periaqueductal gray and parabrachial nucleus. The mPFC is also reciprocally connected with the mediodorsal thalamic nucleus and has extensive connections with the ventral tegmental area, substantia nigra, nucleus accumbens, raphe, locus coeruleus, and brainstem autonomic nuclei. These connections facilitate initiation and regulation of the endocrine response to stress that is mediated by the hypothalamic pituitary adrenal (HPA) axis and the autonomic response to stress that is promoted by the locus coeruleus. PFC = prefrontal cortex; straight line = stimulatory; dotted line = inhibitory.

Source: Reprinted from Kaufman, Plotsky, Nemeroff, & Charney, 2000.

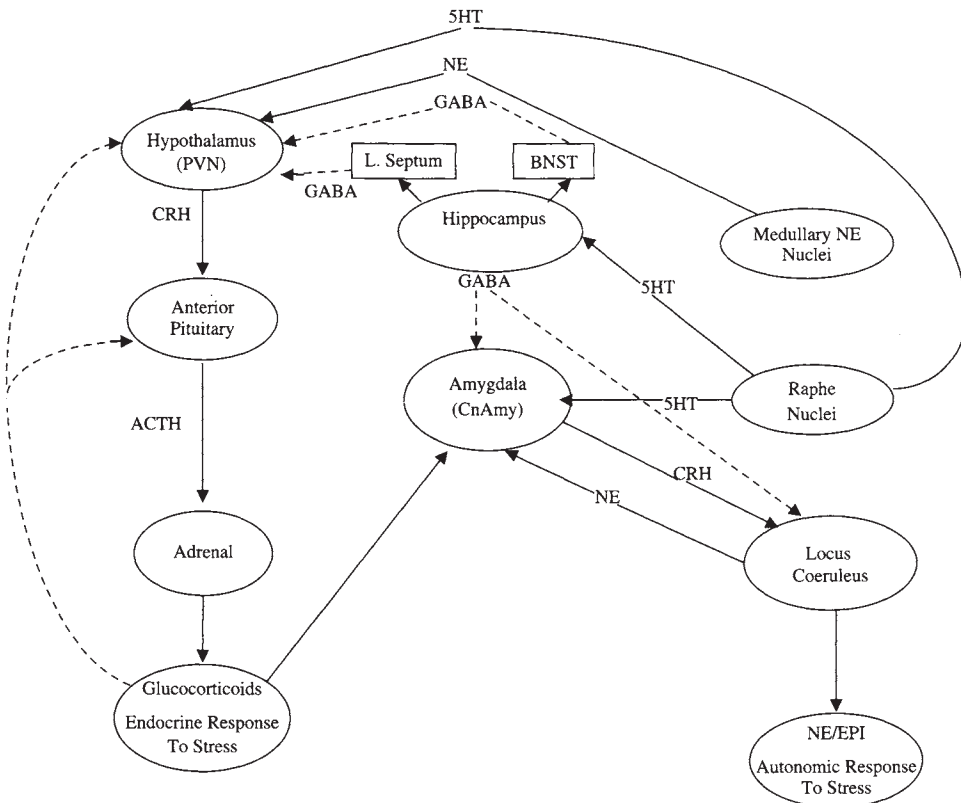


Figure 12.2 Neurotransmitter systems utilized by subcortical structures involved in the stress response. The release the neurohormone CRH from the PVN of the hypothalamus initiates the endocrine response to stress. CRH then promotes the release of ACTH from the pituitary, which initiates the release of glucocorticoids from the adrenals. Glucocorticoids provide negative feedback at the pituitary and PVN, among other sites. The release of CRH from the PVN is modified by multiple neurotransmitters, but NE inputs from medullary nuclei provide the primary stimulus for CRH synthesis and release. CRH also acts as a neurotransmitter to initiate the autonomic response to stress. The autonomic component of the stress response is initiated by CRH inputs from the CnAmy to the LC. Glucocorticoids provide positive stimulation to the CnAmy, which promotes the synthesis and release of CRH. The hippocampus serves to inhibit the stress response via multiple direct and indirect GABAergic inputs to the PVN, amygdala, and LC. The stress response is further modified by 5HT inputs from the raphe nuclei to the PVN, hippocampus, and amygdala. GABAergic interneurons located at each of the structures likely further modify stress reactivity, as do connections from multiple other brain regions including the PFC, thalamus, association cortex, and mesocortical and mesolimbic structures. NE = norepinephrine; CRH = corticotropin releasing hormone; PVN = paraventricular nucleus; CnAmy = central nucleus of the amygdala; GABA = gamma-aminobutyric acid; 5-HT = serotonin; EPI = epinephrine; PFC = prefrontal cortex; L. Septum = lateral septum; BNST = bed nucleus stria terminalis; solid lines = stimulatory inputs; dotted lines = inhibitory inputs.

Source: Reprinted from Kaufman, Plotsky, Nemeroff, & Charney, 2000.

release of CRH (Plotsky, Cunningham, & Widmaier, 1989). The main noradrenergic inputs into the hypothalamus appear to be derived from medullary sources, the nucleus of the solitary tract (NTS), and the ventrolateral medullary oblongata (Pacak, Palkovits, Kopin, & Goldstein, 1995). CRH then binds to receptors at the anterior pituitary gland and, through a cascade of intracellular events, promotes the release of adrenocorticotropin (ACTH). ACTH then promotes the synthesis and release of glucocorticoids (cortisol in primates,

corticosterone in rats) from the adrenal cortex (Arborelius, Owens, Plotsky, & Nemeroff, 1999). Glucocorticoids regulate energy availability and utilization and provide negative feedback to the stress system at the pituitary, hypothalamus, and other central sites involved in the stress response.

The locus coeruleus (LC) appears to be the critical site in initiating the autonomic response to stress and promoting the release of norepinephrine (NE) and epinephrine (EPI) into the periphery. It receives endogenous CRH inputs from the central nucleus of the amygdala (Jezova, Ochedalski, Glickman, Kiss, & Aguilera, 1999; Page & Abercrombie, 1999; Valentino, Curtis, Page, Pavcovich, & Florin-Lechner, 1998). The amygdala is activated during stress by ascending catecholamine neurons originating in the brainstem and by cortical association neurons involved in processing stressful stimuli via direct and indirect medial and orbital prefrontal cortical connections (Lopez, Akil, & Watson, 1999). CRH neurons in the amygdala respond positively to glucocorticoids and activate the LC/NE component of the stress system (Lopez et al., 1999).

The hippocampus, in contrast, serves to inhibit the stress response via multiple direct and indirect links with several of the brain structures activated during stress (Lopez et al., 1999). For example, CRH synthesis in the amygdala is inhibited by gamma-aminobutyric acid (GABA) inputs from the hippocampus (Owens & Nemeroff, 1991). The hippocampus also inhibits the locus coeruleus via direct connections and inhibits the hypothalamus via indirect inputs through the lateral septum and bed nucleus of the stria terminalis (BNST).

The stress response is further modified by serotonin (5HT) inputs from the raphe to the amygdala, hypothalamus, and the hippocampus (Lopez et al., 1999). These latter 5HT neurons terminate on inhibitory GABA neurons.

NEUROBIOLOGICAL EFFECTS OF EARLY STRESS: PRECLINICAL STUDIES

Building on the seminal work of Levine and colleagues (Coe, Mendoza, Smotherman, & Levine, 1978; Levine, Wiener, & Coe, 1993; Wiener, Johnson, & Levine, 1987), numerous investigators have documented long-term neurobiological changes in animals subjected to multiple prenatal and postnatal stress paradigms (Graham, Heim, Goodman, Miller, & Nemeroff, 1999; Takahashi & Kalin, 1991). This review focuses on long-term effects of early stress on hypothalamic pituitary adrenal (HPA) axis function and central corticotropin releasing hormone (CRH), norepinephrine (NE), serotonin (5-HT), and gamma-aminobutyric acid/benzodiazepine (GABA/BZ) systems. Structural brain changes associated with early and/or severe stress will also be reviewed.

Extensive research has been conducted examining the neurobiological effects of early maternal separation, with these experiences associated with increased CRH and NE drive in adulthood (Francis, Diorio, Liu, & Meaney, 1999; Ladd, Owens, & Nemeroff, 1996; Liu, Caldji, Sharma, Plotsky, & Meaney, 2000). Rat pups separated from their mothers 6 hours per day during the first 3 weeks of life have been found to have increased basal and stress-induced ACTH concentrations and decreased CRH binding in the anterior pituitary (Ladd et al., 1996). Maternal deprivation has also been associated with increased CRH mRNA expression in the hypothalamus paraventricular nucleus (PVN) and increased CRH concentration in the median eminence (Plotsky & Meaney, 1993). It has also been associated with increased CRH mRNA expression in the central nucleus of the amygdala; increased CRH content in the parabrachial nucleus, a region that adjoins the locus coeruleus; increased CRH

binding in the locus coeruleus; and increased NE concentration in the hypothalamus (Menzaghi, Heinrichs, Pich, Weiss, & Koob, 1993). Nonhuman primates subjected to maternal separation early in life have also been found to have elevated cerebrospinal fluid NE in response to an acute stressor (Kraemer, Ebert, Schmidt, & McKinney, 1989). (For reviews see Francis, Diorio et al., 1999; Ladd et al., 2000.)

The increase in CRH and NE drive in maternally deprived rats is also associated with a decrease in tone of the inhibitory GABA/BZ system (Caldji, Francis, Sharma, Plotsky, & Meaney, 2000; Francis, Caldji, Champagne, Plotsky, & Meaney, 1999). Specifically, adult rats subjected to repeat separations from their mothers during the first 3 weeks of life have been found in adulthood to have reduced GABA_A receptor binding in the amygdala and the frontal cortex. They have also been found to have reduced central benzodiazapine binding in the amygdala, locus coeruleus, and nucleus of the solitary tract (NTS). These effects are associated with decreased expression of mRNA for the γ_2 subunit that encodes for the benzodiazapine site of the GABA_A receptor. In addition, adult rats separated from their mothers during the first 3 weeks of life also had increased mRNA expression for the α_2 and α_3 subunits and decreased expression of the α_1 subunit mRNA (Caldji et al., 2000). This profile is associated with decreased GABA binding (Wilson, 1996). It is likely that the dampened GABAergic tone in rats exposed to maternal separation contributes to the enhanced CRH expression in the amygdala and the increased stress-induced activation of the noradrenergic systems (Francis, Caldji et al., 1999).

In an attempt to more closely parallel the experience of neglectful parenting and exposure to stressful environments in young nonhuman primate infants, Coplan et al. (1996) subjected macaque infant–mother dyads to variable foraging demands. Primates in the low foraging demand condition had easy access to food, primates in the high foraging demand condition had to work hard to find food, but foraging demands and food supply were predictable, and primates in the variable foraging demand condition experienced changing and unpredictable access to food. In adulthood, consistent with the maternal deprivation rodent studies discussed above, monkeys reared in the variable foraging condition had higher cerebral spinal fluid CRH concentration than monkeys reared under the two other more predictable and less-stressful experimental conditions (Coplan et al., 1996). The variable foraging condition was also associated with overactivity of the NE system (Rosenblum, Coplan, Friedman, Bassoff, Gorman, & Andrews, 1994).

In addition to the neurochemical alterations associated with early stress, severe stress also is associated with hippocampus volume loss. Neuronal atrophy in the CA3 region of the hippocampus can be caused by 3 weeks of exposure to stress and/or stress levels of glucocorticoids (Sapolsky, 1996; Woolley, Gould, & McEwen, 1990). At this level, glucocorticoids produce a reversible decrease in number of apical dendritic branch points and length of apical dendrites of sufficient magnitude to impair hippocampal-dependent cognitive processes, with the number of damaged cells in the CA3 region of the hippocampus found to correlate with the severity of deficits in learning escape behaviors in a T-maze (Watanabe, Gould, & McEwen, 1992). More sustained stress and/or glucocorticoid exposure can lead to neurotoxicity, which is actual permanent loss of hippocampal neurons. Adult rats exposed to high concentrations of glucocorticoids for approximately 12 hours per day for 3 months experience a 20% loss of neurons specific to the CA3 region of the hippocampus (Sapolsky, Krey, & McEwen, 1985). Evidence of stress-induced neurotoxicity of cells in this region has been reported in mature nonhuman primates as well (Sapolsky, 1996; Uno et al., 1994). Reductions in hippocampal volume can also be affected by decreases in neurogenesis (Gould & Cameron, 1996). The granule cells in the dentate

gyrus of the hippocampus continue to proliferate into adulthood, and neurogenesis in this region is markedly reduced by stress (Gould, Tanapat, Rydel, & Hastings, 2000; McEwen & Magarinos, 2001; Sapolsky, 2000).

In contrast to the negative effects of early stress, rats that were given positive stimulation via 15 minutes of handling per day during the first 3 weeks of life have been found to have reduced stress reactivity in adulthood when compared to nonhandled or maternally separated rats (Plotsky & Meaney, 1993). Specifically, in adulthood, rats handled in the first 3 weeks of life show decreased fearfulness in novel environments. The neurobiological alterations associated with early handling are essentially the opposite of those reported in maternally separated rats. Handled rats show reduced ACTH and corticosterone response to exogenous stressors, with quicker return of corticosterone to baseline levels. They also show enhanced negative feedback of circulating glucocorticoids, and increased glucocorticoid receptor mRNA expression and glucocorticoid receptor number in the hippocampus and the frontal cortex, sites involved in the inhibitory control of CRH synthesis in hypothalamic neurons. Accordingly, handled rats have reduced CRH mRNA levels in the hypothalamus and reduced basal CRH concentration in the median eminence. Handled rats also have reduced CRH mRNA concentrations in the amygdala and lower CRH content in the locus coeruleus (Francis, Caldji et al., 1999; Ladd et al., 2000). They also have attenuated CRH-induced activation of the locus coeruleus and smaller resulting increases in extracellular NE levels in the hypothalamus after acute restraint stress (Liu et al., 2000). Handled rats have increased GABA_A receptor levels in noradrenergic cell body regions of the locus coeruleus and nucleus of the solitary tract, as well as increased central benzodiazepine receptor levels in the amygdala, locus coeruleus, and nucleus of the solitary tract (Francis, Caldji et al., 1999). In addition, as adults, handled rats have attenuated age-related cell loss in the hippocampus and improved performance on hippocampal-mediated cognitive tasks (Meaney, Aitken, Bhatnagar, & Sapolsky, 1991; Meaney et al., 1993). (For additional reviews see Francis, Diorio et al., 1999; and Ladd et al., 2000.)

FACTORS THAT MODIFY THE IMPACT OF EARLY STRESS: PRECLINICAL STUDIES

The studies reviewed in the prior section demonstrate that early life experiences can have profound effects on brain structure and function. There are emerging data to suggest, however, that the subsequent caregiving environment can moderate the adverse effects of early stress. In conducting the handling experiments, Meaney et al. noted that there were marked differences in the maternal behavior of the mothers of handled and nonhandled pups, with the former group spending significantly more time licking and grooming their offspring than the latter group (Woodside, Meaney, & Jans, unpublished observation).

To determine if the differences in maternal behavior were related to differences in stress reactivity of handled and nonhandled rats, Meaney and colleagues examined multiple indices of stress reactivity in adult rats reared by mothers with similar natural occurring differences in maternal behaviors (Caldji et al., 1998; Liu et al., 1997, 2000). They found that the adult offspring of high-licking and grooming mothers reared without any experimental manipulations showed greater exploration in novel environments and had reduced plasma ACTH and corticosterone response to acute stress. The animals also showed increased hippocampal glucocorticoid receptor mRNA expression, enhanced glucocorticoid negative feedback sensitivity, and decreased hypothalamic CRH mRNA levels.

They also had decreased CRH mRNA expression in the amygdala, increased central benzodiazepine receptor number in the amygdala and locus coeruleus, decreased CRH receptor density in the locus coeruleus, and decreased stress-induced NE secretion from the hypothalamus. These results parallel the findings observed in handled rats and suggest that maternal licking and grooming behaviors may “program” the development of the neural systems that mediate reactivity to stress (Caldji et al., 1998). These studies raised questions as to whether the neurobiological changes associated with maternal separation and handling were due to the early experimental manipulation or to subsequent differences in maternal behavior.

To determine if the neurobiological changes associated with early experimental manipulations could be altered by subsequent caregiving experiences, rat pups exposed to early handling or maternal separation experiences were cross-fostered with dams whose pups were assigned the same or opposite condition (Gonzalez, Ladd, Huot, Owens, & Plotsky, 1999). In the initial set of experiments, handled pups were either cross-fostered to other dams assigned to the handled condition or to dams assigned to the maternal separation condition. Similar cross-fostering was performed on pups exposed to the maternal separation condition. When tested as adults, the handled pups cross-fostered to dams assigned to the maternal separation condition reacted to novel stressors like rats subjected to maternal separation during the neonatal period. Conversely, maternally separated pups reared by dams assigned to the handling condition looked more like handled animals.

In a second set of experiments (Gonzalez et al., 1999), dams assigned the maternal separation conditions were provided with an age-matched foster litter during the period when their own pups were away. This simple manipulation seemed to normalize maternal behavior by the dams and the adult offspring that had been assigned to the maternal separation condition appeared like handled animals rather than like maternally separated animals. These findings are consistent with the results of studies examining the effects of prenatal stress. In these studies “adoption” with “optimal parenting” has also been found to reverse the HPA axis alterations typically observed in these experiments (Barbazanges et al., 1996; Maccari, Plaza, Kabbaj, Barbazanges, Simon, & Le Moal, 1995). These results are consistent with emerging data demonstrating the powerful role of different components of mother-infant interaction (e.g., tactile stimulation) in regulating physiological systems involved in the stress response (Caldji et al., 1998; Kuhn & Schanberg, 1998).

These preclinical studies suggest that the effects of early experiences can be modified by subsequent rearing experiences. As the influence of genetic factors or strain effects has been well established in preclinical studies of stress reactivity (Dhabhar, McEwen, & Spencer, 1997), the cross-fostering studies raise questions as to whether manipulations in parenting can overcome genetic and/or breed differences in stress reactivity. To address this question, Anisman and colleagues subjected BALB/cByJ and C57BL/6ByJ mice to early handling experiences and randomly assigned them to BALB/cByJ or C57BL/6ByJ mothers for subsequent rearing (Anisman, Zaharia, Meaney, & Merali, 1998; Zaharia, Kulczycki, Shanks, Meaney, & Anisman, 1996). BALB/cByJ mice are inherently high reactors and have elevated corticosterone and brain catecholamine (NE) responses to acute stressors. In addition, mice of this strain exhibit impaired performance on a Morris water-maze, a hippocampal mediated memory task that is exacerbated by foot-shock (e.g., stress) application. Early handling of BALB/cByJ mice reduced the learning impairments seen when mice were tested in the Morris water-maze as adults and prevented stress-induced elevations of corticosterone and disturbances with task performance. Likewise, cross-fostering BALB/cByJ mice with C57BL/6ByJ dams prevented corticosterone hyperactivity and

performance deficits. However, cross-fostering and handling did not alter stress-induced changes in NE concentration in the hypothalamus, locus coeruleus, hippocampus, or prefrontal cortex. Early handling and cross-fostering of the more resilient C57BL/6ByJ mice had no impact on maze performance, corticosterone stress reactivity, or brain NE. A similar set of findings was reported by investigators studying two different high- and low-reactive rat species (Steimer, Escorihuela, Fernandez-Teruel, & Driscoll, 1998). Effects of handling and cross-fostering were only observed in the high-reactive rats, and these experimental manipulations only affected stress-induced corticosterone levels, not central NE measures.

These studies highlight the need for a better understanding of gene and environmental interactions in determining an individual's stress reactivity. They suggest that species with more intrinsic reactivity are more responsive to the effects of environmental manipulations than species that are less intrinsically reactive, and that environmental manipulations have greater impact on some (e.g., HPA axis), more than other (e.g., central NE), neurobiological systems. Most importantly they suggest the adverse effects associated with early stress are not inevitable and can be modified by intrinsic and extrinsic factors, with the quality of the subsequent caregiving environment especially important in determining the long-term impact of early stress.

SIMILARITIES IN THE NEUROBIOLOGICAL CORRELATES OF STRESS AND POSTTRAUMATIC STRESS DISORDER IN ADULTS

Posttraumatic stress disorder (PTSD) is one of the most common sequelae of early child maltreatment. As highlighted earlier, PTSD is but one of the many negative sequelae associated with a history of abuse. This section focuses on the neurobiological correlates of PTSD in adults to illustrate the utility of a translational research approach in understanding the sequelae of stress, as preclinical studies of the effects of stress provide a valuable heuristic for thinking about the pathophysiology of PTSD and organizing findings of the neurobiological correlates of PTSD, in adults.

Specifically, many of the biological alterations associated with early stress in preclinical studies have been reported in *adults* with PTSD. For example, adults with PTSD have been reported to have multiple alterations of the HPA axis, including: abnormal basal cortisol secretion; altered negative feedback at the level of the pituitary; and blunted ACTH secretion in response to administration of endogenous CRH (Arborelius et al., 1999). They have also been found to have increased central CRH drive, as evidenced by reports of elevated concentrations of cerebrospinal fluid CRH (Baker et al., 1999; Bremner, Licinio et al., 1997), increased central NE function, as evidenced by higher cerebrospinal fluid NE concentration (Geraciotti et al., 2001), and altered activity in the orbitofrontal, prefrontal, and temporal cortices after yohimbine administration, an NE antagonist (Bremner, Innis et al., 1997). Adults with PTSD also appear to have decreased GABA/BZ drive, as assessment with single photon emission computed tomography (SPECT) imaging of [¹²³I]iomazenil binding found adults with PTSD to have a reduced GABA/BZ receptor number and/or binding in the prefrontal cortex (Bremner, Innis, Southwick, Staib, Zoghbi, & Charney, 2000).

Structural changes have also been reported in adults with PTSD, with reduced hippocampal volume in PTSD patients as compared to normal controls the most highly replicated finding (Bremner et al., 1995, 1997; Driessen et al., 2000; Gurvits et al., 1996; Stein, Koverola, Hanna, Torchia, & McClarty, 1997; Villarreal et al., 2002; Vythilingam

et al., 2002), and magnitude of volume loss correlated with functional deficits in verbal memory ability (Bremner et al., 1995; Bremner et al., 1997). In addition, in studies using magnetic resonance spectroscopy (MRS) to assess neurochemical changes in the brain, individuals with PTSD were found to have reduced *N*-acetyl-L-aspartic acid (NAA) and creatine in the hippocampus region when compared to controls (Freeman, Cardwell, Karson, & Komoroski, 1998; Schuff et al., 2001; Villarreal et al., 2002). NAA reduction is typically interpreted as an indication of neuronal loss or damage (De Stefano, Matthews, & Arnold, 1995), with associated loss in neuron number, density, or neuronal metabolism (Birken & Oldendorf, 1989). Creatine reductions are suggestive of decreases in high energy phosphate metabolism (Urenjak, Williams, Giadian, & Noble, 1993).

The neurobiological correlates reported in adults with PTSD are very similar to the neurobiological changes associated with experiences of early stress, with changes in key cortical and subcortical structures involved in the stress response consistently reported in adults with PTSD.

Developmental Factors

One very important caveat to add, however, is that there are important developmental issues that need to be better understood before preclinical research findings in this area can be optimally informative in understanding the effects of stress on children. Although the preclinical studies examining the neurobiological effects of early stress provide a powerful heuristic for thinking about the pathophysiology of PTSD in adults, the application of this literature for understanding the neurobiology of PTSD in children is more limited. Specifically, there have been four structural neuroimaging studies to date in children with PTSD (Carrion et al., 2001; De Bellis et al., 1999; De Bellis, Hall et al., 2001; De Bellis et al., 2002), with one publication reporting repeat longitudinal assessments on a subset of the children who participated in an earlier investigation (De Bellis et al., 2001), and none of the studies reporting evidence of hippocampal atrophy in children and adolescents with PTSD compared to controls (Carrion et al., 2001; De Bellis et al., 1999, 2001, 2002).

Instead of hippocampal atrophy, children and adolescents with PTSD were found to have a decreased area in the medial and posterior portions of the corpus callosum (De Bellis et al., 1999, 2002). Consistent with these reports, in a recent study, psychiatric inpatients with a history of maltreatment were likewise reported to have significant reduction in the medial and caudal portions of the corpus callosum when compared to psychiatric and healthy controls without a history of early child maltreatment (Teicher et al., 2000). Studies with adults have not obtained corpus callosum measurements.

To the best of our knowledge, there is only one published structural MRI study in prepubescent nonhuman primates that had been subjected to early stress (Sanchez, Hearn, Do, Rilling, & Herndon, 1998). Most preclinical studies of early stress have examined the long-term impact of these experiences on brain development in adult animals. Interestingly, the study with the young primates also failed to find evidence of hippocampal atrophy. Instead, consistent with the child and adolescent studies described above, the investigators reported reductions in the medial and caudal portions of the corpus callosum in the juvenile, non-human primates subjected to early stress (Sanchez et al., 1998).

The medial and caudal portions of the corpus callosum contain interhemispheric projections from the cingulate, posterior temporal–parietal sensory association cortices, superior temporal sulcus, retrosplenial cortex, insula, and parahippocampal structures

(Pandya & Seltzer, 1986). Several of the regions with interhemispheric projections through the medial and caudal portions of the corpus callosum have direct connections with prefrontal cortical areas and are involved in circuits that mediate the processing of emotion and various memory functions—core types of disturbances observed in individuals with PTSD.

Given the prominence of corpus callosum alterations in children and adolescents with PTSD, our group has conducted a preliminary study using diffusion tensor imaging (DTI) in 14 maltreated children with PTSD and 16 normal controls (Kaufman et al., 2002). DTI can be used to assess the integrity of white matter tracts in the brain. Children with PTSD had significantly greater mean diffusivity in the medial and posterior regions of the corpus callosum, a finding that is consistent with the possibility of reduced axonal pruning early in development and decreased fractional anisotropy, a finding that is consistent with the possibility of reduced myelination in children with PTSD compared to aged-matched controls. We are currently in the process of expanding this pilot initiative to further investigate the role of the corpus callosum in the pathophysiology of PTSD and have begun to scan trauma controls—children with a history of abuse without psychopathology—to start to understand potential neurobiological mechanisms involved in resilience in maltreated children.

The utilization of a developmental framework in future preclinical and clinical studies will help to enhance our understanding of the neurobiological mechanisms that link child maltreatment with PTSD and other negative sequelae across the life cycle. As noted above, most preclinical studies of early stress have examined the long-term impact of these experiences on brain development in adult animals. There is a need for more developmental work in this area.

FACTORS THAT MODIFY THE IMPACT OF EARLY STRESS: CLINICAL STUDIES

As in the preclinical studies, emerging research in clinical populations highlights the importance of examining gene and environmental interactions in understanding the long-term impact of early child maltreatment. Work in this area is still preliminary, and to date researchers have primarily only documented the impact of familial and genetic factors and the quality of the subsequent caregiving environment on behavioral and clinical outcomes (Caspi, McClay, Moffitt, Mill, Martin, Craig, Taylor, & Poulton, 2002; Kaufman & Henrich, 2000). The modifying effect of these factors on neurobiological sequelae have been little explored (Kaufman et al., 1997). However, as with the preclinical studies, the emerging clinical findings suggest the adverse effects associated with early child maltreatment are not inevitable and can be modified by intrinsic and extrinsic factors, with the quality of the subsequent caregiving environment especially important in determining the long-term impact of early abuse.

Clinical Implications

As discussed previously, the neurobiological correlates reported in adults with PTSD are very similar to the neurobiological changes associated with experiences of early stress. Translational research approaches have been very productive in delineating the pathophysiology of PTSD in adults and suggesting novel treatments for adults with this disorder.

For example, the finding that administration of NE blocking agents immediately following an acute stressor reduced the long-term neurobiological effects of the stressor in rodents led to the trial of propranolol, a beta-adrenergic NE blocker, to prevent the onset of PTSD in adults who suffered an acute trauma (Pitman et al., 2002). Preliminary positive findings in the prevention of PTSD in adults administered propranolol following an acute trauma are very encouraging. The convergence of findings in preclinical and clinical studies has also led to the development of CRH receptor type 1 antagonist drugs that are currently being tested for their efficacy in treating PTSD (Arborelius et al., 1999). In addition, as chronic antidepressant treatment with selective serotonin reuptake inhibitors (SSRIs) has been found to reverse hippocampal atrophy and promote neurogenesis in adult rodents (Duman, Nakagawa, & Malberg, 2001; Malberg, Eisch, Nestler & Duman, 2000). SSRI medications have been found to be effective treatments for PTSD in adults, with chronic treatment associated with improvement of verbal declarative memory deficits and an increase in hippocampal volume (Vermetten, Vythilingam, Southwick, Charney, & Bremner, 2003).

This section, however, focuses primarily on the clinical implications of the stress research for children and adolescents with a history of child maltreatment. We currently know very little about the pharmacological treatment of PTSD in children; more work is needed in this area, and, as discussed previously, more developmentally focused preclinical work is needed to guide research efforts with children and adolescents.

The extant preclinical and clinical literature reviewed, however, strongly suggests that facilitating the formation of stable, secure, and positive relationships is essential to promoting good outcomes for children with a history of maltreatment (Kaufman & Henrich, 2000). The Adoption and Safe Families Act (P.L. 105-89), passed in November 1997, was designed to facilitate permanency-planning efforts on behalf of maltreated children. Permanency planning involves the systematic implementation of interventions to secure a caring, legally recognized, and continuous family for traumatized children (CWLA, 1985). These efforts aim to maximize the likelihood of children having at least one adult that they identify as a psychological parent (Goldstein, Solnit, Goldstein, & Freud, 1996). Permanency efforts can result in family reunification, placement with kin, or child adoption.

Although the quality of child protection services departments varies from state to state, nationwide it is estimated that investigation is the only "service" provided in response to reports of child maltreatment in 40% of substantiated cases of child abuse and neglect (McCurdy & Daro, 1992). In these cases, no interventions are provided to reduce the risk of future maltreatment or alleviate the effects of past abuse.

It has also been estimated that at least 50% of all child welfare cases involve substance abuse, with rates as high as 90% reported in some parts of the country (National Center on Addiction and Substance Abuse, 1999). Birth parents cannot be a viable attachment choice for children unless they are given intervention to address their substance abuse problems.

Several states have developed innovative approaches to increase services to address substance abuse problems, including having adult addiction services liaisons work in child welfare offices to facilitate client referral for treatment (McAlpine, Marshall, & Doran, 2001); hiring substance abuse counselors to work in child welfare offices to perform on-site evaluations and identify appropriate resources for clients (Semidei, Radel, & Nolan, 2001); and establishing family drug courts that provide a highly structured venue within which treatment services are offered, sanctions are applied for noncompliance, and program progress is meticulously monitored allowing case planning decisions to be made more quickly on the basis of better information (Semidei et al., 2001). Dialectical behavior

therapy (DBT) programs for substance abusing parents can be an additional alternative promising approach worthy of evaluation with protective service cases, as DBT programs have been found to be more effective than treatment-as-usual for substance abusing patients with borderline personality disorder (Linehan et al., 1999)—patients who exhibit many of the core difficulties observed among protective service clients (e.g., history of early childhood trauma, dissociative symptoms, intense unstable relationships, difficulty tolerating distress, labile affect, impulsiveness).

There are several promising model programs aimed at promoting permanency for maltreated children that warrant further systematic evaluation (Lieberman, 2003; Zeanah et al., 2001). Without permanency, the likelihood of positive outcomes is significantly diminished.

FUTURE DIRECTIONS AND CLOSING REMARKS

Resiliency researchers have made considerable advancements in recent years. Use of a translational framework to guide the design of future studies will enrich resiliency research and provide improved insights into psychological, physiological, and biological mechanisms and processes involved in resiliency. As the examples depicted in the chapter framework and preclinical sections illustrate, even when biological mechanisms are responsible for producing certain deleterious outcomes (e.g., reduced growth hormone secretion leading to blunted growth; brain changes that alter stress reactivity), psychosocial interventions can be effective.

Resiliency is an important area of research that serves to inform social policymakers and interventionists of factors that make a difference in the lives of at-risk children. It has direct and practical implications for programs aimed at promoting the healthy development of children. In future research, it is important to continue to work toward building methodological consensus, greater research integration, and the development of consistent and accurate assessments of resiliency that ultimately serve to make resiliency research more effective.

The problem of child maltreatment is enormous, both in terms of its costs to the individual and its cost to society. The growing body of research suggests that not all maltreated children will experience problems. Understanding resilience in maltreated children requires examination of genetic factors, the modifying role of attachment relationships, and gene and environmental interactions. As system failures and repeat out-of-home placements often compromise the development of maltreated children, multidisciplinary research and treatment efforts are required to address this problem, with foci that span from neurobiology to social policy.

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III

RESILIENCE AS A PHENOMENON IN CHILDHOOD DISORDERS

13

Resilience and the Disruptive Disorders of Childhood

Sam Goldstein and Richard Rider

The disruptive behavior disorders (DBD) of childhood are comprised of attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD) (APA, 2001). These conditions are among the most commonly treated in mental health settings with epidemiological studies suggesting that between 3 and 16% of all youth meet the diagnostic criteria for at least one, if not two or more, of these conditions (Eiraldi, Power, & Nezu, 1997; Loeber, Burke, Lahey, Winters, & Zera, 2000; for review see Barkley, 1998; Goldstein & Goldstein, 1998). These conditions have traditionally been referred to as externalizing disorders as opposed to the internalizing disorders such as anxiety, depression, or learning disability. The former disrupt and disturb the immediate environment and are easily visible to the observer. Symptoms and impairments of the latter are not as often observed nor are environments as disrupted by affected children and adolescents.

Given that the behavior of children with DBDs are rarely viewed as benign by parents, teachers, and community professionals, it is not surprising that these conditions are comprised of patterns of impulsive, hyperactive, aggressive, and defiant behaviors. These pose a significant adverse risk factor for a host of outcome variables into the late adolescent and young adult years. In fact, even a single DBD carries the increased probability of negative life adjustment into young adulthood. A combination of DBDs (e.g., ADHD and CD, or ODD and CD) speak to significant adverse outcome in major life domains, including school, family, health, vocation, and even activities such as driving (Barkley & Gordon, 2002; Goldstein, 2002). The DBDs may also act catalytically, reducing a child's opportunity for normal life adjustment by precipitating a cascade of adverse outcomes into adulthood.

A small percentage of children with ADHD and CD and an even greater percentage of children with ODD alone manage to transition and adjust reasonably well into young adulthood (Teeter-Ellison, 2002). Thus, if a specific risk, such as chronically demonstrating a DBD, significantly contributes to adverse outcome, and current treatment efforts for DBD

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demonstrate that symptoms can be managed but symptom relief in the long-term does not appear to significantly alter the adult outcome of these conditions, then researchers and clinicians must identify and understand those variables within the child, immediate family, and community that predict a better outcome. Thus, there has been an interest in studying resilience processes in children with DBDs. If a group of children suffering from one or more DBD who demonstrate the ability to transition successfully into the late adolescent and young adulthood years can be identified, then perhaps the lessons learned from studying these youth can generate a treatment protocol of those thoughts, feelings, behaviors, experiences, attitudes, and opportunities that enhance resilience in a group of children whose adult outcomes have been demonstrated to be significantly more risk filled than those of others. Particularly for youth with DBDs, an increasing body of literature, operating from a developmental pathways model, has demonstrated that a number of childhood variables can be used to predict risk of adult problems as well as identify insulating or protective factors that reduce risk and increase the chances of a satisfactory transition into adult life (for review see Katz, 1997). As a field, DBD researchers are slowly beginning to examine these protective factors. Though much is known about the risk factors, for the time being there are only limited data available about protective factors; however, it is quite likely that those factors that insulate and protect children from other psychiatric conditions affect those with DBDs as well. Thus, living in an intact household, above the poverty level, with parents free of serious psychiatric problems who are consistent in their parenting style and available to their children when needed appear to be among the most powerful factors predicting resilience in all children as well as those with DBDs (for review see Goldstein & Goldstein, 1998).

In long-term follow-up studies, at least 70 to 80% of adolescents with a childhood diagnosis of ADHD or another DBD continue to meet the diagnostic criteria for at least one DBD, with at least 60% reporting impairing symptoms but fewer meeting the diagnostic criteria during the adult years (for review see Ingram, Hechtman, & Morgenstern, 1999). These authors suggest that the decrease in prevalence is in part due to the developmental nature of the diagnostic protocols for DBDs. Prognosis for individuals with ADHD in adulthood, for example, appears to be influenced by the severity of their symptoms, comorbid conditions, level of intellectual functioning, and family situations such as parental pathology, family adversity, socioeconomic status, and treatment history (Goldstein, 2002). These variables are likely predictive for the other DBDs as well.

There is a broader amount of literature available concerning the absence of certain negative phenomena in predicting outcome. For example, Herrero, Hechtman, and Weiss (1994) demonstrated that females can experience less risk of adverse outcome with DBD simply due to their gender. Subtype differences in ADHD, specifically children with the inattentive type, can also reduce risk. The absence of impulsive behavior appears to predict a better outcome. In fact, it has been hypothesized that problems with self-control, characteristic of all three of the DBDs, may be the best predictors of future adult outcome into young adulthood when evaluating young children (for review see Barkley, 1997).

Not surprisingly, aggressive behavior in general, a diagnostic characteristic of ODD and CD as well as a common consequence of ADHD, has been found to predict adverse outcome into adulthood (Loney, Whaley-Klahn, & Kosier, 1983). Emotional lability has also been highly correlated with aggression (Hechtman, Weiss, & Perlman, 1984). It is also likely that within the symptom listing for the DBDs some may hold stronger positive or negative predictive power. Algorithmic research with these conditions has slowly begun to identify the presence or absence of certain symptoms as not only predictive of condition presence but also predictive of outcome (Mota & Schachar, 2000).

This chapter will provide an overview of DBDs, diagnostic symptoms, definitions, and prevalence. We provide an overview of risk and resilience factors that can contribute to acquisition and exacerbation of these conditions over time. The chapter will conclude with a proposed set of guidelines for clinicians.

OVERVIEW

Over the past quarter century, multiple longitudinal and retrospective studies have demonstrated that youth exhibit two broad dimensions of disruptive behaviors. The first dimension, present for many children at a young age, is characterized by the trinity of inattentive, hyperactive, and impulsive behaviors. Over the past 100 years this trio, first described by George Still (1902) as a disorder of defective moral control, has been described by various labels attesting to hypothesized cause (minimal brain dysfunction) or key symptom (hyperactivity or inattention), but is increasingly recognized as not so much a behavioral disorder but one of faulty cognitive functioning (Barkley, 1997). The second dimension of disruptive behavior falls in two distinct groups. The first, a group of oppositional and aggressive behaviors, has consistently been found to be distinct from a second group of covert behaviors (Fergusson, Horwood, & Lynskey, 1994; Frick, Lahey, & Loeber, 1993). Overt behaviors include, but are not limited to, fighting, disobedience, tantrums, destruction, bullying, and attention seeking. The second set of covert behaviors include, but are not limited to, theft without confrontation of the victim, choice of bad companions, school truancy, running away, lying, and loyalty to delinquent friends (Achenbach, Conners, Quay, Verhulst, & Howell, 1989; Loeber & Schmalting, 1985). The two aspects of this dimension have traditionally been thought to be strongly influenced by experience but likely also find their roots in genetic vulnerability. Further, overt behaviors can be divided into those that are nondestructive, such as simply resisting adult authority, and those that are aggressive toward others and destructive of property. The covert behaviors can be further divided into those, again, that do not confront victims, such as vandalism, and those that are nondestructive, such as truancy or running away from home (Lahey et al., 1990).

Within the DBDs, ADHD has consistently been found as distinct from ODD and CD (for review see Barkley, 1998; Goldstein & Goldstein, 1998; Hinshaw, 1987). The DBDs can also be clearly distinguished from the internalizing disorders of depression and anxiety (Taylor, Schachar, Thorley, & Wieselberg, 1986). ODD and CD appear to be distinct, although the two disorders may well overlap in a number of behaviors, such as mild aggression and lying. The onset of ODD in comparison to CD appears to be earlier. Children manifesting CD before age 10 appear to have a much worse prognosis than those demonstrating symptoms after that time (Moffitt, 1990; Patterson, DeBaryshe, & Ramsey, 1989). Although some children demonstrate the onset of CD and ODD simultaneously, the most serious symptoms of CD, including vandalism, repeatedly running away, truancy, shoplifting, breaking and entering, rape, assault, and homicide, generally emerge at a later age than symptoms of ODD.

It can be easily argued that the DBDs fall on a continuum from mild to severe, beginning with ADHD then progressing through ODD and CD. Though not all children with ADHD develop ODD and CD, a significant percentage of youth with CD have histories of ADHD. The younger a child progresses to CD, the more adverse the outcome (Biederman et al., 1996; Campbell, 1991). Further, boys experiencing CD, in comparison to those with only ODD, scored lower on tests of intelligence, came from families of lower

socioeconomic status, and had a history of greater conflict with school and judicial systems (Robins, 1991). Boys with CD demonstrated the strongest family history of antisocial personality, a problem that could reflect a combination of family, environment, and shared family genetics.

DIAGNOSTIC OVERVIEW

ADHD

ADHD is described as a “persistent pattern of inattention and/or hyperactivity” more frequent in severity than is typical of children in a similar level of development (APA, 2001). Some symptoms must have been apparent before the age of 7, although many children are diagnosed at later ages after symptoms have been observed for several years. Impairment must be present in at least two settings and interfere with developmentally appropriate functioning in the social, academic, or work setting. Assessment of impairment has been an increasing focus in making the diagnosis of ADHD (APA, 2001). ADHD appears more common in males than females, a problem that may or may not be a function of the DSM field studies and/or differences in prevalence and presentation (Goldstein & Gordon, 2003). ADHD is characterized by developmentally inappropriate, often limited attention span and/or hyperactivity and impulsivity. Six of nine inattentive symptoms must be present to confirm the inattentive aspect of the disorder. DSM-IV-TR (APA, 2001) did not delineate these symptoms by importance. As noted, algorithmic research finds some symptoms may in fact demonstrate better negative or positive predictive power than others (Mota & Schachar, 2000). The inattentive symptoms include: failing to give close attention to details, problems with sustained attention, not listening when spoken to directly, failing to complete tasks, difficulty with organization, avoiding or reluctant to engage in tasks requiring sustained mental effort, losing things, being easily distracted, and forgetful in daily activities.

Six of nine hyperactive-impulsive symptoms must be present to confirm the hyperactive-impulsive aspect of the disorder. The hyperactive symptoms include: fidgeting, having trouble remaining seated, demonstrating inappropriate activity, difficulty engaging in leisure activities quietly, acting as if driven by a motor, and talking excessively. The impulsive symptoms include: blurting out answers before questions have been completed, difficulty waiting for a turn, and interrupting others. If in fact ADHD represents failure to develop effective self-discipline, as evidenced by impulsive behavior, then 3 of 18 symptoms reflecting this phenomenon may well be a problem (Barkley, 1997). Diagnosis is made by confirming six or more symptoms in the inattention domain, hyperactivity-impulsive domain, or both. An individual may qualify for ADHD inattentive type, hyperactive-impulsive type, or combined type. It is important to note that the diagnosis (Part D) requires that there must be clear evidence of clinically significant impairment in social, academic or occupational functioning (APA, 2001).

ODD/CD

ODD is described in the DSM-IV-TR as a recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures. This pattern of behavior must have lasted for at least 6 months and be characterized by frequent occurrence of at least four of

the following: loss of temper, arguments with adults, defiance or refusal to comply with adults' request or rules, deliberately doing things that annoy people, blaming others for personal failings, touchiness, anger, resentment, spite, or vindictiveness. CD is described in the DSM-IV-TR as a "repetitive and persistent pattern of behavior in which the basic rights of others or major age appropriate societal norms or rules are violated" (APA, 2001). ODD reflects an enduring pattern of negativistic, hostile, and defiant behaviors in the absence of serious violation of societal norms and the rights of others. Thus, children with ODD argue with adults, lose their temper, and are quick to anger. They frequently defy reasonable requests or rules and deliberately annoy others. They tend to blame others for their mistakes.

CD appears to reflect an enduring set of behaviors that evolve over time. CD is characterized most often by significant aggression and violation of the rights of others. The average age of CD is younger in boys than in girls. Boys may meet the diagnostic criteria for CD if it is going to develop by age 12, whereas girls often reach 14 to 16 before the diagnosis is made. Three or more of the following behaviors must occur within a 12-month period with at least one present in the past 6 months for youth to qualify for a diagnosis of CD: bullying, threatening or intimidating others, initiating physical fights, using a weapon that causes serious harm, stealing with confrontation of the victim, physical cruelty to others, physical cruelty to animals, forcible sexual activity with others, lying to avoid obligation, staying out overnight without permission, stealing items of nontrivial value, deliberately engaging in fire-setting with the intention of causing harm, deliberately destroying others' property, running away from home overnight at least twice, truant from school, and burglary. There are two diagnostic protocols for CD: child onset and adolescent onset. These are largely based on the classification system identified by Moffitt (1993), who utilized a developmental approach to distinguish between individuals who engage in temporary versus persistent antisocial behavior. Life-course-persistent individuals were thought to demonstrate risk factors such as neuropsychological abnormalities and poor home environments, which contribute to their difficulty. Individuals classified as adolescent-limited did not demonstrate these risk factors and had no prior engagement in antisocial behavior.

The life-course-persistent pattern might well equate with the juvenile court characterization of delinquency. To test her dual trajectory theory, Moffitt examined a birth cohort of over 1,000 children in New Zealand for trends in parent, teacher, and self-reported antisocial behavior biennially from ages 3 to 15 years. Five percent of the sample accounted for nearly 70% of the stability of crime across time. Despite these efforts at delineation, there continues to be little consensus as to the distinction between CD as a clinical diagnosis and delinquency as a legal/societal description.

The DBDs and Delinquency

There is little consensus in defining delinquency as a condition distinct from CD. In fact, most professionals and lay persons use the terms CD, delinquency, and even antisocial behavior interchangeably. However, in a legal sense a delinquent is defined as someone who breaks laws, those that apply to youth as well as adults. Tremblay (2003) suggests the term "delinquent" should be used to describe youth in studies that specifically focus upon legal issues. He suggests three classes of delinquent behavior from a legal perspective: (1) vandalism and theft with or without confrontation of a victim; (2) physical, verbal, or indirect aggression, predatory or defensive; and (3) status offenses of underaged youth (e.g., consuming alcohol prior to age 21). Aggression alone has not always been found to

predict delinquency (Anderson, Bergman, & Magnusson, 1989). According to Anderson et al. (1989), delinquency is best predicted when aggression is accompanied by peer rejection and other problems, many of which are present in most youth with ADHD. In young children a combination of aggression and social problems appears to be predictive of later drug abuse and duress (Kellam, Simon, & Ensminger, 1983). Rose, Rose, and Feldman (1989) suggest that early antisocial behavior predicts more than the single well-established developmental path that ends in delinquency. Early signs of DBD among a preschool population, including tantrums, defiance, and overactivity, predicted the diagnosis of a DBD by midchildhood and later delinquency in 67% of those studied (Campbell & Ewing, 1990).

Moffitt and Caspi (2001) attempted to identify the childhood risk factors of life-course-persistent delinquency. Their results with the same 1,000 individuals found that males and females classified as life-course-persistent delinquents were highly similar on most risk factors and had significantly higher levels of risk factors in their adolescence-limited peers. With regard to childhood risk factors, life-course-persistent individuals demonstrated significantly greater risk on 21 of the 26 factors measured. In contrast, the risk factors reported by adolescence-limited individuals were similar to their comparison peers with no history of juvenile court involvement on all but one of the factors measured. Thus, youth who exhibit rule violations that are limited to their adolescent years tended to have fewer pathological histories, personality problems, reading problems, inadequate parenting, broken attachments, and relationships than life-course persistent delinquents. Although Moffitt and others (Moffitt, Caspi, Harrington, & Milne, 2002; White, Bates, & Buyske, 2001) refer to both adolescence-limited and life-course-persistent youth problems as delinquency, it would appear that the latter group certainly provides a better working definition of the community's perception of the chronic, recurrent antisocial behaviors exhibited by delinquents. The extension of Moffitt's work (White et al., 2001) demonstrated that delinquents manifested higher disinhibition, impulsivity, and parental hostility and lower harm avoidance and fewer intact family structures than nondelinquents.

Perhaps a distinction between CD and delinquency should also focus upon persistence. CD, based upon DSM-IV field studies, tends to have an average duration of 3 years. That is, most youth meeting the CD criteria recover within that period of time. CD can thus equate with Moffitt's conceptualization of adolescence-limited delinquency. It should be noted, however, that receiving a diagnosis of CD is not a benign phenomenon over time. Associations between parent and teacher reports of conduct problems at age 8 and psychosocial outcomes at 18 report elevated rates of educational underachievement, juvenile offending, substance abuse/dependence, and mental health problems at 18, even after adjusting for social disadvantage, attention problems, and IQ (Fergusson & Lynskey, 1998). Further, maternal communication/problem-solving skills and family variables (e.g., marital status, maternal depressed mood, and interparental conflict) during early adolescence, both independently and interactively, predict severe delinquent behaviors during early adulthood (Klein & Forehand, 1997).

DEVELOPMENTAL COURSE

The greatest comorbidity for the DBDs may be with each other, more so than other psychiatric conditions. Comorbidity may in fact reflect the differentiation in what begins as a unitary pattern of disruptive symptoms. For example, Bauermeister (1992) generated factor-analytic data suggesting that at 4 to 5 years of age disruptive symptoms appear to fall on a single dimension.

ADHD

ADHD appears to develop relatively early in childhood before the other DBDs present. The majority of children with ADHD are identified within their first year of school. Early signs of inattention, hyperactivity, and impulsivity in children quickly cause impairment in multiple settings, leading to problems with social relations, self-esteem, and underachievement (Barkley, Fischer, Edelbrock, & Smallish, 1990). Interpersonal difficulties with peers, adults, and family members often result in rejection and subsequent social neglect due to the inappropriate pattern of behavior resulting from an impulsive manner of dealing with thoughts, feelings, and others (Milich & Landau, 1981; Milich, Landau, Kilby, & Whitten, 1982). Problems with language impairment can further contribute to poor interpersonal relations, school achievement, and the development of self-regulatory patterns of behavior (Cantwell & Baker, 1977, 1989; Cantwell, Baker, & Mattison, 1981). In a vicious cycle, isolation from peers, due to the combined effect of ADHD and its impact on the normal course of development as well as other adversities, leads to reduced opportunity to develop appropriate social interaction, self-esteem, coping skills, academic progress, and likely resilience processes (Brooks, 1998). The academic performance and achievement problems in youth with ADHD have been reported to be well over 50% (Fischer, Barkley, Fletcher, & Smallish, 1990; Semrud-Clikeman et al., 1992). Poor persistence and limited motivation (Milch, 1994), organizational deficits (Zentall, Harper, & Stormont-Spurgin, 1993), careless mistakes (Teeter, 1998), and noncompliant behavior (Weiss & Hechtman, 1993) have all been implicated as contributing to the pervasive scholastic problems experienced by youth with ADHD. Problems with independent seat work, school performance, deficient study skills, poor test-taking skills, disorganized notebooks, desks, and reports, as well as lack of attention to lectures and group discussions are consistent themes for youth with ADHD (DuPaul & Stoner, 2003). This pattern of impairment results in a variety of negative consequences in the social arena (Coie, Dodge, & Coppotelli, 1982), poor test performance (Nelson & Ellenberg, 1979), impaired working memory (Douglas & Benezra, 1990), and poor overall success in school (DuPaul & Stoner, 2003). As Teeter-Ellison (2002) notes, an inability to persist and be vigilant interferes with classroom behavior, especially when tasks are repetitive or boring. These difficulties, unfortunately, present early and in particular when classroom expectations require sustained attention, effort, and goal-directedness. Many children with ADHD, as Teeter-Ellison writes, are “exquisitely attuned to the fact that they are not performing up to their peer group, that they are not meeting the expectations of important adults in their lives and that they are not well liked by their peers” (p. 10). This cycle, described by others (Goldstein & Goldstein, 1990), creates increased vulnerability, limiting opportunities for youth with ADHD to develop resilient qualities. Self-doubt and lack of confidence, combined with academic, social, and avocational (e.g., sporting activities) failure, impedes self-esteem, increasing vulnerability for conditions such as depression and anxiety. By late elementary age, many youth with ADHD disengage from the learning environment as a means of avoiding failure, choosing instead patterns of inappropriate behavior, preferring to be labeled as misbehaving rather than “dumb” (Brooks, 1991, 2001). Because elementary experience provides the basic foundational skills necessary to learn, including achievement, study, test-taking, and organizational skills, many youth with ADHD enter the middle school years ill-prepared for the increasing demands of autonomy required by the upper grades. This then fuels their problems, leading to a cycle of increased risk for drop out, school failure, academic underachievement, and significant risk in transitioning successfully into adulthood (Barkley et al., 1990; Barkley & Gordon, 2002).

The preponderance of these data argues strongly that symptoms of ADHD, in particular failure to develop what can be referred to as self-discipline, dramatically reduce positive outcome and thus opportunities to demonstrate resilience in the face of these adversities. Unfortunately, this pattern continues and intensifies in the adolescent years. What is most disturbing about the increasing body of research about ADHD in the adolescent years is the growing evidence of the widespread effects of ADHD on all aspects of academic, interpersonal, behavioral, emotional, and daily living activities. Up to 80% of youth carrying a diagnosis of ADHD continued to demonstrate clinically significant symptoms into their adolescent years (Barkley et al., 1990; Biederman, Faraone, Millberger, Guite et al., 1996; Weiss & Hechtman, 1993). Even early studies examining outcome found only a significant minority (between 20 to 30%) of children with ADHD followed into their adolescent years demonstrating limited differences from controls. Seventy percent of a cohort followed over 20 years demonstrated significant academic, social, and emotional difficulties relative to their ADHD (Hechtman, 1999). The emerging literature suggests that adolescents with ADHD demonstrate significantly greater than expected presentation of comorbid disorders that during the adolescent years also appear to influence the development of adverse personality styles (e.g., antisocial or borderline personality disorder). Further, adolescents with ADHD demonstrate signs of social disability and appear at significantly greater risk for mood, anxiety, disruptive, and substance abuse disorders than comparison to boys without social disability (Greene, Biederman, Faraone, Sienna, & Garcia-Jones, 1997). In this 4-year longitudinal study of boys with ADHD, the presence of social disability predicted poor social and psychiatric outcome, including substance abuse and conduct disorder. The authors concluded that assessing social function in adolescents with ADHD is critical to their treatment. Once again, ADHD is demonstrated to strip away or limit the potential to develop critical, resilient phenomena. This includes the ability to connect and maintain satisfying reciprocal relationships with others, achieve in school, and maintain mental health to facilitate resilience (Brooks & Goldstein, 2001).

ODD and CD

Not surprisingly, with ODD and CD, less serious symptoms tend to precede moderate symptoms, which precede the presentation of more serious symptoms. Preschoolers demonstrate a single disruptive pattern of behavior often composed of oppositionality and mild aggression (Achenbach, Edelbrock, & Howell, 1987). These findings are consistent with the developmental view that ODD usually precedes the onset of CD. The risk of onset of CD was found to be four times higher in children with ODD than in those without (Cohen & Flory, 1998). Multiple authors have investigated developmental pathways of these patterns of behavior, identifying three often parallel pathways: (1) overt, (2) covert, and (3) authority conflict (Kelly, Loeber, Keenan, & DeLamatre, 1997; Loeber, Keenan, Russo, Green, Lahey, & Thomas, 1998; Loeber, Keenan, & Zhang, 1997). On the overt pathway, minor aggression leads to physical fighting and finally violence. On the covert pathway, minor covert behaviors, such as stealing from home, often lead to property damage (e.g., fire-setting) and then to moderate to serious forms of recurrent status and criminal behavior. On the authority conflict pathway, problems progress from stubborn behavior to defiance and authority avoidance (e.g., truancy and running away). Youth often start down this pathway well before age 12, though it is not well understood whether aggression in preschoolers in and of itself significantly increases risk to precede down one of these pathways (Nagin & Tremblay, 1999).

PREVALENCE

When DSM symptoms are used epidemiologically, an incidence rate of up to 15% is found for ADHD. In a study of nearly 500 children evaluated on an outpatient basis at a children's hospital, 15% received a diagnosis of ADHD based on a comprehensive assessment (McDowell & Rappaport, 1992). Field studies for the DSM-IV identified nearly 9% of the population as meeting at least one of the diagnostic subtypes for ADHD (Applegate et al., 1997). When a careful analysis is conducted, the rate of ADHD most likely falls between 3 and 6% (for review see Goldstein & Goldstein, 1998; Jensen & Cooper, 2002). A higher incidence rate of ADHD as well as other DBDs occurs in lower socioeconomic families. A variety of additional life variables appear to affect the prevalence of ADHD as well as the other DBDs. For example, among adopted or foster families the incidence of ADHD has been found to be twice as high as among other children (Molina, 1990).

Few studies that have generated consistent prevalence data for ODD or CD as a function of age. Epidemiological studies estimating the occurrence of CD in the general population vary from just over 3% of 10-year-olds (Rutter, Tizard, & Whitmore, 1970) to almost 7% of 7-year-olds (McGee, Silva, & Williams, 1984). Based on a review of the existing literature, Kazdin (1987) suggested a range of 4 to 10% for CD. The rate of ODD in the general population has been reported as equally high (Anderson, Williams, McGee, & Silva, 1987). Oppositional, negativistic behavior can be developmentally normal in early childhood. However, epidemiological studies of negativistic traits in nonclinical populations found such behavior in 16 to 22% of school-age children (Loeber, Lahey, & Thomas, 1991). Although ODD can present as early as 3 years of age, it typically does not present until 8 years of age and usually not later than adolescence. In boys ages 5 through 8 years, fighting, temper tantrums, disobedience, negativism, irritability, and quickness to anger appear to decrease with increasing age (Werry & Quay, 1971). MacFarland, Allen, and Hunziak (1962) found similar decreases with age for both sexes in the prevalence of lying, destructiveness, negative behavior, and temper tantrums. The greatest decline in these problems appeared to take place during the elementary years. Tremblay (1990) reported a decline in oppositional behavior in boys, particularly between the first and second grades. Anderson, Williams, McGee, and Silva (1987) report that mothers' ratings of aggressive behavior decreased for their children between the ages of 5 and 11 in children without a reported history of psychiatric problems. In contrast, teacher-rated aggression scores for this same group increased for children with histories of psychiatric problems. Certain covert disruptive behaviors, such as alcohol and drug abuse, as well as various forms of theft appear to increase from late childhood to adolescence (Loeber, 1985). Lying, interestingly enough, appears to present at all age levels (Achenbach & Edelbrock, 1981). Further, there is little doubt that prevalence varies as diagnostic criteria change. For example, when comparing the revised third edition of the DSM with the original third edition ADHD criteria, the revised criteria were found to identify 14% more children than the original criteria identified (Lahey et al., 1990). Lahey et al. (1990) conclude that boys are more likely to meet criteria for DSM definitions of CD than their female counterparts.

Table 13.1, though dated, provides an overview of risk factors that increase the probability of youth receiving a psychiatric diagnosis, including the DBDs. Although none of these studies assess variability of problems across situations, a consistent set of diagnostic criteria was utilized. Further, educational risk factors, including lower cognitive skills, weaker academic self-esteem, lower academic achievement, and school repetition, appear to consistently present in youth at increased risk for emotional and behavioral problems in

Table 13.1 Other Factors Associated With Increased Risk for Psychiatric Disorder

| Factor | Risk | Increased for |
|----------------------------------|-------------------------------|---------------------------------------|
| Anderson et al. (1989) (age 11) | Lower cognitive abilities | ADD, multiple |
| | Lower academic self-esteem | Emotional, ADD, ¹ multiple |
| | Lower general self-esteem | Emotional, ADD, multiple |
| | Poor health | Any |
| | Poor peer socialization | Multiple |
| | Family disadvantage | Emotional, ADD |
| Bird et al. (1988) (ages 4–16) | Lower academic achievement | Behavioral, depressed |
| | Poor family functioning | Depressed |
| | High life stress | Behavioral, depressed |
| Velez et al. (1989) (ages 9–19) | Family problems | Behavioral |
| | Repeated school grade | Any |
| | High life stress | Behavioral, overanxious |
| Costello (1989) (ages 7–11) | Urban (vs. suburban) | Behavioral |
| | Repeated school grade | Behavioral |
| | High life stress | Any |
| | No father in home | Oppositional |
| Offord et al. (1987) (ages 4–16) | Family dysfunction | Any |
| | Repeated school grade | Behavioral |
| | Parental psychiatric problems | Somatization (boys only) |
| | Parent arrested | Conduct and oppositional |
| | Chronic mental illness | Any (4–11 only for hyperactivity) |

¹ ADD = attention deficit disorder.

Source: "Developments in Child Psychiatric Epidemiology" (Special Edition) by E. J. Costello, 1989, *Journal of the American Academy of Child and Adolescent Psychiatry*, 28, 836–841. Copyright, 1989. Used with permission of the author and publisher.

these studies. Note that many of these risk factors have been identified as those that increase vulnerability and adverse outcome in studies of resilience in childhood.

COMORBIDITY

ADHD co-occurs with other DBDs as well as multiple other developmental and psychiatric disorders in children to such an extent that authors have suggested subtypes of ADHD to include combinations of ADHD with other DBD (e.g., ADHD and CD) as well as with internalizing disorders (e.g., ADHD and anxiety) (Jensen, Martin, & Cantwell, 1997). ADHD coexists with other disorders at a rate well beyond chance (Seidman, Benedict, Biederman, & Bernstein, 1995). As described, impulsiveness likely acts as a catalyst, increasing risk for development of other problems, especially in the face of additional risk factors (e.g., family, developmental, educational).

Goldstein and Goldstein (1998) posit that certain events instigate or increase the probability that ADHD will be diagnosed. These include individual characteristics such as intellectual functioning, biological predisposition, and the physical and psychosocial environments. Events in the school or home either strengthen or decrease the behavioral symptoms of ADHD. Once ADHD is diagnosed, the risk of depression is increased as a result of social problems, school failure, and possibly the side effects of medication. The risk for CD is increased by school and social problems as well as the presentation of antisocial role models, which has been demonstrated as a critical risk factor.

In a review of empirical studies, Biederman, Newcorn, and Sprich (1991) attempted to define the comorbidity of ADHD with other disorders. They suggest that the literature supports considerable comorbidity of ADHD with CD, ODD, mood disorders, anxiety disorders, learning disabilities, and other disorders such as mental retardation, Tourette's disorder, and borderline personality disorder. The qualities of ADHD can act as a catalyst: leave them alone and they may not be terribly aversive; mix them with negative life events or risk factors and they appear to catalytically worsen those events and the impact they have on children's current and future functioning (Goldstein & Goldstein, 1998).

In a community sample of over 15,000 14- to 18-year-old adolescents, Lewinsohn, Rhode, and Seeley (1994) compared six clinical outcome measures with four major psychiatric disorders (depression, anxiety, substance abuse, and disruptive behaviors). The impact of comorbidity was strongest for academic problems, mental health treatment utilization, and past suicide attempts; intermediate on measures of role, function, and conflict with parents and nonsignificant and physical symptoms. The greatest incremental impact of comorbidity was on anxiety disorders; the least was on substance abuse. Substance abuse and disruptive behavior were more common in males; depression and anxiety in females. The effect of comorbidity was not due to psychopathology. The authors conclude, as others have, that there is a high rate of comorbidity in adolescence referred in clinical practice.

In clinic-referred populations, the comorbidity between ADHD and CD has been reported as high as 50% with an incidence of 30 to 50% reported in epidemiological or comorbidity samples (Szatmari, Boyle, & Offord, 1989). Children with ADHD and comorbid ODD and CD exhibit greater frequencies of antisocial behavior, such as lying, stealing, and fighting, than those with ADHD who do not develop the secondary disruptive comorbid disorder (Barkley, 1998). It has also been suggested that this combined group is at greater risk for peer rejection. These children may be neglected due to their lack of social skills and rejected due to their aggressive behavior. Common sense dictates that the comorbid group is going to require more intensive and continuous service delivery. The comorbid group also holds the greatest risk for later life problems. In fact, it is likely that the co-occurrence of CD with ADHD explain the significant adult problems a subgroup of those with ADHD appear to develop. As Edelbrock (1989) noted, more predictive of outcome than severity of ADHD symptoms is the development in children with ADHD of oppositional and aggressive behaviors. Environmental consequences, including parent psychopathology, marital discord, ineffective parenting, parent aggressiveness, and antisocial parent behavior, are better predictors of life outcome for children with ADHD than the ADHD diagnosis per se. In fact these factors become highly stable over time and are resistant to change. Data also suggest that the comorbid conditions presenting before age 10 have a much worse prognosis than if the secondary behavior disorder develops after age 10 (McGee & Share, 1988).

After careful review of the literature, Loeber et al. (1991) suggest that CD and ODD are strongly and developmentally related but clearly different. Factor analyses indicate that distinct covarying groups of ODD and CD can be identified, but that certain symptoms relate to both disorders, particularly mild aggression and lying. As noted, age of onset for ODD is earlier than most CD symptoms. Nearly all youth with CD have a history of ODD, but not all ODD cases progress to CD. Interestingly, in some studies children with ODD demonstrate the same forms of parental psychopathology and family adversity but to a lesser degree than for CD. Clearly the age of onset of some CD symptoms, specifically fighting, bullying, lying, and vandalism, suggests that some youth with CD show nearly simultaneous onset of ODD and CD. However, the more serious symptoms of CD, such as

vandalism, running away, truancy, shoplifting, breaking and entering, rape, and assault, appear to emerge at a much later age than ODD symptoms. Biederman, Faraone, Milberger, Jetton et al. (1996) generated data suggesting two types of ODD that appear to have different correlates, course, and outcome. One type appeared prodromal for CD the other subsyndromal to CD and not likely to progress into CD in later years. Not surprisingly, the higher-risk form of ODD was characterized by a stronger profile of negative, provocative, spiteful, and behavior.

There is a growing body of literature suggesting that DBDs and anxiety disorders are often comorbid. Loeber and Keenan (1994) found that CD and anxiety disorders are comorbid substantially higher than chance during childhood and adolescence.

Epidemiologically the overlap between ADHD and depression occurs at a beyond-chance level with some studies suggesting a rate of nearly 30% (McClelland, Rubert, Reichler, & Sylvester, 1989). Although Capaldi (1992) found that CD is likely a precursor to depression in some children, Biederman, Faraone, Mick, and Lelon (1995) questioned the psychiatric comorbidity among referred juveniles with major depression. In a sample of 424 children and adolescents consecutively referred to a psychiatric facility, nearly 40% were identified with a depressive disorder. They had a history of chronic course and severe psychosocial dysfunction. They also demonstrated a high rate of CD, anxiety disorder, and ADHD. Seventy-four percent with severe major depression and 77% with mild major depression received a diagnosis of ADHD, compared to 74% of the psychiatric controls and none of the normal controls. The authors hypothesized that major depression was more likely the *outcome* rather than the cause of co-occurring disorders based on an analysis of age of symptom onset.

RISK FOR ACQUISITION AND EXACERBATION

Biological, psychological, and psychosocial factors are all posited to be risk factors for the development of a DBD. Burke, Loeber, and Birmaher (2002) considered genetics, intergenerational transmission, neuroanatomy, neurotransmitters, preautonomic nervous system, pre- and perinatal problems, and neurotoxins as biological risk factors for the development of a DBD. Although the evidence is not conclusive, several studies suggest a moderate genetic influence on DBDs. Eaves et al. (2000) concluded that there is a high genetic correlation across gender in the liability for ODD and CD.

Several researchers, for example, Lahey et al. (1998) have found that a history of parental antisocial behavior disorders is associated with preadolescent onset of CD. Loeber, Green, Keenan, and Lahey (1995) concluded that parental substance abuse, low socio-economic status, and oppositional behavior are key factors in boys' progression to CD.

Biological

Frontal lobe dysfunction has been associated with the increased risk of violent behavior (Pliszka, 1999). Impairments in the functioning of the amygdala are associated with deficits in the reading of social cues, and the connection between the amygdala and prefrontal cortical regions serves to aid in the suppression of negative emotion (Davidson, Putnam, & Larson, 2000).

Low levels of serotonin in cerebral spinal fluid have been linked to aggression (Clarke, Murphy, & Constantino, 1999; Kruesi et al., 1990). Moffitt, Brammer, and

Caspi (1998) found that in men metabolites of serotonin in the general population sample of 21-year-olds was related to past year self-reported and lifetime court-recorded violence. Burke et al. (2002) concluded that the link between serotonin and aggression reflects a complex relationship between neuroanatomical and neurochemical interconnectivity, executive brain function, and behavioral dysregulation.

Pliszka (1999) reported that individuals with DBD experienced general physiological underarousal. Lower heart rates have been associated with adolescent antisocial behavior (Mezzacappa, Tremblay, & Kindlon, 1997) and predictive of later criminality (Raine, Venables, & Williams, 1990).

Evidence exists of the contributions of genetic factors to DBD as well as the contributions of prenatal and early developmental exposure to toxins, other perinatal problems, and physical damage to brain structures (Burke et al., 2002). Maternal smoking during pregnancy has been linked to CD in boys (Wakschlag et al., 1997). Pregnancy and birth complications have also been shown to be associated with the development of behavior problems in offspring (Raine et al., 1990). Environmental toxins such as lead have also been implicated in the development of DBDs. Elevated levels of lead in bones of children at age 11 are associated with greater parent and teacher ratings of aggressiveness, higher delinquency scores, and greater somatic complaints (Needleman, Riess, Tobin, Biesecker, & Greenhouse, 1996).

The psychological substrates of temperament, attachment, neuropsychological functioning, intelligence, academic performance, and social cognition have all been found to influence an individual's propensity to develop a DBD. Sanson and Prior (1999) concluded that early temperament (specifically negative emotionality, intense and reactive responding, and inflexibility), is predictive of externalizing behavior problems by late childhood.

Low intelligence is often considered a precursor to DBD. However, as Loeber et al. (1991) point out, the issue of the association between CD, ADHD, and IQ is not well understood. Additionally, IQ as traditionally measured appears to be related to low achievement and school failure, which are also related to later antisocial behavior (Farrington, 1995). Moreover, high intelligence does not preclude conduct problems. Boys with psychopathic characteristics, parental antisocial personality disorder, and conduct problems were found to have IQs equivalent to those of controls and higher than those of boys with conduct problems but without psychopathology and parental antisocial personality (Christian, Frick, Hill, Tyler, & Frazer, 1997).

Psychological and Psychosocial Factors

Several aspects of child-rearing practices, such as degree of involvement, parent-child conflict management, monitoring, and harsh and inconsistent discipline, have been correlated with children's disruptive or delinquent behaviors (Fricke, 1994; Wasserman, Miller, Pinner, & Jaramilo, 1996). Coercive parenting behaviors appear to lead to aggressive behaviors in younger girls as well as boys (Eddy, Leve, & Fagot, 2001).

Fergusson, Lynskey, and Horwood (1996) reported that a harsh or abusive parenting style, such as that involving sexual or physical abuse, significantly increased the risk of CD. Childhood victimization of boys and girls, including abuse and neglect, is predictive of later antisocial personality disorder (Luntz & Widom, 1994). Peer effects also appear to be important and related to potential development and maintenance of DBD symptoms. The stability of peer rejection in children identified as having conduct problems is significant (Coie & Dodge, 1998; Coie & Lenox, 1994) and related to aggressive responding (Dodge, Price, Bachorowski, & Newman, 1990). Association with deviant peers appears to lead to

the initiation of delinquent behavior in boys (Elliott & Menard, 1996). Exposure to delinquent peers may enhance preexisting delinquency (Coie & Miller-Johnson, 2001).

Disruptive behaviors among children are particularly associated with poor and disadvantage neighborhoods (Loeber et al., 1995). Wickström and Loeber (2000) found that the effects of living in public housing countered the impact of any individual protective factors that were present. Specific social and economic risk factors, such as unemployment (Fergusson, Lynskey, & Horwood, 1997), neighborhood violence (Guerra, Huesmann, Tolan, Van Acker, & Eron, 1995), family poverty and children's aggression (Guerra et al., 1995), low socioeconomic status of duration, and poverty (McLoyd, 1998), are associated with antisocial behavior. Finally, exposure to daily stressors can add to the risk for DBD in children and as noted can be exacerbated by life circumstances caused by having a DBD.

ARE SOME YOUTH WITH DBD MORE RESILIENT THAN OTHERS?

The biological bases of resilience have yet to be studied, but likely will be found to play a role in predicting outcome. Traditionally, within the DBDs the study of positive outcome has focused on reduction of symptom severity over time and the reduction of exposure to significant adverse family, educational, and environmental phenomena. Yet, there is an increasing interest in studying individuals who suffered from DBDs, in particular CD, and managed to transition successfully into adult life despite struggling through adolescence and at times young adulthood. Stories collected by the Office of Juvenile Justice and Delinquency Prevention (2000) exemplify that efforts focusing on rehabilitation, providing mentors and individual attention, and most importantly, providing youth with a second chance can and have been demonstrated to be part of the formula that leads to resilience.

ENHANCING RESILIENCE IN YOUTH WITH DBD: GUIDELINES FOR CLINICAL PRACTICE

What are the factors that help some youth and adults bounce back while others become overwhelmed with feelings of helplessness and hopelessness? Some attain success that could have never been predicted by early life circumstances, finding the inner strength to overcome obstacles in their paths. Those who find success are viewed as resilient. Their positive outcome in the face of adversity precisely reflects the scientific studies that have demonstrated positive outcome in the face of variety of youthful problems, including those related to DBDs. A number of later chapters in this volume are devoted to developing and applying a clinical psychology of resilience. Here we provide a brief overview of nine proposed guidelines for clinical practice.

1. Develop strategies with these youth to help them learn to rewrite negative scripts. Negative scripts are those words or behaviors that are followed day after day with predictable negative results.
2. Provide youth with DBDs opportunities to develop stress management skills.
3. Take the time to nurture and develop the capacity for empathy in youth with DBDs.
4. Teach effective communication through modeling and instruction. Effective communication includes an appreciation for both understanding as well as seeking to be understood.

5. Help youth with DBDs accept themselves without feeling inadequate or as second-class citizens.
6. Facilitate connections to others by providing opportunities for youth with DBDs to help and serve as teachers for others.
7. Help youth with DBDs to view mistakes as challenges to appreciate and overcome rather than signs of inadequacy.
8. Help every youth with a DBD experience success and develop an island of competence; an area of strength in which success is experienced and appreciated by others.
9. Patiently help youth with DBDs to develop self-discipline and self-control.

SUMMARY

The DBDs encompass the most common and disruptive childhood symptom composites. They affect a wide percentage of children and are often present in combination and catalytic in fueling a variety of adverse outcomes. The DBDs act to reduce protective influences, decreasing the opportunity to develop a resilient mind-set and a resilient outcome into adulthood. An increasing body of research provides an understanding of those protective factors that can mitigate and insulate youth with DBDs. Efforts at clinically applying the qualities of resilience and strategies to enhance a resilient mind-set offer the promise of helping youth with DBDs overcome the adverse odds as they transition into adulthood.

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14

From Helplessness to Optimism

The Role of Resilience in Treating and Preventing
Depression in Youth

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Some of the most common psychological disorders in children and adolescents are internalizing disorders such as depression and anxiety. Research on the development of depression and anxiety suggests that internalizing disorders can be reduced, even prevented, by promoting more accurate cognitive styles, problem-solving skills, and supportive family relationships. Several cognitive-behavioral interventions have shown promise in treating and preventing depression and anxiety. We review the Penn Resiliency Program as an example of such an intervention. We suggest that most of the skills covered in the Penn Resiliency Program and similar preventive interventions are not specific to depression or anxiety and can be useful for increasing young people's resiliency more generally. Interventions that teach and reinforce these skills can help children to navigate a variety of difficult situations they are likely to encounter during adolescence and adulthood.

DEPRESSION IN CHILDREN AND ADOLESCENTS

At any point in time, approximately 2 to 3% of children and 6 to 9% of adolescents have a major depressive disorder (Cohen et al., 1993; Lewinsohn, Hops, Roberts, & Seeley, 1993). Approximately one in five adolescents will have had a major depressive episode by the end of high school (Lewinsohn et al., 1993). Anxiety disorders, which often precede and co-occur with depression, are found in 10 to 21% of children and adolescents (Kashani & Orvaschel, 1990; Romano, Tremblay, Vitaro, Zoccolillo, & Pagani, 2001). It is notable that rates of depression increase as children enter adolescence (Hankin, Abramson, Moffit, Silva, & McGee, 1998), indicating that the transition to adolescence is a particularly

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vulnerable developmental period for depression. In addition, several studies indicate that rates of depression and anxiety have increased dramatically over the past 50 years (Klerman et al., 1985; Twenge, 2000), so that young people today are much more likely to suffer from depression and anxiety than their parents or grandparents were.

This chapter focuses on unipolar depression,¹ one of the most common types of internalizing disorders, because our research program focuses primarily on the prevention of this disorder and its symptoms. We will also discuss anxiety symptoms since there is considerable co-occurrence of depression and anxiety among children and most of the cognitive-behavioral risk and resilience factors and interventions discussed here in the context of depression also apply to anxiety disorders and symptoms (Kendall, 1994).

Unipolar depression, also known as major depression, is characterized by intense sadness or irritability, disrupted concentration, sleep, eating, and energy levels, and feelings of hopelessness and suicidal thoughts. Major depression in youth is not simply a phase of development; rather, it is a serious psychological problem that shows stability over time and can significantly interfere with children's ability to function. Depressed youth have a lowered ability to function in daily life, with 85 to 87% of adolescents with depressive disorders rated as having "major" impairments in functioning (Whitaker et al., 1990). Moreover, a significant portion of children with major depression continue to show depression in adulthood. For example, Harrington and colleagues found that 60% of children treated for major depression had at least one bout of major depression in adulthood (Harrington, Fudge, Rutter, Pickles, & Hill, 1990). Depression is not only burdensome to the individual but it is also very costly for society. In the United States, the yearly expenditure for major depressive disorder is about \$43 billion, including loss of productivity, premature death, and cost of treatment (Hirschfeld et al., 1997).

The problems associated with depression extend beyond those meeting diagnostic criteria for a depressive disorder. Many children and adolescents have elevated, but subclinical, levels of internalizing symptoms. For example, 10 to 15% of middle school children may report moderate to severe levels of depressive symptoms (Nolen-Hoeksema, Girgus, & Seligman, 1986). Research suggests that children with high levels of depressive symptoms experience the same kinds of difficulties as do children with depressive disorders (Gotlib, Lewinsohn, & Seeley, 1995). Children and adolescents who suffer from high levels of depressive symptoms or depressive disorders are more likely to have academic and interpersonal difficulties. They are more likely to smoke cigarettes, use other substances, and attempt suicide (Covey, Glassman, & Stetner, 1998; Garrison, Addy, Jackson, McKeown, & Waller, 1991). Despite the often severe concomitants of depression, it is underdetected and undertreated in adolescence—only about 20 to 25% of adolescents who are clinically depressed receive treatment (Hirschfeld et al., 1997). Given the seriousness of depression and the number of children and adolescents who experience it, the identification, treatment, and prevention of depression in youth have become important areas for research.

COGNITIVE-BEHAVIORAL MODELS OF THE DEVELOPMENT OF DEPRESSION

Developmental psychopathologists theorize that depression is caused by a complex interaction of biological, cognitive, emotional, and interpersonal risk factors (Sroufe & Rutter, 1984).

¹ We will not focus on bipolar disorder, or manic-depression, which is relatively rare in children and which appears to be more heavily biologically based (Hammen & Rudolph, 2003).

The focus of this chapter is mainly on cognitive and behavioral factors involved in the development of depression, although we acknowledge the importance of other systems and the interactions of those systems with cognitive and behavioral systems. For example, the interpersonal risk of fighting with a parent can interact with a child's negative cognitive style ("It was all my fault. I am a bad kid.") and the presence of a biological risk factor such as shyness or an anxious temperament to produce depression.

The Learned Helplessness Model was one of the first cognitive-behavioral models of depression (Seligman, 1975). Seligman observed that individuals who were exposed to uncontrollable negative events often overgeneralized from this experience and became passive in other situations that were in fact controllable. These individuals exhibited apathy, decreased appetite, despair, and other symptoms of clinical depression. The experience of uncontrollable negative events seemed to produce expectations of helplessness. That is, the individuals believed they could not control future negative events in their lives. Seligman also observed that some individuals seemed resistant to helplessness. These individuals remained persistent and hopeful even when exposed to uncontrollable negative events. Further cognitive-behavioral theories were developed to explain these individual differences.

More recent cognitive-behavioral theories generally posit that a tendency to view one's self, the world, and the future in overly negative ways, combined with a lack of behavioral coping skills, puts one at risk for depression and anxiety (Beck, 1976). Conversely, a realistic thinking style and positive coping skills promote resilience and may buffer children from internalizing problems. The Reformulated Learned Helplessness (RLH) model was introduced to explain why some people exhibit helplessness and depression in the face of adversity while others are more resilient. According to this theory, over time, people develop cognitive styles for explaining the events in their lives. Individuals who develop a pessimistic explanatory style attribute negative events to internal, stable, and global factors and positive events to external, unstable, and specific factors (Abramson, Seligman, & Teasdale, 1978). For example, an adolescent with a pessimistic explanatory style who fails a math test might think to him- or herself "I'm stupid" or "I can't do math." Success on a math test might be attributed to "the test was easy." This pattern of attributions leads to feelings of helplessness (the student expects failure to continue and believes that there is nothing he or she can do to improve performance). When this kind of pessimistic interpretive style is used to explain multiple events over time, it can lead to a more generalized sense of helplessness, which, in turn, leads to passivity, hopelessness, and despair. Numerous studies have linked a pessimistic explanatory style to depression in adults and children (for reviews, see Gladstone & Kaslow, 1995; Robins & Hayes, 1995; Sweeny, Anderson, & Bailey, 1986).

Other interpretive styles and problem-solving deficits have also been implicated in the development of depression. For example, Quiggle, Garber, Panak, and Dodge (1992) found that depressed children show a hostile attributional bias; that is, they tend to see actions of others as hostile, even when the action is actually ambiguous. This may help to explain the overlap between depression and conduct disorder that is often seen during adolescence (Rhode, Lewisohn, & Seeley, 1991). In addition to difficulties with interpreting social cues, depressed children may also lack behavioral skills for coping with social situations and regulating emotions (for review, see Kaslow, Brown, & Mee, 1994). For example, Altmann and Gotlib (1988) found that depressed fourth- and fifth-grade children spent more time alone and had higher numbers of negative interactions with peers in their school playground than their nondepressed classmates. Developmentally, cognitive-behavioral factors associated with depression appear to become more important as children mature and become more cognitively sophisticated. In early childhood, occurrences of depression are relatively rare and tend to be reactions to overwhelming life events, such as the loss of

a caregiver or a prolonged period with inadequate caregiving (e.g., Spitz, 1946; Bemporad, 1994). As children mature, depression occurs at higher rates and increasingly involves cognitive interpretations of events (Garber & Flynn, 1998; Garber, Quiggle, & Shanley, 1990). By middle childhood, pessimistic explanatory styles can be reliably measured and are related to symptoms of depression (e.g., Blumberg & Izard, 1985; Nolen-Hoeksema, Girgus, & Seligman, 1992). The increases in abstract thinking, self-consciousness, and thinking about future possibilities that occur in adolescence can intensify pessimistic explanatory styles, helpless expectations, and, in turn, depressive symptoms. Socially and biologically, adolescents face a number of transitions, including physical changes associated with puberty, changes in peer and family relationships, and changes in school structure from elementary school to middle school (Eccles & Midgely, 1990; Petersen & Hamburg, 1986). These events are often quite stressful and require adolescents to utilize resilient coping and problem-solving strategies. Children who enter adolescence without solid problem-solving skills can be at increased risk for depression.

COGNITIVE-BEHAVIORAL THERAPIES FOR DEPRESSION IN CHILDREN AND ADOLESCENTS

Cognitive-behavioral therapies for depression and anxiety target cognitive styles and problem-solving skills. Clients are taught to identify their negative interpretations, to consider the evidence for and against these interpretations, and to generate alternative interpretations that are more realistic. Additionally, clients are often taught specific coping and problem-solving skills, including relaxation and assertiveness techniques (e.g., Beck, Rush, Shaw, & Emery, 1979).

Several studies have demonstrated the efficacy of cognitive-behavioral therapies in treating depression in adults (e.g., Elkin et al., 1989). More recent research indicates that cognitive-behavioral therapies can be effective for treating depression in children and adolescents (for reviews, see Kaslow & Thompson, 1998; Reinecke, Ryan, & DuBois, 1997). For example, Lewinsohn and colleagues developed a cognitive-behavioral group treatment for depressed adolescents, which focuses on decreasing automatic negative thoughts, increasing engagement in positive activities, and enhancing behavioral coping skills and interpersonal skills (Lewinsohn, Clarke, Hops, & Andrews, 1990; Lewinsohn, Clarke, Rohde, Hops, & Seeley, 1996). Lewinsohn and colleagues tested this program both with and without a complementary parent training program and found that both forms of the program decreased depression significantly more than a wait-list control. Similar cognitive-behavioral therapies have also been successful in treating anxiety disorders in children (e.g., Flannery-Schroeder & Kendall, 2000; Kendall, 1994; Muris, Meesters, & van Melick, 2002).

COGNITIVE-BEHAVIORAL PREVENTION OF DEPRESSION

There is growing evidence that cognitive-behavioral techniques can be effective in preventing depression as well as treating it. For example, adults treated with cognitive-behavioral therapy are less likely to experience a recurrence of depression than adults treated with medication (Shea et al., 1990). Additionally, several cognitive-behavioral interventions have shown promise in preventing depressive symptoms or depressive disorder in adults

and children (see Gillham, Shatté, & Freres, 2000). The intervention with the best results to date was developed by Clarke and colleagues (Clarke et al., 1995). Clarke and colleagues evaluated their prevention program with 13–18-year-olds with high but subclinical levels of depressive symptoms. Adolescents who participated in this intervention were significantly less likely to develop depressive disorders than controls (Clarke et al., 1995, 2001).

THE PENN RESILIENCY PROGRAM

Our research group has developed a cognitive-behavioral intervention, the Penn Resiliency Program (PRP), for younger adolescents. PRP has 12 90-minute intervention sessions designed to be delivered by school counselors and teachers who are trained and supervised in intervention delivery. The techniques we used have been adapted from adult cognitive-behavioral therapy (Beck, 1976; Beck et al., 1979; Ellis, 1962) and are incorporated in many other intervention programs. Our emphasis is on helping the students to use the skill set to improve their problem solving and to enhance their ability to navigate the daily stressors of life, as well as to bounce back from major setbacks such as parental loss or divorce. In this section we describe several techniques included in PRP that may be especially important for building and promoting resilience and preventing anxiety and depression.

Based on our work, and the resilience literature more broadly, we have identified seven key intrapersonal factors or abilities that appear to increase overall resilience (see Reivich and Shatté, 2002 for full description of these factors). We will show how the skills of PRP impact each of these abilities (see Table 14.1). Briefly, the seven abilities are: (1) emotion regulation—being able to identify, label, and express emotions and control emotions when it is appropriate to do so; (2) impulse control—the ability to identify impulses and resist impulses that are counterproductive for the situation at hand or for long-term goal attainment; (3) causal analysis—being able to identify multiple and accurate causes of problems; (4) realistic optimism—thinking as optimistically as possible within the bounds of reality; (5) self-efficacy—being confident in one’s ability to identify and implement coping and problem-solving skills that are well-suited to the situation; (6) empathy—being able to accurately identify and connect with the emotional states in others; (7) reaching out—being comfortable and willing to connect with others in order to deepen one’s relationships and gain support through difficult times.

PRP builds on the ABC model developed by Albert Ellis (1962), which suggests that different people feel and respond differently to the same event because of idiosyncratic beliefs about those events. In Ellis’s model, A stands for activating event. The As are not the

Table 14.1 Summary of PRP Skills and the Resilience Abilities Targeted

| PRP Skill | Resilience Ability Targeted |
|-------------------------------|---|
| ABC | Emotion regulation and empathy |
| Explanatory style | Realistic optimism and causal analysis |
| Self-disputing | Self-efficacy |
| Putting it in perspective | Realistic optimism and self-efficacy |
| Goal setting | Impulse control |
| Assertiveness and negotiation | Reaching out |
| Decision making | Self-efficacy, impulse control, empathy |

direct cause of the consequences (*Cs*, emotions and behaviors) that we experience. Rather, according to Ellis, it is our thoughts and beliefs about the event (our *Bs*) that mediate the effects of events on our behavior and feelings. We teach adolescents in our program how to identify the link between their thoughts and feelings/behaviors, and in this process they come to understand that their belief systems may not be wholly accurate. Practicing ABC is particularly important for children and adolescents who are struggling with anxiety and depression issues because it serves as the first step toward changing the beliefs that are fueling their maladaptive emotional reactions. More generally, the ABC model helps to build emotion awareness, a central component of emotion regulation, because through the use of this skill, adolescents practice identifying their emotional reactions, differentiating among emotions and assessing the intensity of the emotion they feel. In addition, we believe this skill helps promote empathy by helping adolescents learn how to anticipate, identify, and label the emotions that others experience in a variety of common stressors and adversities.

We first teach students the ABC model with three-panel cartoons. In some instances they are presented with an adversity and the emotional consequences, and they must fill in a thought bubble with a belief that fits the logic of ABC. In others, they are provided the adversity and the character's beliefs and they must identify the emotional reaction that the belief would likely generate. For example, in one cartoon, the first frame depicts a student being yelled at by a coach. The third frame has an illustration of the student feeling extremely sad. The adolescents are asked to identify what the boy is feeling and then to suggest what the boy might be saying to himself that is causing him to feel that emotion (e.g., "I'm never going to be good enough" or "I stink at sports," etc.). Once the students are able to accurately link *Bs* and *Cs* in the cartoon worksheets, the students practice identifying their own self-talk in current problem situations and the emotions and behaviors generated by that self-talk. We have found that it is helpful to the adolescents to liken their *Bs* to an internal radio station (one that plays nothing but you, you, you 24/7) and we help them to turn the volume of this radio station up so that it is loud enough for them to hear what it is they are saying to themselves, particularly during times of adversity or stress. In so doing, the adolescents become more aware of their beliefs as well as the effect their beliefs have on their mood and behavior. We emphasize that negative emotions are not "bad"—that instead, they are a healthy part of life and serve an important function from an evolutionary perspective. We also make clear that the goal is not to eradicate all negative emotion from one's life. Rather, we guide the students in thinking about whether they tend to over-experience certain emotions and to identify the patterns in their thinking that might be leading them to experience one emotion much more frequently than others.

The ABC skill represents a glimpse into one's thoughts or beliefs during a particular activating event. Although this is useful, it is also important for the adolescents to begin to notice patterns in how they think about the events in their lives. It has been well documented that our automatic thoughts are influenced by our styles (or schemas) of processing information, which, to some degree, predetermine our responses to any given event. Our goal is to help the adolescents detect patterns in their thinking and emotions that may be counterproductive for them. As one seventh-grade boy put it, "I never really thought about how much of the time I feel embarrassed. I guess I kind of thought all kids feel embarrassed all the time. Now I'm starting to see that maybe I don't have to feel this way so much; that maybe I'm worrying too much about what other kids are thinking of me—when they probably aren't even thinking about me!"

One example of a style or schema is explanatory style, our habitual and reflexive way of explaining the events in our lives (Abramson et al., 1978). We teach adolescents to identify

their explanatory style (using the terms “me versus not me,” “always versus not always,” “everything versus not everything”) and, most important, to question the accuracy of their beliefs. Although pessimistic explanations tend to lead to helplessness, depression, and anxiety, our goal is to teach the students how to think accurately about the causes and implications of the problems they face, not to swap a pessimistic style for an optimistic one. This reattribution training specifically targets realistic optimism and causal analysis. Our aim is to help students to think more flexibly about the multiple and varied causes of problems, instead of merely replacing negative thoughts with “happy thoughts.” In fact, some of the adolescents we have worked with have had explanatory styles that were too optimistic. These adolescents believed that others were always to blame for their problems, and that they had complete control to change any aspect of a situation they did not like. We helped these students to understand how this very optimistic view might actually be hindering their resilience and problem solving rather than bolstering it.

We call this skill of generating more accurate beliefs “self-disputing.” Adolescents are guided in using the three dimensions of explanatory style for generating other ways of understanding the causes of the event. In essence, we help them to “think outside the box” that their explanatory style puts them in. For example, if they tend to be overly internal, they are encouraged to generate plausible explanations about how other people or circumstances contributed to the problem. Similarly, if their explanations indicate that they believe the causes of the problem are wholly unchangeable, they are encouraged to think about other explanations that focus on more changeable, controllable, and temporary causal factors. We have found that using the knowledge of one’s explanatory style in the process of generating alternatives is quite important. When students are not aware of their tendency to explain the causes of events in a set pattern, the alternatives they generate tend to fall within their pattern rather than become more inclusive. So, an adolescent who tends to be highly external can generate four alternatives to the belief “I fought with my parents because they are too strict,” but the alternatives are each as external as that initial belief (for example, “They’re old-fashioned,” “They don’t understand me,” “They’re control-freaks,” etc.). There are several problems with this, none the least of which is that this process serves to reinforce the adolescent’s style rather than broaden it.

After the students have generated alternative beliefs, they are taught how to use evidence to determine which beliefs are most accurate and to identify potential solutions that their new, richer understanding of the situation affords them. We have found self-disputing is a powerful tool for overcoming the negative beliefs that often fuel hopelessness and depression, and we believe that the process of self-disputing increases adolescents’ self-efficacy because they have learned a skill that enables them to more effectively solve problems. As we often tell the participants in our program, you cannot solve a problem until you know what caused it.

PRP also teaches a skill called “putting it in perspective,” which can be used when beliefs are about the implications of an activating event, or what we call “what next” beliefs. At this point in the program, we begin to focus on beliefs about the future rather than beliefs about the causes of problems. Like self-disputing, putting it in perspective helps students to view the future with greater realistic optimism, and it also increases their self-efficacy for dealing with anticipated negative events. We have found this skill to be particularly helpful for children and adolescents who are at risk for depression and anxiety because, as ABC predicts, catastrophizing is often the consequence of unrealistic beliefs about the likelihood of horrible things happening in the future. For adolescents prone to anxiety, small problems are seen as insurmountable and dreaded outcomes are feared.

Putting it in perspective encourages adolescents to identify and list their worst-case thoughts about the implications of adversity. By getting these thoughts out of their heads and onto a piece of paper, the adolescents begin to have distance from their beliefs and are better able to start to consider the likelihood of the feared events. These thoughts tend to come in chains of ever increasing severity; for example, imagine a student who does not get asked to a school dance. "If I don't get asked to the dance then everyone will talk behind my back. If they're all talking about me, then I'll become the joke of the school and everyone will make fun of me. If that happens I'll have to switch schools because I'll never be able to put it behind me. But if I switch schools, then I'll be the new kid and the outcast at that school too!" The causal link between not getting asked to a dance and becoming a social outcast across schools is extremely weak, but the connection from link to link seems more plausible, particularly for the anxious adolescent.

To stop the process of catastrophizing, we guide children out of their dreaded fantasy by teaching them to estimate the probability of each link given that only the initial adversity (not being asked to the dance) has occurred. Participants are then taught to generate equally improbable best-case scenarios (for example, "Everyone will realize that the mailman made a mistake and failed to deliver an engraved invitation to the dance from the most popular boy"). This step is important because the very silliness of the best-case scenario helps to jolt the adolescent out of his or her catastrophic thinking and tends to lower anxiety and increase positive affect. The next step is to use worst-case and best-case scenarios as anchors to arrive at most-likely outcomes. Once the most-likely outcomes have been identified, the adolescents are taught to develop a plan for dealing with them. The skill of putting it in perspective not only reduces adolescents' anxiety, but it also helps them to develop strategies for dealing with the real-world outcomes of the problems they face—and thus, increases optimism and self-efficacy. In PRP we also teach goal setting, a skill that is important for all adolescents and particularly valuable for those who feel pessimistic or hopeless about their futures. Adolescents who learn to set obtainable goals and to develop plans for reaching their goals have developed a valuable system for combating the impulsiveness that can undercut resilience. In PRP, we teach realistic goal setting and the "one step at a time" technique for making large projects more manageable by breaking the project into doable steps. We also help adolescents to identify beliefs that can fuel procrastination or impulsiveness and derail them from their plan, and we apply the skill of self-disputing to test the accuracy and usefulness of these beliefs.

PRP also includes assertiveness and negotiation training. We have found that these skills, particularly assertiveness, help adolescents to feel more hopeful about approaching others with their concerns, needs, or requests. From a resilience perspective, assertiveness helps to foster reaching out by helping adolescents to connect with others in ways that will maximize the likelihood that their needs will be heard by others. Because depression-prone adolescents often underestimate the likelihood that a situation can be improved, they tend to respond to interpersonal problems with passivity. In PRP, we first apply the skills of self-disputing and putting it in perspective to beliefs that fuel passivity such as: "She won't listen to me anyway," or "If I ask her to stop she'll think I'm a nag." Other adolescents often have beliefs that fuel aggressiveness, such as: "The only way to get respect is to come on strong," or "If I don't fight for what I want, no one will listen to me." Regardless of whether the adolescent is relying on passive or aggressive interaction styles, our goal is to help the adolescent evaluate how well the strategy is working and to challenge the beliefs that may be fueling counterproductive behaviors. In addition, we make explicit that speaking up and asking for help is a valuable coping strategy that is helpful when dealing with adversities and trauma.

After the adolescents have challenged the beliefs that fuel nonassertive behaviors, we teach them a four-step approach to assertiveness. This skill is particularly challenging for adolescents—especially those feeling hopeless—so we include assertiveness practice in many of the sessions. We have found that many adolescents are initially reluctant to practice assertiveness, but that with practice, they find assertiveness to be one of the most useful and potent skills they have learned in the program. Given their initial reluctance, it is important to continue to identify their beliefs about trying the skill and to help them to use the basic cognitive skills of the program to challenge any pessimistic beliefs.

We also teach decision making and creative problem solving as part of the PRP skill. Both skills work to increase students' self-efficacy, optimism, impulse control, and empathy. As with assertiveness and "one step at a time," our goal is first to identify beliefs that might be pushing the adolescent toward counterproductive and nonresilient decisions or solutions. Once students are able to evaluate the accuracy and usefulness of these beliefs, we then provide them with decision-making and problem-solving models. In both decision making and creative problem solving, we emphasize the importance of slowing the process to make sure they are not responding impulsively. We guide them in identifying their goals, gathering thorough information about the situation, and then work with them to generate a series of possible routes to achieve the goal. We also help them to consider the pluses and minuses associated with each potential decision, both from a time perspective (short term versus long term) and a self-other perspective (How will this affect me? How will this affect the other people in the situation?). By focusing on how their decisions and solution strategies can affect others, we help them to build empathy for the other people involved in the situation. As the students start to see real-world differences in their ability to handle difficult, complex situations we hear them share stories about increased confidence, greater hope for the future, and a sense of feeling more in control of their actions.

PENN RESILIENCY PROGRAM FINDINGS

In our initial studies of PRP, we evaluated PRP as a depression-prevention program among students who reported higher than average symptoms of depression, family conflict, or both. Students who participated in the intervention were compared with a matched control group. Our findings indicated that the intervention improved explanatory styles and that this effect lasted 3 years following the intervention. The intervention group also reported lower levels of depressive symptoms through 2 years of follow-up, and the group members were less likely than controls to report moderate to severe levels of depressive symptoms (Gillham, Reivich, Jaycox, & Seligman, 1995; Gillham & Reivich, 1999). Yu and Seligman (2002) replicated these findings through 6 months of follow-up with a sample of Chinese school children. Roberts, Kane, Thompson, Bishop, and Hart (2003) attempted to replicate these findings with 11- to 13-year-olds in rural Australia who reported elevated depressive symptoms. In this study, PRP significantly reduced anxiety symptoms but not depressive symptoms relative to a standard health curriculum. We are continuing to evaluate PRP as an intervention for high-risk participants. However, we have also begun to evaluate PRP as a universal intervention, an intervention that is offered to all students regardless of risk level. We believe that the cognitive and problem-solving skills covered in PRP are important for increasing resilience more generally and are beneficial to most children. In support of this, we have found that the PRP intervention prevents depressive symptoms in children with low levels of symptoms (as well as in children with high levels of initial symptoms)

(Gillham et al., 1995), although findings have not always been consistent. For example, Cardemil, Reivich, and Seligman (2002) evaluated the PRP as a universal program for inner-city students. In an inner-city Latino sample, PRP participants reported significantly fewer symptoms than controls following the intervention. However, in an inner-city African American sample, depressive symptoms fell dramatically in both the intervention and control group, and the difference between the groups was not significant. Pattison and Lynd-Stevenson (2001) evaluated PRP as a universal intervention with children in rural Australia. They found that PRP did not significantly reduce depression or anxiety relative to a control group. However, this study followed a very small sample, which may have limited the researchers' ability to find effects. Our research group is currently conducting further evaluations of PRP that focus on ways to boost the intervention's effectiveness.

INCLUDING PARENTS IN RESILIENCE TRAINING

One of the ways we are enhancing the PRP is by including parents in the intervention. Depression in youth can be best prevented by interventions that include parents. Children of depressed parents are at greatly increased risk for depression themselves (Downey & Coyne, 1990). The link between parental and child depression appears to be due to several factors that tend to co-occur or result from parental depression, but also can occur in parents who are not depressed. Parents who are depressed have been found to have fewer positive interactions with their children (Field, 1984). Depressed parents are also more likely to display and model negative interpretive styles and passive or maladaptive coping skills. When parents give pessimistic explanations for events in their own lives, children can adopt these same types of interpretive patterns when confronting problems of their own. They might expect that negative events will be long lasting and difficult or impossible to overcome. When parents give pessimistic explanations for child-related events (for example, "You failed the test because you're lazy"), children can internalize these explanations and interpret future adversity through a similar lens. Garber and Flynn (2001) found that children's explanatory styles are correlated with parents' explanatory styles, particularly parents' explanatory styles for child-related events.

The Penn Resiliency Program for Parents (PRP-P) was designed with two major goals in mind: (1) to increase the parents' overall resilience by teaching them the core skills of PRP (adapted for adults), and (2) to teach parents how to model the skills effectively for their children and to coach their children in the skills taught in PRP. PRP-P meets for six 90-minute sessions, facilitated at the schools by school guidance counselors, social workers, and psychologists who have been certified through a 30-hour training with senior members of our research team.

The sessions are comprised of two components. The first, and central, component focuses on teaching the parents how to use the skills in their own lives. Parents discuss adversities ranging from professional issues to marital issues to specific challenges confronted by parents with children at risk for depression. The second component addresses how to model/coach the skills with their own children. Our emphasis here is on helping parents to notice "teachable moments" and to help them become comfortable sharing their own practicing of the skills in ways that are both appropriate and nonintrusive for their adolescents.

The first five sessions of PRP-P are devoted to the core cognitive resilience skills: ABC (the link between thoughts and feelings/behaviors); self-disputing (challenging inaccurate

beliefs), putting it in perspective (challenging catastrophic beliefs), real-time resilience (disputing counterproductive beliefs in real time), and assertiveness. The final session is devoted to reviewing the skill set, reinforcing ways to effectively promote the skills in the context of the family, and identifying upcoming stressors and the skills that could be used to deal with these stressors.

We conducted a small pilot study of the combined parent and adolescent PRP intervention. Forty-four middle school students and their parents were randomly assigned to the combined intervention or a control condition. Students who were assigned to the intervention condition participated in the Penn Resiliency Program for Adolescents; their parents participated in the Penn Resiliency Program for Parents. Results indicated that the combined intervention prevented depression and anxiety symptoms through the 1-year follow-up. Findings were particularly strong for anxiety; controls were almost five times more likely than intervention participants to report moderate to severe levels of anxiety (Gillham, Reivich, Freres, Shatté, & Seligman, 2003). Although promising, these findings should be interpreted with caution since this was a pilot study with a very small sample. We are currently conducting a large-scale evaluation of the Penn Resiliency Program for Parents as an added component to PRP.

Surprisingly, only a few other programs have attempted to prevent depression or anxiety by including parenting components. Results of other programs have also been positive. Beardslee and colleagues (1997) developed an intervention for families in which one or both parents suffered from unipolar or bipolar depression. The major goal of the intervention was to educate parents about the effects of depression, to improve family communication, and to increase children's understanding of parental depression so they would be less likely to blame themselves for parental symptoms and behavior. Beardslee and colleagues found that participants in the family intervention reported improved communication, relative to participants in a lecture intervention condition. Children in the family intervention reported greater understanding of parental depression and greater global functioning. Children in the family intervention were less likely than those in the lecture intervention to develop depressive disorders, although this difference was not statistically significant. Dadds and colleagues (1997) found that a cognitive-behavioral school-based intervention that included a parent component was effective in preventing anxiety in children and adolescents.

DISCUSSION, LIMITS, AND FUTURE DIRECTIONS

Making Interventions More Powerful

Research on the psychological interventions that treat and prevent depression and anxiety has identified several promising interventions. However, intervention success rates are often far from ideal. Although effective for many participants, a sizable minority of participants in cognitive-behavioral therapy do not improve significantly. For example, in a large study on therapy for depression, 65% of depressed adults who were treated with cognitive-behavioral therapy showed a full improvement in symptoms, but 35% continued to show fairly high levels of depression even after completing the intervention (Elkin et al., 1989). Similarly, some participants in prevention programs develop clinical depression or anxiety, despite efforts in the program to promote resilience. Future research should focus on strengthening interventions and making them effective for more people.

One way to strengthen the effects of interventions is to incorporate other parts of the adolescent's world as targets of interventions. Historically, psychological treatments have focused on the individual child or adolescent. However, children's lives are imbedded within family, school, peer, and neighborhood systems (Bronfenbrenner, 1986). Thus, it is important to understand how resiliency is built within family systems and larger communities. In the PRP intervention, initial findings suggest that providing an intervention for parents in addition to the adolescent groups can be an effective way to increase effectiveness of the intervention. In addition, efforts could be made to incorporate interventions into the larger community through neighborhood programs or schoolwide programs that work to create more positive relationships and more hopefulness for communities as a whole.

Universal Versus Targeted Interventions

One of the debates within the prevention literature concerns the feasibility and effectiveness of targeted versus universal interventions. Targeted interventions, like Clarke and colleagues' (1995) prevention program and our initial evaluations of PRP discussed above, are provided to at-risk participants, such as participants with elevated levels of symptoms. In contrast, universal interventions are administered broadly to the entire population regardless of risk. In general, effects for the average participant are larger in targeted interventions than universal interventions. This is because targeted intervention participants are more likely to develop the disorder or problem and there is thus greater room for change in each individual. However, universal interventions that have small effects for the average participant can have large effects for society (Offord, 1996).

Over the past decade, we have come to believe that cognitive-behavioral interventions, like the PRP, can have important applications as universal interventions. The shift in our thinking is reflected in the change to the name of the program, from the Penn Prevention Program to the Penn Resiliency Program. All children and adolescents encounter challenges and stressful events in their lives. Most of the skills covered in PRP and other programs are useful for responding to these day-to-day challenges, as well as more serious events that children encounter. These cognitive-behavioral skills (e.g., thinking realistically about problems, perspective-taking, considering a variety of solutions to a problem, considering consequences when making decisions) overlap with competences that are discussed in the resilience literature (e.g., Brooks & Goldstein, 2002). Some of these skills are also taught in problem-solving programs and interventions designed to reduce or prevent aggression, substance abuse, and other maladaptive behaviors (Caplan et al., 1992). Interventions that incorporate these skills should be relevant to most students and could have effects on a variety of positive and negative outcomes. We believe that the development and evaluation of such broad-based interventions will equip children to respond resiliently to the challenges they will no doubt encounter in their future.

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15

Resilience and the Child with Learning Disabilities

Nancy Mather and Nicole Ofiesh

In this chapter we address how the factors of risk and resilience affect children with learning disabilities. Because learning disabilities encompass varied disorders associated primarily with difficulty learning, our central focus is upon children attending school. Both positive and negative school experiences shape children's self-perceptions and contribute to their academic self-concepts. Unfortunately, for many children with learning disabilities, their lowered academic self-perceptions and self-concepts are influenced by difficulties in both the academic and social aspects of school (Vaughn & Elbaum, 1999). In the first part of this chapter, we discuss how self-concept and, subsequently, resilience are shaped by school experiences. In the second part, we review various ways to help children with learning disabilities increase their resiliency and preserve their self-esteem and feelings of self-worth.

LEARNING DISABILITIES AND RISK FACTORS

For the child with learning disabilities, the school environment is riddled with conditions that place the child at risk for negative experiences. Risk can be defined as the negative or potentially negative conditions that impede or threaten normal development (Keogh & Weisner, 1993). These conditions can be internal characteristics or external characteristics of the family, school, and community environments (Morrison & Cosden, 1997). Risk factors then are the hazards or adverse events that increase the likelihood of negative outcomes (Spekman, Herman, & Vogel, 1993). Children who are at risk for failure often experience chronic multiple risks, rather than a single risk factor (Wiener, 2003). Because of their difficulties learning, children with learning disabilities are particularly vulnerable to stress and experience ongoing challenges to the integrity of their development

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(Spekman, Goldberg, & Herman, 1993). These students feel less competent than peers in academic, social, and behavioral functioning (Smith & Nagle, 1995). Essentially, they become members of what Steele (1995) has described as an ability-stigmatized group.

School Failure

Although a learning disability in and of itself does not predict positive or negative outcomes (Morrison & Cosden, 1997), many students with learning disabilities have a multitude of school failure experiences that erode their feelings of confidence and self-worth. Failed attempts at completing or mastering tasks result in feelings of frustration rather than accomplishment (Lerner, 2000). In describing a student with writing difficulties, Mather and Gregg (2003) provided the following illustration: On one afternoon, Ms. Jaffe, a third-grade teacher, asked her students to write a description of their favorite animal. Edward wanted to write about the giraffe, but because he could not think of how to spell the word, he decided to write about his pet rat. He thought for several minutes and then attempted to write the first sentence. Feeling unhappy with both the content and the appearance of his writing, he ripped the paper in two. After recess, Edward asked Ms. Jaffe for some tape. Ready to try again, he taped the pieces back together, and wrote the following note, presented in Figure 15.1, on the top of his paper: "Sorry I ripped it." Children who struggle academically are often misunderstood. As Lerner (2000) observed: "School is often a place that makes no allowances for the shortcomings of these students, a place where teachers are unable to comprehend their difficulties" (p. 538).

During an evaluation to document her learning disabilities and provide justifications for accommodations, Shawn, a college freshman, shared her school experiences (B. J. Wendling, pers. comm., February 1, 2003). Shawn described school as being fun until first grade when it all changed. She was placed in the bottom reading group but that was not low enough so the teacher made a new, lower group just for her. She then repeated first grade and remained the sole member of the lowest reading group. Shawn was first tested for learning disabilities in second grade in the public school. Although she had significant discrepancies between her intelligence and basic reading and writing skills, the school determined that because her full-scale intelligence score was in the superior range, she did not require services at that time.

In third grade, the teacher wrote on her report card that Shawn was painfully aware of her reading difficulties. She was evaluated again this year at a hospital clinic and the diagnoses were: (a) developmental dyslexia, (b) fine-motor weaknesses, (c) attentional difficulties, and (d) anxiety and depression. The public school agreed to provide services and Shawn received resource help through eighth grade. In high school, the counselor encouraged her parents to discontinue special education, stating that she would have a better

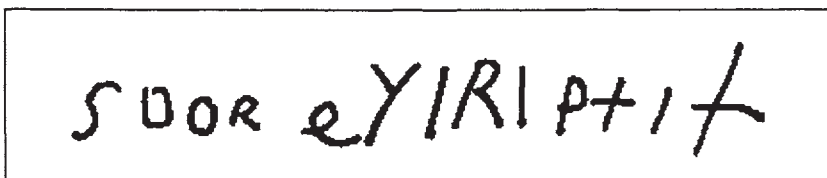


Figure 15.1 Sorry I ripped it.

chance of being admitted to the college of her choice if she were not enrolled in special education. She started college last fall, but dropped out after a couple of weeks because of anxiety over the academic load. Throughout school Shawn felt she was struggling just to keep up and working incredibly hard, but having few successes. Even now she does not understand how she can be so smart about some things (e.g., oral language and math), but then struggle so much with reading and spelling. She described that recently, while reading a book to a child, she forgot how to sound out a word. When spelling, she will sometimes forget how to spell even the most common words.

As with the case of Shawn, 50% of children later identified as having learning disabilities are retained in the first grade (McKinney, Osborne, & Schulte, 1993). Thus, a negative cycle is set in motion where the child believes that things will not improve, and this sense of hopelessness becomes a barrier to future successes (Brooks, 2001). Because the child is not reinforced through positive academic and social experiences, he or she has a lower tolerance for failure and does not have the emotional reserves characteristic of resilient individuals. Furthermore, students with learning disabilities demonstrate increased levels of depression during the public school period compared to students without disabilities (Bender, Rosenkrans, & Crane, 1999).

In a PBS home video on learning disabilities, *Last One Picked, First One Picked On*, Richard Lavoie provides an explanation using poker chips to illustrate how students with learning disabilities lose their resilience and are no longer willing to take risks. The high-achieving student has many daily gratifying experiences that help develop feelings of confidence and self-worth. This student has thousands of poker chips from accomplishments, as well as peer, teacher, and parental praise of acknowledgment and approval. When the cards are dealt, this student can afford to make numerous bets and take risks with little to lose and plenty of chips to spare. In contrast, a student with learning disabilities often has daily negative experiences and rejections that undermine the development of self-worth and strip away poker chips. This student clutches the small pile of poker chips firmly in one hand. Participation in a game only creates a fear of failure and the risk of losing the few remaining chips.

Even when they receive additional support and assistance, students with learning disabilities do not feel more competent scholastically over time (Smith & Nagle, 1995). Figure 15.2 displays several journal comments written by Maria, an eighth-grade student with reading and spelling difficulties. She has been receiving resource services since third grade. Maria admits that school is stressful and her self-esteem is very low. Even as adults, stress, anxiety, and a negative self-concept continue to be ever-present issues (Crawford, 2002; Shessel & Reiff, 1999). Maria's last comment, however, indicates that she is proud because she was able to accomplish something independently. As skills increase, so do resilient behaviors.

In discussing how poor reading skill affects an individual's development, Fernald (1943) indicated that the greatest liability is not poor reading per se, but rather the emotional complex that accompanies the reading failure. More recently, Stanovich (1986) aptly described the broad impact of reading failure:

Slow reading acquisition has cognitive, behavioral, and motivational consequences that slow the development of other cognitive skills and inhibit performance on many academic tasks. In short, as reading develops, other cognitive processes linked to it track the level of reading skill. Knowledge bases that are in reciprocal relationships with reading are also inhibited from further development. The longer this developmental sequence is allowed to continue, the more generalized the deficits will become, seeping

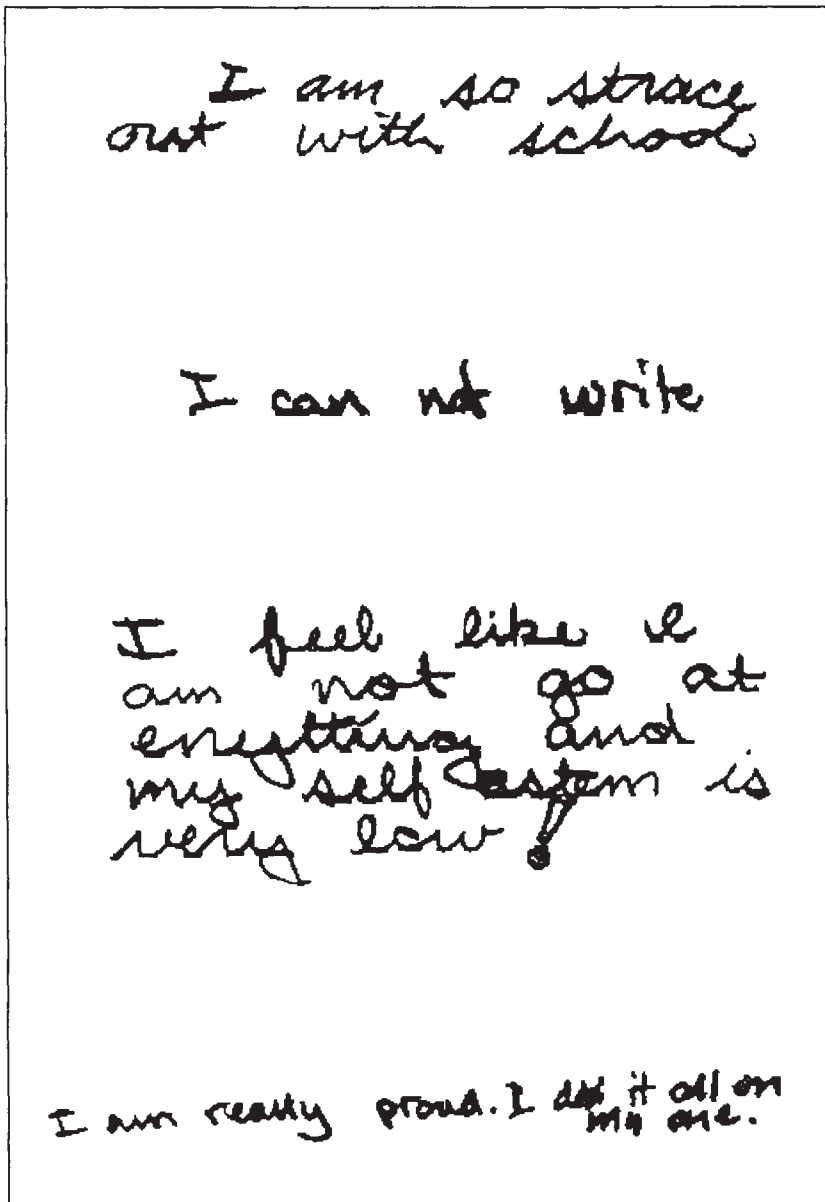


Figure 15.2 Maria's comments in her journal.

into more and more areas of cognition and behavior. Or to put it more simply and sadly—in the words of a tearful 9-year-old, already failing frustratingly behind his peers in reading progress, “Reading affects everything you do.” (p. 390)

Unfortunately, some areas of functioning are not easily minimized, and in a society where literacy and mathematical skills are highly valued, students with learning disabilities are particularly vulnerable to emotional problems and school failure (Morrison & Cosden, 1997; Smith & Nagle, 1995).

Negative Teacher and Peer Feedback

Clearly, negative teacher and peer feedback contribute to feelings of low self-worth. At times, students' completed products are greeted with comments that suggest that the assignment is not their best work and reflects limited effort. Jason, a second-grader with severe fine-motor weaknesses, was assigned a worksheet for handwriting practice. After evaluating the worksheet, the teacher placed a comment on the top of the paper that stated: "Work carefully, please." This feedback suggests that Jason is not putting forth his best effort and lacks motivation. Similarly, a comment on Jason's paper from third grade, "Can't read" conveys the teacher's frustration over his poor handwriting, rather than providing instructive, positive feedback. One is tempted to respond to the comment with a succinct reply: "Can't write." Although the teachers' feedback is most likely well intentioned, children frequently perceive these types of comments in a negative and accusatory way (Brooks, 2001); they can cause disappointment, increase vulnerability, and contribute to feelings of incompetence and inadequacy.

During the day, the child may attempt to hide from peers his or her lower levels of academic competence. In her autobiography, Veronica Crawford (2002) described how she would try to avoid humiliation in third grade by sitting in a beanbag chair pretending to be reading. She noted:

I couldn't even understand what I was reading; I couldn't remember any of what the teachers had taught us. I wanted it to end. I would run away in my mind to a place that was safe, my own world in which I was the winner, in which I was recognized for what I could do. NO MORE BOOKS! With the tears streaming down my face, I would still pretend to read, but I knew the truth; I knew it was useless. (p. 71)

Smith (1989) describes the different types of masks that students with learning disabilities wear to hide their poor skills. As with Veronica, they first put on these masks in first or second grade when they realize that they cannot read like the other students.

Some individuals will even refuse to do a task or participate in an activity, rather than risk humiliation by revealing incompetence. When called upon in class, the child's apprehension and fear of failure are often readily apparent. Instead of being supportive, the school environment often exposes what children do not know (Brooks & Goldstein, 2001).

We are reminded of the *Peanuts* character Peppermint Patty who has trouble staying awake in class. When she is not sleeping, she spends time analyzing the probability patterns of true/false tests, rather than attempting to read and actually answer the questions. In one cartoon, the teacher asks Peppermint Patty to come to the front of the room to work out an arithmetic problem on the blackboard. Patty ponders this request and inquires "in front of the whole class . . . at the blackboard?" As she walks up to the board, she comments: "Black, isn't it?" For children with learning difficulties, the fear of making mistakes is a hidden presence that casts a dark shadow over what happens in the classroom (Brooks & Goldstein, 2001).

Even when teachers are supportive and understanding, students with learning disabilities are often humiliated by their classmates' performance in comparison to their low levels of academic skills, as well as their difficulties mastering specific tasks. The child feels like an impostor worried about exposure, and the wounds caused by early experiences never heal (Salza, 2003; Shessel & Reiff, 1999). Spence, a fifth-grader, recalls the parting words of a classmate retreating from a playground argument: "Well, guess who goes to the resource room. Guess who has a learning disability. You're a retard, man." Although Spence shared the experience with his teacher and the young man was rebuked, the damage

to Spence's self-esteem had already been inflicted. Many individuals with learning disabilities experience failure early in their school careers. Spekman, Goldberg, and Herman (1993) observed: "They may enter school eager to learn and with expectations for success, but then run head-on into academic difficulties, extreme frustration, feelings of being different or retarded, peer rejection, and resultant low self-esteem and confidence" (p. 12).

Many adults with learning disabilities have shared painful experiences of being teased, bullied, and ridiculed (Higgins, Raskind, Goldberg, & Herman, 2002). Their perceptions of being different resulted in feelings of fear, confusion, and anger. These adults described these school-age misunderstandings as being traumatic and as resulting in humiliation, emotional insecurity, and self-doubt (McNulty, 2003). The combination of the disability and people's responses to it create personal disruption and devastation (Crawford, 2002). Crawford recalls her feelings about failure: "There's nothing worse than failing every day: My body would shake, my stomach would ache, my head would pound with pain, and I would cast my eyes down in an attempt to hide the tears" (p. 71). In addition to repeated failure experiences, several other factors also affect the development of resiliency.

Type and Severity of Learning Disability

The type and severity of the learning disability appear to influence the level of resilience and long-term outcomes (Spekman, Goldberg, & Herman, 1993; Wong, 2003), and thus, it is necessary to determine the specific nature and characteristics of the condition. In reality, the term "learning disabilities" is vague, nondescript, and only causes confusion. Instead, it is more accurate to refer to domain-specific disabilities, such as reading disabilities, writing disabilities, math disabilities, or nonverbal learning disabilities (Stanovich, 1999), and to label and treat them separately. In addition to making the descriptor more accurate, specific labels also help to convey that the problem is circumscribed and not global in nature. Moreover, some types of learning disability exacerbate specific risk factors. For example, despite good verbal skills, students with nonverbal learning disabilities demonstrate markedly deficient social skills (Voeller, 1991), placing them substantially at risk for alienating teachers and peers who could provide needed support. In addition, some evidence suggests that students who are less academically adept and those who have nonverbal learning disabilities are less resilient and manifest higher rates of depression and suicide (Bender et al., 1999).

Social Support and Competence

Social support is considered an index of resiliency in that it serves as a stress-buffering condition (Robertson, Harding, & Morrison, 1998). Subsequently, students who lack the ability to create and maintain relationships tend to lose the support network needed to resolve life's challenges and crises. In addition to academic difficulties, many students with learning disabilities experience problems with peer acceptance and are more neglected and rejected than peers (Kuhne & Weiner, 2000). This lack of peer acceptance may be partially because children with learning disabilities appear to have limited interpersonal understanding, resulting in social difficulties in the classroom (Kravetz, Faust, Lipshitz, & Shalhav, 1999), on the playground, and with problem solving (Elliot & McKinnie, 1994; Vaughn & Haager, 1994). Regardless, the individual's social life also impacts academic learning (Bryan, 2003).

Lindsey, a fourth-grade student with a nonverbal learning disability, described the experience of not being accepted by and then losing her friends: "When I see other friends teasing each other about food on their clothes or toilet paper on their shoes, everyone laughs and they're still all friends . . . but whenever I try to make a joke about one of my friends, they're not my friend anymore and nobody laughs. . . . They just don't like me anymore."

For some students, difficulty with social competence can stem from their difficulty in understanding and using language, as well as reading social cues (Robertson et al., 1998). As with students with nonverbal learning disabilities, students with language-based learning disabilities are atypically at risk for school and peer alienation and school dropout (Morrison & D'Incau, 1997; Voeller, 1991).

Ms. Martin, a special education teacher, commented that during the first few weeks of school, one of her first-grade students, Ralph, who had been diagnosed as having a language-based learning disability, wrote his name anywhere on the front of a sheet of paper when told to "write your name at the 'top' of the paper." Puzzled by his behavior and the observation that he did not model the behavior of his peers, Ms. Martin asked Ralph to show her where the bottom of the paper was. He turned it over and pointed to the backside. Fortunately, Ms. Martin, an extremely supportive teacher, quickly demonstrated to Ralph where to place his name on the paper.

Interestingly, several studies have indicated that despite their lower level of social support, students with learning disabilities tend to feel positive about how their teachers and peers view them (Morrison, 1985; Robertson et al., 1998). This discrepancy between the real and perceived events can in fact be a result of the disability itself (Palombo, 2001) or simply a coping mechanism (Robertson et al., 1998). It may also be evidence of the resilience that parents, teachers, and professionals seek to foster in providing students with learning disabilities an understanding of the nature of their disability (Kloomok & Cosden, 1994; Palombo, 2001).

Gender

Although both boys and girls with learning disabilities can encounter social difficulties, gender can also play a role in the response of children to social failure (Settle & Milich, 1999; Wong, 2003) and the protective factors that they develop. Although more research has been conducted on the risk and protective factors that affect males (Morrison & Cosden, 1997), several studies have described differences between factors affecting risk and resiliency in boys and girls. To make a successful transition into adulthood, characteristics within the individual, such as temperament and self-concept, were more important for females with childhood disabilities, whereas outside sources of support from the family and community made a greater difference in the lives of males (Werner, 1993, 1999). Presently, more research regarding gender issues and the severity of learning disabilities is needed (Wong, 2003).

STRATEGIES FOR BUILDING RESILIENCE

Fortunately, many individuals with learning disabilities do succeed and regain confidence in later years once they enter adulthood and the workforce. In a longitudinal study, Werner (1999) found that between the ages of 10 to 18, only one out of four children with learning disabilities had improved their academic and social status, but by the age of 32, three

out of the four individuals had improved and had adapted successfully to the demands of work, marriage, and family life. These findings suggest that many individuals with learning disabilities are able to succeed in life, but their chances for success increase once they leave academic settings. The fact that so many of these individuals have positive adult outcomes points to the powerful role of environmental factors (Wong, 2003). Many adults with learning disabilities find innovative ways to teach themselves and thus prove that the ability to learn was always present, but perhaps, the knowledge of how to teach these individuals was absent (Reiff, Gerber, & Ginsberg, 1993). The successful experiences of many adults with learning disabilities indicate that children raised with multiple risk factors can still achieve positive adult outcomes once they leave school.

What are ways then that we can increase children's successes in school? A variety of protective factors appear to help children with learning disabilities overcome risk and cultivate resiliency, the ability to spring back from the negative outcomes associated with stress factors and risks (Bender et al., 1999). Protective factors are those life situations or events that enhance the chances of positive outcomes (Keogh & Weisner, 1993). Several protective factors that appear to mitigate positive outcomes for children with learning disabilities are discussed.

Promote Self-Understanding and Acceptance

One critical factor for overcoming risk appears to be self-understanding, acceptance, and a feeling of control over one's life. In studying successful adults with learning disabilities, Gerber, Ginsberg, and Reiff (1992) found that having a sense of control over their lives was the most critical factor. One way that individuals are able to take control of their lives is by setting realistic goals that are possible to achieve. The capacity to accomplish goals is influenced by the accuracy of one's self-knowledge and self-perceptions. In fact, the central problem is not the disability, but the capacity to confront the various challenges that one faces in living with and overcoming it (Gerber & Ginsberg, 1990). Individuals who have a greater understanding of their disability are more likely to adjust successfully to adult life because they seek help when needed and find educational and vocational opportunities that incorporate their strengths (Cosden, 2001).

Without this understanding, students with learning disabilities have been described as having an external locus of control, or attributing their academic performance to reasons outside of their own thoughts and behaviors (Borkowski, Carr, Rellinger, & Pressley, 1990). They often attribute their academic successes to external factors such as luck or that the task was too easy. After several trials and reteaching, Andy, a fourth-grade boy with a math-based learning disability, correctly solved a double-digit multiplication problem. In an effort to reinforce the correct procedure, his teacher enthusiastically asked Andy how he figured it out. His response was, "Well Ms. Hill, I guess it's just my lucky day."

Since research has shown that an internal locus of control contributes to resilience (Blocker & Copeland, 1994; Wyman, Cowen, Work, & Kerley, 1993), teachers and parents need to explicitly convey and support the relationships between a child's efforts and the positive outcomes of those efforts. Instead of just saying, "Wow, you did a great job," students need to hear comments like: "Do you see how that strategy worked for you?" "You are listening carefully and looking at me." "You remembered to bring your homework home." "Do you see that you can understand these problems when you ask for help?" With specific praise, children can know exactly which behaviors are liked and what is expected (Smith, 2003).

In one study, college students with and without learning disabilities differed significantly on resilience, stress, and need for achievement, but not on locus of control (Hall, Spruill, & Webster, 2002). We can learn from these students with learning disabilities who have successfully entered postsecondary education that there is a critical need to teach students to understand the nature of their difficulties, how these problems affect their lives, and ways that they can cope with their difficulties. In a 20-year longitudinal project tracing the lives of individuals with learning disabilities, Higgins et al. (2002) found that the most successful participants accepted their learning disability and could talk about their strengths as well as their weaknesses. Understanding of the disability and self-awareness then form protective factors that facilitate lowered levels of anxiety and provide the foundation for acceptance (Morrison & Cosden, 1997; Vogel, Hruby, & Adelman, 1993).

Counselors and therapists can also help children with learning disabilities increase their self-understanding. Palombo (2001) advised that to treat children with learning disorders successfully, the therapist must both understand the effects of the learning disorder on the child, as well as be able to distinguish between thoughts and behaviors caused by the disorder from those resulting from a reaction to the disorder. For example, a therapist must be able to distinguish if a child did not comply with a parent's or teacher's request due to difficulty understanding or following directions, a common characteristic of a learning disability, or if the noncompliance was a result of depression resulting from an external event. Parents and teachers often misunderstand these children because they do not recognize that the child's thoughts are neurologically driven, rather than motivated by psychological factors. To illustrate this point, Palombo provided the following example: "Simply put there is a failure to distinguish between 'she won't' and 'she can't.' A child with dyslexia does not fail to learn to read because she *does not want* to learn but because she *cannot* learn" (p. 7).

In addition to describing the works, Smith (1989) encourages teachers to recognize the common masks that students with learning disabilities wear to hide their inabilities: helplessness, invisibility, the clown, and the victim. When students realize why they are having difficulties learning and that they are not stupid, the masks can be removed and the problems treated.

In discussing and explaining the learning disability to the student, parents and teachers need to be open, honest, and supportive (Miller & Fritz, 1998). As with the college students in the Hall et al. (2002) study, Gerber et al. (1992) found that successful adults understood and accepted their learning disabilities. They wanted to succeed, set achievable goals, and confronted their learning disabilities (Gerber & Ginsberg, 1990). In addition to understanding one's strengths and weaknesses, the person must also be able to see him- or herself as being more than "learning disabled" (Bender et al., 1999). Some successful adults are able to reframe their learning disabilities in a positive light so that the disability itself functions as a protective factor, making them stronger, more resilient, and more self-actualized (Gerber, Reiff, & Ginsberg, 1996; Shessel & Reiff, 1999).

The Role of Supportive Adults

Supportive adults or mentors are able to foster trust and bolster the self-esteem of children with learning disabilities (Bender et al., 1999; Brooks, 2001; Werner, 1993, 1999; Wong, 2003). Oftentimes teachers in the school environment can serve as protective factors for children. In describing the characteristics of resilient children, Segal (1988) wrote:

From studies conducted around the world, researchers have distilled a number of factors that enable such children of misfortune to beat the heavy odds against them. One factor

turns out to be the presence in their lives of a charismatic adult, a person with whom they can identify and from whom they gather strength. And in a surprising number of cases that person turns out to be a teacher. (p. 2)

Successful individuals with learning disabilities have at least one person in their lives who accepts them unconditionally and serves as a mentor who acts as the “gatekeeper for the future” (Werner, 1993; Wong, 2003).

Hallowell (2003) recalls how he struggled to learn to read in first grade. As he tried to pronounce the words, his teacher, Mrs. Eldredge, put her arm around him protectively and took away his fear of learning to read. Now as a psychiatrist, he still recalls the power of her arm and the effect it had on his development: “None of this would have happened had it not been for Mrs. Eldredge’s arm. That arm has stayed around me ever since first grade. Even though Mrs. Eldredge resides now in heaven, perhaps reclining on an actual cloud as I write these words, she continues to help me, her arm to protect me, and I continue to thank her for it, almost every day” (p. 7).

Teachers play a significant role in fostering resilience because through daily encounters, they are able to address the child’s emotional, as well as academic, needs (Segal, 1988; Werner, 1993). Thus, educators have the power to offset certain risk factors as they touch the mind, heart, and spirit of children by creating school climates where all students will succeed (Brooks, 2001). They provide children with positive experiences that enhance their self-esteem and competence, thereby reinforcing their resilience (Brooks, 1991; Rutter, 1985). They teach children not to be afraid of making mistakes and help students appreciate that mistakes are part of the learning process (Brooks & Goldstein, 2001). The long-term educational benefits from positive school experiences stem more from children’s attitudes toward learning and their self-esteem than from what they are specifically taught (Rutter, 1985).

Parental support is another key factor that helps children develop a healthy perspective of self (Cosden, Brown, & Elliott, 2002). Parents or guardians can advocate for their children in school and provide emotional support (Wiener, 2003). Individuals with learning disabilities who have positive adult outcomes grow up in home environments that foster emotional stability (Hechtman, 1991). In addition, parental acceptance of academic limitations, as well as acknowledgment of strengths, may reduce the stress caused by the learning disability (Morrison & Cosden, 1997). Thus, an interdisciplinary effort among parents, teachers, pediatricians, therapists, and psychologists is needed to forge a chain of protective factors that will reduce the negative impact of a learning disability (Werner, 1999). Caring parents and teachers can help preserve the self-esteem of children.

Provide School-Based Intensive Interventions

Within the school setting, teachers and administrators have to recognize that a child’s psychological, academic, and social well-being need to be addressed. In a meta-analytic review of 64 intervention studies, Elbaum and Vaughn (2001) found that the types of interventions that were effective varied based upon grade level. The interventions that were most effective in elementary schools were those that directly focused on improving academic performance, requiring considerable time and intensity. In middle school and high school, counseling interventions were more effective. In general, interventions were more effective with middle school students than they were with elementary or high school students. The extent of positive impact depends upon the type and quality of service, as well as the depth and breadth of intervention (Spekman, Goldberg, & Herman, 1993).

Vogel et al. (1993) found that the availability of long-term tutoring and one-to-one instruction characterized the education of successful adults with learning disabilities.

Unfortunately, many students with learning disabilities do not receive differentiated instruction and, with continued failures, their perceptions of their academic competence are diminished. Schumm, Moody, and Vaughn (2000) interviewed third-grade teachers and students with learning disabilities. Overall, the teachers reported using whole-class instruction that included the same materials for all students in the class regardless of levels of performance. All students were expected to read grade-level materials even if they could not read the words in the material. Furthermore, students with learning disabilities did not receive instruction directed at improving their word analysis skills. One teacher voiced strong opposition to providing instruction in word analysis: "By the time they come to third grade they really should have those skills" (p. 483). With undifferentiated instruction and minimal direct instruction in reading, the students with learning disabilities made little academic improvement and their attitudes about reading declined. In contrast to general education placements, the identification process resulting in placement in special education programs does not appear to negatively affect the self-concept of students with learning disabilities, at least within the early grades (Vaughn, Haager, Hogan, & Kouzekanani, 1992).

To address students' learning disparities, teachers must help students make as much academic progress as possible. This cannot be accomplished by having the student use the same educational materials as their classmates. The academic difficulties of children with learning problems are chronic, even when they have individualized educational plans (Sorensen et al., 2003). A student with learning disabilities requires differentiated, carefully engineered educational programming. Although the student must be treated as equitably as others, the type of instruction that is provided will differ substantially from that provided to students without learning disabilities. In the short run, students who are behind in reading may feel better about their reading abilities if they have the same books as their peers; but in the long run, if their skills do not improve, they will have little basis for positive self-perceptions of their academic competence (Vaughn & Elbaum, 1999).

Students with learning disabilities require intensive and explicit instruction that focuses on their specific needs (Schumm et al., 2000). Even with competent special education instruction, however, children with learning problems can make minimal progress in academic skills because of the fundamental neurodevelopmental risk that is present throughout life (Sorensen et al., 2003). In addition to academic interventions, other goals exist. For some students, educational interventions need to be directed to correcting behavioral problems (McKinney, Osborne, & Schulte, 1993) or receiving social interventions to help them elevate or maintain social status (Kuhne & Wiener, 2000). For students with severe processing deficits or attentional problems, environmental accommodations can increase their adjustment (Morrison & Cosden, 1997). In addition to structured, explicit teaching methods, students with learning disabilities can also make academic progress and increase their self-concepts when practices such as peer tutoring and cooperative learning are implemented (Elbaum & Vaughn, 2001). Current findings, however, regarding the efficacy of cooperative learning on the academic achievement of students with learning disabilities are mixed and other peer-mediated or individualized approaches can result in more positive outcomes (McMaster & Fuchs, 2002).

Findings from the National Longitudinal Transition Study (NLTS) suggested that high school dropout rates among students with disabilities were on the rise and significantly higher than the general population. The report stressed that schools *can* make a difference in their students' performance (U.S. Office of Education, 1992, p. 87). The NLTS research

team identified the following factors that relate to better school outcomes for students with disabilities:

- Students who attended schools with fewer than 500 students were significantly less likely to drop out than those in schools with between 500 and 1,000 students.
- Students who attended schools that reported routinely providing teachers with in-service training on mainstreaming were significantly more likely to have failed a course. (One potential explanation of this finding was that in-service training was being provided in schools with general education teachers who were reluctant to receive mainstreamed students or who needed help in adapting their instructional approaches to accommodate these students' needs. In such an environment, students in special education programs may have been doing less well than in schools in which general education teachers accommodated mainstream students more readily or more effectively. Thus, in-service training on the issue was unnecessary (Wagner, 1990).)
- Students who took occupational training in their most recent school year were significantly less likely to have dropped out of school.
- Students with no time in general education were significantly less likely to fail courses than students enrolled in general education courses.
- A lower dropout rate was found for students who received help from a tutor, reader, or interpreter compared with those who did not (Wagner, 1990, pp. 26–27).

One fact is clear: as they attend school, students with learning disabilities need a strong support system. This system can help preserve self-concept and self-worth by: (a) keeping failure at a minimum, (b) increasing acknowledgment of nonacademic talents and other competencies, and (c) emphasizing learning goals over performance goals (Lerner, 2000). A learning goal rewards effort, even though the final product (the performance goal) can be partially complete or incorrect. Because social life and status impact school learning (Bryan, 2003), to ensure that children with learning disabilities succeed, their feelings of low self-worth and self-esteem must also be addressed.

Select the Most Appropriate Placement

As noted in the NLTS study, students with learning disabilities need a social environment that supports their academic efforts and sustains their achievement (Elbaum & Vaughn, 2001). Although the field continues to debate the most appropriate service delivery system for children with learning disabilities, findings from studies addressing self-concept and educational placements (general education, resource room, or self-contained) are equivocal, and no one placement is clearly preferable to another (Elbaum, 2002). Elbaum found that some studies showed higher self-concepts for students in more restrictive settings; others showed higher self-concept for students in less restrictive settings; and still others showed no difference. The age of the student can also affect his or her response to the type of classroom placement. Howard and Tryon (2002) investigated the relationship of depressive symptomatology in a sample of adolescents with learning disabilities placed in general education or self-contained classrooms. Although their self-ratings did not differ based upon the type of placement, the guidance counselors rated the students with learning disabilities in general education classes as being more depressed than those in self-contained classes. This finding suggests that negative teacher and peer feedback can be

more prevalent in inclusive settings and that sensitivity to disability may be less than that experienced in self-contained settings.

Whether the child receives services in a resource room or in a general education class, the child needs to be in an academic environment that is safe and secure so that learning will flourish (Brooks, 2001). When school teams are making decisions about educational placement, they should consider the student's own preferences, as well as his or her academic, social, and emotional needs (Elbaum, 2002). Some evidence suggests students with learning disabilities prefer resource services or pull-out programs to in-class service delivery (Jenkins & Heinen, 1989; Le Mare & de la Ronde, 2000). Regardless of the placement, school environments must be benevolent, supportive, and developmentally appropriate for all children (Bryan, 2003).

Acknowledge Accomplishments in Nonacademic Domains

Another way to foster resilience is to support positive development in other areas of performance besides traditional school subjects (Werner, 1999). Harter's (1985) multidimensional model of self-concept includes the following six domains of self-perception: academic, social, athletic, physical, behavioral, and global self-worth. Although students with learning disabilities often have lower academic self-concepts than their peers, successful accomplishments in other domains can help offset low academic self-perceptions and help students maintain self-esteem (Smith & Nagle, 1995; Vaughn & Elbaum, 1999). Success in any arena of life leads to enhanced self-esteem and a feeling of self-efficacy (Rutter, 1985). Students with learning disabilities often find success in a nonacademic arena, such as sports, the arts, or technology.

In a posting to a listserv, Mary Perfit-Nelson (2002) noted how different schools would be if the curriculum, rules, materials, and tests were developed by artists, musicians, athletes, or mathematicians. She wrote:

We meet and discuss kids and how they are doing in *our* environment. If they are not excelling, few of us even consider that the environment is not supporting the student's strengths. Changing the environment is rarely considered, nor is it even thought necessary. Districts have done away with technical courses. We are left with some variation of the college track, where the failure rate is astounding. And yet each child could be an expert in some area. It is important that we help the mathematicians and musicians find their way during the 12 years they must spend in a place designed for someone else.

Salza (2003) expressed similar sentiments and provided the following analogy to illustrate how the success of adults with dyslexia is often unexpected because we incorrectly assume that the skills needed for school success are the same as those needed for life success:

Consider the giant green sea turtle lumbering across the sand to lay her eggs. She heaves herself across the sand and struggles mightily for every inch of ground she covers. She looks awkward, vulnerable, disabled, and poorly adapted. Consider the same green sea turtle swimming in the ocean. She swims with power and grace, she dives deep, stays down for long periods of time and comes up practically dry! Schools can and must give children, at the least, a glimpse and perhaps a taste of the sea to which they are headed as they struggle across this patch of ground we call school. (p. 27)

Thus, it is important to recognize and acknowledge the unique talents of individuals with learning disabilities and to remind them that successful school performance does not

guarantee or negate successful life outcomes. Many individuals have successful lives despite having a learning disability. They develop positive attitudes toward themselves and life. Werner (1993) found that a positive temperament did not reduce negative outcomes in late adolescence, but did predict positive adjustment by the age of 32.

Acknowledge Accomplishments in Academic Domains

For many students with learning disabilities, the problems are circumscribed or domain-specific. For example, the student can struggle with reading, but excel in math or science. Or the student can be an avid reader, but experience great difficulty with spelling. Because specific cognitive and linguistic mechanisms affect functioning differentially, a student with learning disabilities will struggle with certain academic tasks, but not others. For example, a student with a circumscribed weakness in phonological awareness will exhibit difficulties in word analysis and spelling tasks, but not typically in math activities (unless reading is involved).

One important consideration is to identify specific academic areas in which students with learning disabilities can be educated with peers using the same materials and procedures (Miller & Fritz, 1998). Simply having the same book is not the same as using and profiting from the same book. Students must be able to read and learn from the books they are provided. Thus, for students with learning disabilities, it is important to identify domain-specific academic strengths and match curricular materials accordingly. Children and adults who view their disabilities as circumscribed and not as affecting global functioning are more likely to have positive self-esteem (Cosden, 2001; Rothman & Cosden, 1995). Regardless of the level of performance, students with learning disabilities must experience realistic accomplishments (Brooks, 2001). Vail (2003) notes that self-esteem grows from the inside out, not from the outside in, and that competence leads to confidence, which then increases motivation and results in genuine self-regard.

CONCLUSION

Both general and special education teachers need to work together to provide effective instruction to students who are often confused and searching for personal survival and accomplishments (Masters, Mori, & Mori, 1993). When teachers give students powerful reasons to attend their classes and minimize their failure experiences, many students with learning disabilities will not only survive, but they will thrive (Sabornie & deBettencourt, 1997). Miller and Fritz (1998) encourage teachers to be the one a student will recall favorably when asked, "Tell me about a teacher you remember."

Well-functioning schools can serve as a protective factor for children's development and accomplishments (Keogh & Weisner, 1993; Rutter, 1978). Schools must be effective, benevolent, supportive, and developmentally appropriate for all children (Bryan, 2003). This requires all educators to share a vision and create a plan. We are reminded of the advice that the Cheshire cat gave to Alice in Wonderland when she asked which way to go upon reaching an intersection. The cat inquired: "Where are you going?" Alice responded: "I have no idea." The cat then replied: "When you don't know where you are going, any road will do."

We need to be clear and rigorous in our thinking (Donahue & Pearl, 2003). We must know where we are going and be ever vigilant as we plan curriculum and select activities for

children with learning disabilities. Brooks (2001) so aptly described the common mind-set of effective educators:

We can accomplish this by being empathetic; by treating students in the same ways that we would like to be treated, by finding a few moments to smile and make them feel comfortable, by teaching them in ways they can learn successfully, by taking care to avoid any words or actions that might be accusatory, by minimizing their fears of failure and humiliation, by encouraging them, and by recognizing their strengths. (p. 20)

This is the road we must follow, a road paved with effective instruction, support, and empathy.

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16

Resilience and Self-Control Impairment

Wai Chen and Eric Taylor

INTRODUCTION

The Concept of Self-Control and ADHD

Self-control has been a pervasive idea in developmental psychology. At a neurocognitive level, the organism's control (or lack of it) over its own responsiveness to stimuli has been regarded as a central topic in attention/executive function research and attention deficit (e.g., Taylor, 1995). Behavioral control is a more complex idea: clearly, a planned and rule-governed organization of activity can have many advantages and has arguably been a crucial acquisition in the evolution of man. Emotional control relates to the idea that it is adaptive to moderate the immediate affective reaction and to respond in a willed rather than a passionate fashion.

Self-control and its absence are appealing concepts for explaining a wide variety of psychopathological presentations. Impaired self-control can be seen as a risk for nearly all the disorders presenting with unruly or undesirable behavior—hyperactivity, attention deficit, impulse disorders such as gambling, bulimia, or kleptomania, substance abuse, oppositional and conduct disorders, and the complex tics of Tourette disorder (Strayhorn, 2002a); or it can be seen as a part of those disorders or the result of them. The ability to control oneself can be seen as a protective factor in an even wider range of disorders—either because one can use self-control to avoid acquiring even greater developmental risks, such as substance abuse, or because the ability to control oneself is a necessary condition for the success of some forms of treatment, such as cognitive therapy (Strayhorn, 2002b).

This widespread use of the idea already points to a difficulty. If the idea is applicable to so many sorts of problem, perhaps it should not be seen as an explanatory concept, but

rather as a somewhat nonspecific description. There is a certain circularity in it: if the only evidence needed for poor behavioral self-control is the presence of undesirable behavior, then it cannot also be used to explain that behavior. It constitutes, in effect, a theory about the cause of behavior disorders. In this case, independent evidence for its presence is essential. Operational definitions have been hard to achieve. The difficulty is akin to that inherent in the closely related idea of the will: If an act is caused by a volition, what causes the volition?

When considered as a theory of cause, then impaired self-control must compete with others. Consider a group of children in a classroom who are behaving riotously. Some may be doing this in a planned and willed fashion; for instance, they may prefer to impress their peers rather than please their teacher. This may be regrettable, but it is not uncontrolled; it is a different organization rather than a lack of organization. Others may have no idea that they are infringing serious expectations; their egotism is so great that they are following their own inclinations without regard to the reactions of others. Another child would, in reflecting on it, realize that his or her interests would better be served by being less unruly; but the child either will not or cannot take the time to reflect and translate the understanding into action. It is this latter child who could be described as “lacking in self-control” or “impulsive” or “lacking in inhibition”; but it is not an operational definition of behavior—rather, it is based on inferences about the current and other possible states of mind.

In this chapter we will focus on the most clearly operationalized behaviors that can be seen as evidence for impaired self-regulation: overactivity and impulsiveness. Within this narrow operationalized definition, attention deficit hyperactivity disorder (ADHD) represents a classic paradigm. ADHD is characterised by age-inappropriate levels of inattentiveness, hyperactivity, and impulsivity, with an onset in early to middle childhood. We describe the behaviors as they have emerged from observational studies and briefly summarize a large literature on their neurocognitive basis, which has suggested an altered function of brain structures involved in self-organization. The outcome studies will then be reviewed, to the effect that the resulting behavioral changes are indeed a risk factor for later psychological adjustment. This leads to a consideration of the factors that can promote resilience in the face of this risk, including what can be achieved by treatment.

Core Problems in ADHD

In ADHD, symptoms and impairments should be persistent over time and pervasive across settings. *Inattentiveness* denotes a reduced length of time spent on a task or toy; an increase in the number of orientations away from a centrally presented task; and more rapid changes between activities (Dienske, de Jonge, & Sanders-Woudstra, 1985; Milich, Loney, & Landau, 1982). *Overactivity* implies an excess of movements, and this cannot be simply reduced to impulsiveness or inattentiveness (Porrino et al., 1983). *Impulsivity* means acting without reflecting, and it can be conceptualized as overrapid responsiveness, sensation seeking, excessive attraction to immediate reward, aversion to waiting, and a failure to plan ahead. DSM-IV classification of ADHD contains three subtypes: (1) predominantly inattentive; (2) predominantly hyperactive-impulsive; and (3) combined. The third variant is comparable to the European diagnosis of hyperkinetic disorder and the syndrome of pervasive hyperactivity. ADHD is a disabling condition, associated with increased risk for learning disabilities, educational failure, impaired social functioning, relationship problems, employment difficulties, delinquencies, and multiple psychiatric disorders, including conduct disorder, and in later life, substance abuse, personality disorders, and mood disorders.

Neuropsychological Correlates of ADHD

In the field of ADHD research, the hypotheses of deficits in response inhibition and self-control as the core psychopathology have been gaining attention. Though the apparent inattentiveness and distractibility are prominent observed features of ADHD, research of neuropsychological correlates has consistently failed to detect deficits in selective attention or attention filter. That is, the deficit appears not to lie in sensory inputs or screening out unwanted information, but rather in response outputs. In other words, ADHD is more a disorder of inhibition and of maladaptive response patterns than a disorder of attention.

There are several theoretical accounts of this change in response organization, and they compete to give the closest representation of the problems: (1) response inhibition theory (Barkley, 1997); (2) delay aversion theory (Sonuga-Barke, Taylor, Sembi, & Smith, 1992; Sonuga-Barke, Taylor, & Heptinstall, 1992); (3) state regulation theory (Van der Meere, 2002); (4) working memory deficit theory (Castellanos & Tannock, 2002); (5) cognitive-energetic theory (Sergeant, 2000); and (6) temporality (perception of time) deficits theory. More recently, a dual pathway model has been proposed, combining response inhibition theory with delay aversion theory (Sonuga-Barke, 2003).

The contention of response inhibition theory is that the core deficit of ADHD resides in impaired inhibition of unwanted outputs, for instance, in inhibition of a prepotent response; withholding an established ongoing response pattern (thus permitting a delay for a decision); and protecting this period of delay from interference or disruptions from extraneous events. These give rise to other secondary impairments in executive functions involved in self-control.

State regulation theory gives more emphasis to the contextual factors; the poor performance of children with ADHD on certain tasks is believed to reflect a nonoptimal state of energetic pools, arousal, activation, and effort. By introducing, for example, reward or a faster event rate, the states of these ADHD children can be optimized so their performance can be potentially brought to the level of control children. This theory offers an explanation for the observed variability or inconsistency in response in ADHD subjects; and also, that the degree of their variability is altered under different experimental situations of stimuli presentation, such as improvements under reward conditions and under a fast rate of stimuli presentation.

Delay aversion theory proposes that impulsive, and therefore uncontrolled, behavior does not stem from an inability to withhold response, but from a motivational change: a deep-rooted dislike for waiting and therefore a reluctance to delay. The influence of context is even stronger in this formulation because if the delay characteristics are controlled—if the child has to wait no matter which choice he or she makes—then it is possible to set up experimental arrangements in which children with ADHD do not demonstrate impulsiveness.

In short, it cannot be assumed from the cognitive studies so far that we are dealing with a deficit of inhibitory control rather than an alteration in the ways that decisions about inhibition are made. Either notion could apply. They are not mutually exclusive; in fact, they could give rise to each other. A deficit of inhibition can cause children to be averse to delay because they have suffered many experiences of failure in delay situations. Delay aversion will discourage children from experiencing situations in which delay is involved, and can therefore hold them back from learning the skills of inhibition. Indeed, we do not see the theories of inhibition and delay aversion as competing for the sole explanation of impulsive behavior. Rather, they describe two possible pathways into impulsiveness, resulting either in two subgroups of children with ADHD or in the problems for the same

individual. In the model of volitional control presented by Taylor (1999), the two theories represent changes at different stages of the formulation of a planned and intended response—the executive planning and decision of what to do, the elaboration of the intent into a plan, the choice of one plan over others, and the suppression of competing plans.

All these abnormalities of inhibitory control could follow directly from genetically determined changes in the microstructure and metabolism of the brain. The brain structures that are involved in the suppression of inappropriate responses (e.g., right frontal and striatal areas) are rich in dopamine and dopamine receptors. Their activity could well be impaired by genetically determined reductions in the efficiency of synaptic transmission. It would, however, be too simple to assume that this direct route must be the key one; interactions with the psychological environment also need to be considered. There are strong genetic influences on hyperactive behavior, but much less is known about the inheritance of the putative cognitive abnormalities. Experience may influence both simple and complex processes, but it is perhaps easier to see how complex processes can be modified by learning and motivation. The decision to inhibit—to withhold a prepotent response or one known to lead to immediate gratification—must be determined in part by the organism's previous history. A child, for example, whose experience favors the idea that delayed reinforcers will never in fact arrive (as might be the case in the children of some impulsive parents) may well not evolve a style of preferring to wait. Similarly, the decision to allocate protracted consideration and analysis to a problem is likely to be conditioned by the extent to which doing just that in the past has been rewarded by success or by the reactions of caregiving adults. In theory, this opens the way to cognitive and self-instructional methods of intervening; in practice they have not yet proven their clinical value.

Resilience, Outcome Studies, and Methodological Issues

Taylor, Chadwick, Heptinstall, and Danckaerts (1996) described a follow-up study of children with pervasive hyperactivity who were identified by parent and teacher ratings in a large community survey of 7- and 8-year-olds. Nine years later, at the age of 17, they were reassessed with parental ratings, as well as a detailed interview using Parent Account of Childhood Symptoms (PACS) rating system. Hyperactivity was a risk factor for later maladjustments, even after allowing for the coexistence of conduct disorder problems and excluding children who showed the problems of emotional disorder. Nearly half of the affected children had developed a psychiatric diagnosis, and more showed problems such as persisting hyperactivity, violence and other conduct problems, and social and peer problems. Although hyperactivity presents as a chronic and debilitating disorder, a minority of the children interestingly seemed to escape complications and grew out of the disorder, so that their young adult outcome was not severely compromised. In other words, resilience in the presence of pervasive hyperactivity does indeed exist. Yet resilience among children with ADHD has not been a major focus of research.

In the field of resilience, a number of studies have been conducted on children exposed to early adversities and deprivations. The researchers examined predictors of good adjustments in later life as indicators of resilience. Though one could infer similar predictors are applicable to ADHD children, nevertheless, direct and robust empirical evidence is still lacking. Furthermore, empirical studies sometimes can yield counterintuitive findings, that is, results opposite to what one may logically predict. This subject is discussed in a review article by Hechtman (1991) and Chapter 7 in this book by Werner. It is important to emphasize here that the large-scale resilience studies were not conducted on children with

ADHD or hyperactivity. In order to avoid confusion, we will not review their findings here. However, we have included studies, that have touched on these issues that had been conducted on hyperactive or ADHD subjects.

In ADHD psychological treatment, in relation to resilience, a new trend has emerged, challenging the conventional conceptualization of resilience based on the *deficit or weakness-based model* (Brooks & Goldstein, 2001). In the deficit or weakness-based model, a disorder is conceived to embody symptoms, abnormalities, deficits, and weaknesses; resilience is conceptualized as factors that reduce symptoms and thereby improve outcome. As an alternative, a *strength-based model* has been proposed. This model places emphasis on the development of skills, strengths, and “islands of competence,” in spite of the disorder (Brooks & Goldstein, 2001). In essence, the new approach demarcates “abilities” from “disabilities”; and it advocates the development of “abilities” and the “talents” associated with the condition. In contrast to the traditional paradigm, the new paradigm also postulates that “strengths” can minimize the negative impacts of “symptoms” in promoting resilience.

There is no substantive intervention trial that evaluates the efficacy of this novel paradigm, that is, to test whether promoting development of abilities or ADHD associated strengths or islands of strengths, in the absence of reducing symptoms, improves outcomes in ADHD. In this review, we shall therefore examine the available published evidence on (1) the natural history of the condition and its implication on resilience; (2) predictors of resilience and predictors of adverse outcomes in ADHD; (3) predictors of treatment response; and (4) whether an emphasis on strengths in the absence of symptom reduction is likely to promote resilience in children with ADHD.

Before this main review, we would like to draw attention to some methodological issues in evaluating published evidence in this field. Research evidence on ADHD broadly derives from two groups: those conducted on subjects with hyperactivity (on a dimensional scale) and those with ADHD or a comparable diagnosis (by a categorical definition). The latter category comprises children who have been diagnosed to have a clinical disorder (i.e., ADHD) by clinicians or by researchers using validated diagnostic instruments. These subjects are usually ascertained through specialist clinics. On the other hand, study subjects with hyperactivity are often derived from community samples and classified according to the level of activity (plus or minus inattentiveness). These perceived hyperactive subjects represent the extreme end of a continuous dimension but may not necessarily have the clinical disorder of ADHD.

Research on ADHD children is often subject to referral bias, that is, children who are referred to doctors may have more severe symptoms or comorbid conditions that are troublesome to adults, such as aggression and conduct problems, which are more common among boys. Furthermore, results from these studies are heavily influenced by whether the control or comparison groups have been well chosen and representatively selected. A comparison group can be overmatched, leading to underdetection of differences, and undermatching can lead to detection of false differences.

On the other hand, research on hyperactivity, the extreme end of the dimensional spectrum, is usually conducted on community samples. They are less subject to selection bias. But the qualities of the data gathered often lack details and precision. Often they are confined to rating scale measures, recording behaviors over a short time frame, and completed by parents or teachers who are not trained to distinguish normality from disorder. The information gathered is therefore vulnerable to measurement errors, rater bias, and information bias, leading to misclassification of subjects. Furthermore in the analysis, the cut-off between “normality” and “abnormality” can be arbitrarily defined, for example, with a cut-off threshold made at the top 5, 10, 20, or 25%. Thus a child can be designated as

a "case" for a range of reasons: he or she has been overrated by an overstrict parent, going through a bad phase at the time of data collection, or having an activity at the upper end of normality but below the lower boundary of a disorder. Birth cohorts are sometimes too small to contain adequate numbers of children who meet the criteria for the presence of disorder and thus lack statistical power to identify the true effects of a disorder. The inferred relevance of the findings of these studies to ADHD needs to be taken with caution.

NATURAL OUTCOMES OF HYPERACTIVITY AND ADHD

Evidence from community samples of Subjects with Hyperactivity

The natural course of the undiagnosed and untreated disorder can be inferred from longitudinal studies of epidemiologically ascertained community samples, that is, subjects drawn from large-scale surveys of unreferred individuals such as birth cohorts. These longitudinal epidemiological studies are difficult and expensive to carry out, and have generally been reported from cohort studies that were designed for other purposes. The classification of hyperactivity may be derived from proxy measures, which often lack precision and specificity for ADHD. The key studies are derived from five major cohorts: Dunedin, Christchurch, Isle of Wright, East London (Taylor, Chadwick, Heptinstal, and Danckaerts, 1996), and Cambridge.

Fergusson (1997) has analyzed the Christchurch birth cohort with parent and teacher rating scales ascertained at different time points of development. He found no significant association between hyperactive/inattentive behavior and later offending, once coexisting conduct problems were adjusted in the analysis. The former only appeared as a risk because of its prior association with conduct disorder, which, he suggested, was the true risk. However, the negative consequence of hyperactivity was not trivial, for it did predict educational underachievement. Furthermore, a very strong correlation exists between the two conditions. Moffitt (1990) analyzed the Dunedin birth cohort and came to different conclusions. Even when early aggressive behavior (at age 5) was statistically controlled, hyperactive behavior predicted antisocial behaviors in adolescence.

This finding was confirmed by the Cambridge cohort, which Farrington reanalyzed to evaluate the effect of childhood inattention/hyperactivity on later criminal outcome (Farrington, Loeger, & van Kammen, 1990). Four hundred eleven males were derived from a working-class area in London and followed up at age 8, 10, 14, 16, 18, 21, and 25. He found that inattention/hyperactivity predicted later criminality, and this was partly independent of conduct problems, especially for early conviction and multiple offending before age 25. His analysis indicated that hyperactivity and conduct problems were discrete, but overlapping, predictors for delinquency.

Only a few studies have been able to base their conclusions about natural history on cases of disorder. Schachar et al. (1981) reanalyzed the Isle of Wight longitudinal epidemiological study and concluded that hyperactivity, if it was pervasive across situations and informants, strongly predicted the persistence of psychological deviance between the ages of 9 and 14. However, the initial stratification of cases had been studied for other types of disorders, so their cases of hyperactivity were particularly likely to show comorbid disorder. It is therefore possible that their prediction resulted, not from hyperactivity being a specific risk, but from its being a marker to increased severity of psychological disturbance.

The East London cohort delineated a diagnostic syndrome in an urban community sample by a two-stage process of screening followed by detailed assessment of high-risk and a proportion of low-risk subjects. This brings the advantages of having precise clinical details on subjects derived from a sample unaffected by clinic referral bias. Taylor et al. (1996) found that initial hyperactivity predicted later conduct problems, violence, and also covert antisocial behaviors, even after allowing for baseline coexisting conduct symptoms.

On balance, the evidence from community samples indicates that hyperactivity is associated with later maladjustments, ranging from poor academic achievement to antisocial behaviors, violence, and overt and covert conduct problems. We can now turn to the findings from individuals with syndromic diagnosis of ADHD or its equivalents and examine their outcomes and implications.

Evidence from Diagnosed ADHD Samples

A consistent finding across follow-up studies of children with ADHD is that they continue to have persistent problems with restlessness, overactivity, impulsive behavior, and inattention. Much of the published data on natural history of the disorder was derived from six major cohort samples (with representative authors in parentheses): New York (Gittelman, Mannuzza), Montreal (Weiss, Hechtman, Milroy), Wisconsin (Barkley, 1997; Fischer, Barkley, Smallish, & Fletcher), California (Lambert), East London (Taylor et al., 1996), and Sweden (Rasmussen, Gillberg). Other clinic cohorts with a shorter follow-up period included Harvard (Biederman, Mick, & Faraone, 2000), Pittsburgh (Molina & Pelham, 2003), Portland (Satterfield, Swanson, Schell, & Lee, 1994), and Iowa (Loney, Kramer, & Milich, 1981). The East London and Swedish cohorts are unique in that the diagnosed cohorts were ascertained through epidemiological samples by screening. The other cohorts were clinic patients and thus subjected to selection bias.

In the New York cohort, Gittelman et al. prospectively followed 101 hyperactive males in adolescence and adulthood and compared them with matched normal controls. They found that the majority (68 out of 101) of the subjects still suffered from ADHD in early adolescence; 27% had conduct problems, and 20% had multiple convictions (Gittelman et al., 1985; Mannuzza, Klein, Konig, & Gispino, 1989). Gittelman et al. identified the continuing presence of hyperactivity, *not* the baseline hyperactivity at early childhood, as the best prediction for later risk of conduct problems and delinquency in adolescence, suggesting that chronic persistence of hyperactive symptoms is the key risk factor for adverse outcomes (Gittelman et al., 1985). In adulthood, only 4% still fulfilled the criteria for ADHD diagnosis, but more of the hyperactive subjects had antisocial personality disorders and nonalcohol drug use (Mannuzza, Klein, Bessler, Malloy, & Lapidula, 1998). Their low rate of persistence of diagnosis may be due to the artifacts of diagnostic threshold for adult condition or high attrition rate. It is well known that those who refused or were lost at follow-up tend to have more problems.

In the Montreal cohort, Weiss, Minde, Werry, Douglas, and Nemeth (1971) compared 91 clinic-referred hyperactive subjects with a control group matched for age, sex, IQ, and social class. At the 5-year follow-up, they found that the hyperactive adolescents had lower self-esteem and more academic problems. Most continued to be distractible, impulsive, and emotionally immature, although less hyperactive. In addition, 25% of the hyperactive subjects had delinquent behaviors. Similar results were found by Akeman, Dykman, and Peters (1977); the hyperactive subjects had more oppositional or delinquent behavior and lower self-esteem when compared with a group of normal controls and another comparison

group with learning difficulties. Satterfield et al. (1994) found a five times higher rate of arrest among the hyperactive subjects compared with matched controls in committing a felony (burglary, theft, or assault with a weapon).

At a 10- to 12-year follow-up of the Montreal cohort, at approximately age 19, Weiss, Hechtman, Perlman, Hopkins, and Werner (1979) found them to have less education, have had more car accidents, and to have made more geographical moves when compared with normal matched controls. Hyperactive subjects had less friends, completed fewer years of education, failed more grades, and received lower marks. They also had more court referrals, had tried nonmedical drugs more often, and had more personality trait problems, most frequently of "impulsive" and "immature-dependent" types. They were more impulsive on cognitive style tests. During face-to-face research interviews, they reported more feelings of restlessness and exhibited more signs of restlessness. At the 15-year follow-up when the same cohort was in their early 20s (Weiss et al., 1985), they found 66% of hyperactive subjects still had at least one disabling symptom of ADHD and 23% suffered from an antisocial personality disorder. There had also been more suicide attempts in the hyperactive group.

According to Hechtman, Weiss, Perlman, and Tuck (1981), there are three categories of outcome. The first group had a fairly normal outcome. The second group consist of those with persistent attentional, social, emotional, and impulse problems; and as adults, they continued to have difficulties with work, interpersonal relationships, low self-esteem, impulsive behavior, irritability, anxiety, and emotional lability. The majority of young adults fell into this group. The third group included those with more serious psychiatric complications, including heavy dependence on drugs or alcohol, severe depression with suicidal problems, and antisocial personality pathologies. Their last finding published some 20 years ago has recently been replicated in other studies.

One recent follow-up study extended the analysis further to identify predictors of antisocial personality disorder. Fischer et al. (2002) conducted a self-report survey on psychiatric and personality disorders in a follow-up study on the Wisconsin ADHD cohort (now in their early 20s) and examined a number of predictors for psychiatric morbidity. About 21% of hyperactive probands qualified for antisocial personality disorder (ASPD), a fivefold increase compared with the control group. Their findings were in keeping with previous studies at New York (27% vs 8% of controls), Montreal (23% vs 2.3%), and Sweden (18% vs 2.1%). They all suggest hyperactivity in childhood predisposes a person to ASPD in adulthood. Fischer's study, however, has extended the finding further by demonstrating that this elevated risk for ASPD is substantially influenced by severity of childhood conduct problems (odds ratio [OR]; OR = 4.54 with 95% confidence interval of 1.44–14.31), as well as teenage conduct problems (OR = 1.56 with 95% confidence interval of 1.20–2.02), even after controlling for the severity of childhood symptoms as covariants. Their findings provided support to Lynam's (1996) view that coexisting hyperactivity and conduct problems in the same child constitute a greater risk for antisocial outcomes in adulthood than when either problem occurs alone. Another interesting finding was that histrionic and passive-aggressive personality disorders were also significantly overrepresented among their subjects (12% and 18% respectively); and these disorder were not a function of childhood conduct problems. However, elevated borderline personality disorder (14%) was associated with teenage conduct disorder (OR = 1.32 with 95% confidence interval of 1.05–1.66). Major depression was significantly greater in the hyperactive than control group, especially in the presence of ASPD (OR = 3.59) and borderline PD (OR = 5.56). In this study, they found no evidence of increase in substance abuse.

Research has been inconsistent with regards to increased risk for substance abuse. Some found a greater prevalence of alcohol or drug use in New York (16 vs 3% by age 18 (Gittleman, Mannuzza, Shenker, & Bonagura, 1985); 12% vs 4% at age 24 (Manuzza,

Klein, Bessler, Malloy, & LaPadula, 1998); and 16% vs 4% at age 26 (Mannuzza, Klein, Bessler, Malloy, & LaPadula, 1983). In the Swedish sample, only alcohol misuse disorders occurred more often (24% vs 4%) (Rasmussen & Gillberg, 2000). In the Montreal sample, significant differences were found for “use of narcotics in last 5 years” (14% vs 4%), “use of nonmedical drug” (74% vs 55%), and “sold nonmedical drug” (18% vs 5%); while no significant difference was found for “use of harsh, speed, and barbiturates” (Weiss et al., 1979). In Fischer’s (2002) study, the rate of “any drug disorder” among hyperactive subjects was 43%, which is high compared with controls of other studies. But in their study, this rate was not significantly different from their normal control (31%). The authors believed that this was due to an elevated rate of substance use in their control group, perhaps reflecting a secular trend in more prevalent substance misuse in the U.S. population, leading to no increase in relative risk (Fischer et al., 2002). It is likely that the risks in development of substance abuse among hyperactive subjects is influenced by both exposure to and availability of illegal drugs, which in turn are related to the time, country, and urban or nonurban settings in which they live. Hence, prevalence of substance abuse as an outcome is more variable across studies.

Molina and Pelham (2003) evaluated the correlates and predictors of substance use in a follow-up study of 142 children with ADHD into adolescence (13 to 18 years old) comparing with 100 same-aged non-ADHD controls. They found associations between hyperactive subjects with higher levels of alcohol, tobacco, and illegal drug use. They identified three correlates: first, severity of childhood inattention symptoms predicted later multiple substance use; second, childhood oppositional defiant-disorder/conduct-disorder symptoms predicted later illegal drug use; and third, persistence of ADHD and adolescent conduct problems correlated with elevated substance use behaviors. Their findings suggested that elevated risks of subsequent drug use were mediated via both oppositional/conduct problems and severity of inattentive symptoms.

Lynskey and Hall (2001) suggested that the key mediator for substance abuse in ADHD is the presence of conduct problems. In other words, in the absence of conduct disorder, ADHD is not associated with an increased risk of substance use problems in males. Biederman, Wilens, Mick, Faraone, and Spencer (1998), however, found ADHD to be associated with substance abuse independent of comorbid conditions. In their study of a clinic-referred ADHD adult sample, they found twofold increased risk for psychoactive substance use disorder (PSUD) and an increased likelihood of progressing from alcohol use disorder to a drug use disorder (hazard ratio = 3.8) for ADHD subjects. The authors suggested that individuals who used drugs for psychopathological reason (i.e., ADHD symptoms and pathologies) were more likely to progress to dependence and abuse after exposure and were less likely to abstain than those who used drugs for social or recreational reasons. In another study on adults with ADHD, the researchers found a slower remission rate, longer duration of PSUD, and slower recovery in their hyperactive subjects compared with nonhyperactive users (Wilens et al., 1998). Recently, Flory, Milich, Lynam, Leukefeld, and Clayton (2003) reported that ADHD and conduct disorder (CD) symptoms interacted to predict marijuana dependence symptoms as well as hard drug use and dependence symptoms. They concluded that individuals with comorbid ADHD and CD are at a greater risk for substance abuse than either condition occurring alone.

Overall, studies suggested three different paths leading to substance abuse: conduct problems, core pathology of ADHD, and unique interaction between comorbid ADHD and conduct problems. As persistent ADHD is highly correlated with CD, family history of ADHD, and psychosocial adversity, these findings suggest that the subgroup exposed to both a high dose of ADHD genetic loading and a high dose of environment insults are most likely to be at risk and thus least resilient.

Summary

Several themes emerge from the reviewed longitudinal studies. First, ADHD is not a benign condition, it is a chronic illness with significant psychological, social, and emotional morbidity. Second, for the majority of cases, significant or residual ADHD symptoms will persist and result in serious academic, social, and emotional problems in adolescence and in adulthood, even in the absence of more severe complications. Third, certain patterns are more indicative of a malignant course: persistence of symptoms over time, the presence of conduct problems and aggression, and the emergence of substance abuse and personality difficulties in adolescence and early adult life. The coexistence of conduct problems with ADHD appears to represent the strongest risk factor for severe maladjustments in later life. The implications of these findings are that (1) adequate control of ADHD symptoms (i.e., reducing persistence of symptoms) and (2) controlling aggression and factors leading to conduct problems can improve resilience.

PREDICTORS OF RESILIENCE AND ADVERSE OUTCOME IN ADHD

In a review paper, Hechtman (1991) examined a range of factors associated with resilience among at-risk children (though not ADHD subjects), and related these factors to ADHD in a single case report. Factors reviewed included child characteristics (health, temperament, IQ, autonomy, psychological parameters) and family characteristics (socioeconomic status, emotional warmth and support, family size, and characteristics of the wider community). Research on at-risk children (though not ADHD subjects) shows that resilient children are healthier. They have fewer health problems in utero, perinatally, and in infancy. Their temperaments are more likely to be active, adaptable, and socially responsive, eliciting a more positive response from their caretakers and environment. They are more able to find solace and satisfaction. They also have more reflective versus impulsive cognitive styles and more able to control their feelings appropriately. Children with higher IQs fare better in difficult circumstances, much as those with more advanced self-help abilities and more problem-solving capacities and language development and communication skills. Resilient children had a greater sense of autonomy, internal locus of control, and more positive self-esteem. They have better ego strengths and coping skills. They can ask help of others and are generally more optimistic about themselves and their futures, along with showing better capacities for empathy, good peer relationship, and sense of humor. Protective family characteristics include closer supervision, higher social status, and a warm, cohesive, and supportive family atmosphere, where emotional expression, open communication, and independence are encouraged. Parental mental and physical health are associated with the presence or absence of such a positive environment. Positive factors in the network of extended family, friends, school, and church can provide support that is lacking at home and can also confer protection. In this case study of an ADHD subject, Hechtman reported the subject to have a high IQ, a good sense of humor, and charm. His family was middle class, stable, loving, and supportive. There were significant figures in his life who believed in him. He thrived and coped well in his early adulthood, despite significant impairments and setbacks experienced at higher education and at works related to persistent symptoms of hyperactivity, restlessness, impulsivities, and inappropriate talkativeness. This was a single case report

with evident methodological limitations. It nevertheless suggests that similar resilient predictors for at-risk children can be applied to ADHD subjects.

There is no ADHD research that systematically examines whether this wide range of predictors for resilience for at-risk children also applies to ADHD subjects. Nevertheless, our review of published evidence suggests that child, family, and environmental factors can influence resilience in ADHD. Favorable child predictive factors include: (a) lack of perinatal complications, (b) higher baseline IQ, academic, emotional, and social functioning, (c) childhood temperament, frustration tolerance and emotional stability, (d) desisting symptom trajectory or symptom reduction as response to treatment, (e) lower baseline symptoms, and (f) lack of baseline aggressive and conduct disorder symptoms, all predicting better subsequent adjustments. Favorable family and environmental factors include: (a) lower family conflict, (b) lower parental negative expressed emotions, (c) higher socioeconomic status, (d) emotional health of family members and emotional climate of the home and child-rearing practices, (e) parental supervision and control, and (f) nonurban dwelling, which appear to modify the risk of exposure to drugs, deviant peers, and criminal activities.

Weiss et al. (1971) found that children with initial high IQs and lower initial scores of hyperactivity and distractibility fared better academically in adolescence. Furthermore, a quarter of hyperactive adolescents with significant antisocial behavior had higher initial ratings of aggressive behaviors. This finding was also replicated by Loney et al. (1981) who demonstrated that initial aggression predicted aggression and antisocial behavior in adolescence.

Loney's sample was derived from 124 children (ages 2 to 12) with the diagnosis of hyperkinetic/minimal brain dysfunction syndrome who had been referred to an Iowa child psychiatry clinic. In their follow-up at age 12 to 18, they measured three broad domains of outcomes: (1) symptoms at outcome, (2) delinquent behaviors, and (3) academic achievement. They carried out multiple regressions, expressing effect size of the predictors as "squared multiple correlation," which can be transformed to represent a percentage that accounts for the total variation of the outcome measure.

For the symptoms outcome domain, they examined three separate variables: (1) adolescent hyperactivity and inattention, (2) aggression, and (3) negative effects at follow-up. For adolescent hyperactivity scores (rated by the mother), they found three predictors to account for about 20% of the outcome measure: (1) parental socioeconomic status, (2) baseline aggression, and (3) a history of perinatal complications. Interestingly, baseline hyperactivity scores did not predict later hyperactive symptoms. Inattention was predicted by age of onset (effect size ~5%). Adolescent negative effects were weakly predicted by response to medication and parental control (combined effect size ~9%). For delinquency outcome domain, they examined aggression/offenses and illegal drug use. "Offenses against property" were predicted by urban dwelling, size of family, and baseline aggression (combined effect size ~37%). "Offenses against person" was predicted by parental control, the presence of neurological signs, and aggression at baseline (combined effect size ~36%). "Involvement with illegal drugs" was predicted by baseline aggression, age of referral, urban dwelling, and response to drug treatment (negative) (combined effect size ~40%). For academic achievement domain, they examined reading, arithmetic, and spelling abilities. Reading scores were predicted by past reading and response to drug treatment (combined effect size ~63%). Arithmetic skills were predicted by past academic ability, response to treatment, family size (negative direction), maternal hostility, reading abilities, and perinatal complications (combined effect size ~69%). Spelling was predicted by past academic ability, maternal control, hyperactivity, and family size (combined effect size ~79%).

To put the results another way, their findings suggest that response to treatment (symptom reduction) promotes resilience in lowering the risk of later drug use and improving later academic achievement. Parent control confers resilience by increasing academic skills and reducing negative effect. However, perinatal complications predicted aggression, persistence of hyperactivity, and lower arithmetic skills. Urban dwelling increases the risk of drug use and offenses against property. Large family size increases the risk of offenses against property and lowered later academic achievement. Thus, lack of the latter factors would increase resilience, in a similar way that the absence of conduct and aggressive problems at baseline would improve outcome.

A more recently published prospective study of 123 hyperactive children also examined similar predictive factors (Fischer, Barkley, Fletcher, & Smallish, 1993). For positive predictors they found that childhood cognitive and academic competence predicted adolescent academic skills; and parental personal competence predicted social competence in adolescence. For negative predictors they found that family stress at baseline predicted conduct problems; and the combined effects of paternal antisocial tendencies and the severity of childhood impulsivity–hyperactivity predicted later oppositional-defiant behaviors. Child defiance, but not hyperactivity, predicted later arrests. Overall, the study suggested that no single predictor cut across all domains.

In the Montreal cohort at 10- to 12-year follow-up (Weiss et al., 1979), hyperactive subjects (around age 20) were asked what had helped them most during their childhood. The most common response was a positive relationship with a significant adult. For instance, one parent (nearly always the mother) who believed in their final success or a teacher who seemed to turn the tide of failure. Another response was discovering that they had some special talents. When asked what made things worse, the most common responses were family fights (usually concerning the hyperactive subject), feeling different (inferior, “dumb”), and being criticized. Significantly more hyperactives than controls rated their childhood as unhappy. However, the authors did not report whether these factors were correlated with outcomes in their study.

In a later publication by the same group, Weiss et al. (1984) examined a range of childhood predictors of outcome in early adulthood. The outcome measures studied include: (1) emotional adjustment, (2) academic performance, (3) police involvement, (4) car accidents, and (5) substance and alcohol misuse. The authors identified baseline personal characteristics such as IQ, aggressiveness, emotional stability, and low frustration tolerance, and family characteristics, such as socioeconomic class, child-rearing practices, home emotional atmosphere, and parental mental health, to be significant predictors of successful adult outcome.

Within family measures, the specific effect of negative parental expressed emotions influencing the development of antisocial behaviors in hyperactive children has been studied by Rutter et al. (1997). Negative expressed emotions denote criticism, disapproval, negative attributions, as well as rejecting and hostile attitudes toward the child. They are coded independently of emotional warmth. Emotional overinvolvement (EOI) was originally conceptualized as a component of “expressed emotion” in the Camberwell Family Interview for adults. As dependency is age-appropriate for children, the validity of this construct in childhood-related measurement is questionable. EOI has thus not been included in most childhood studies of expressed emotions.

Rutter et al. (1997) conducted a longitudinal follow-up study on pervasively hyperactive subjects ascertained in a community epidemiological sample and examined the effect of expressed emotions on disruptive behaviors. Hyperactive children who were

exposed to a high level of negative expressed emotions from parents exhibited more antisocial and disruptive behaviors at follow-up compared with the hyperactive counterparts exposed to a low level. The pathogenic effect of negative child–parent relationship applied also to nonhyperactive subjects in the same study, though the effect was less marked, that is, the rates of antisocial and disruptive behaviors were also raised in the nonhyperactive children exposed to a high level of negative expressed emotion; but the overall rates were lower than in the hyperactive counterparts. The findings suggest a possible causal relationship between expressed emotions and antisocial/disruptive behaviors.

In summary, studies on predictors of outcomes in hyperactive subjects suggest that factors in the child, family, and environment can all influence later resilience and maladjustments. We now turn to examine the issues of resilience and developmental trajectories.

DEVELOPMENTAL TRAJECTORIES AND RESILIENCE: THE EFFECTS AND PREDICTORS OF REMITTING AND PERSISTENT LIFE COURSE AND NORMALIZATION OF FUNCTION FOR PERSISTERS

In a prospective study on a clinic sample of ADHD subjects, Biederman, Faraone, Milberger, Curtis, Chen, Marris et al. (1996) examined the rate of desistence and persistence over time, and identified the predictors for desistent and persistent life course of ADHD. Their sample consisted of Caucasian boys aged 6 to 17 with IQs over 80 and who had an intact nuclear family. At 4-year follow-up, they identified a high rate of persistence of 85%, with only 15% remitted. The high rate of persistence found was likely due to the broad definition of persistence they used (see later). Of the 15% whose ADHD was a transient disorder, half of the remission occurred in childhood and the other half in adolescence. Predictors of persistence included family history, severity of ADHD, psychosocial adversity, and comorbidity with conduct, mood, and anxiety disorders. ADHD in the family history influenced persistence: 45% for persisters vs 33% for late desisters vs 10% for early desisters. The persistent form of ADHD also differed in the family history (34% vs 11% vs 10%). This suggested a stronger effect of familiarity and perhaps a heavier genetic loading in the persisters. As an indicator of psychosocial adversity, persisters were exposed to a higher level of family conflict. Subjects' own characteristics also differed. Among the persisters, there were more severe inattentive and hyperactive symptoms and a greater level of functional impairments at both baseline and follow-up. Persisters also had more symptoms of oppositional/defiance disorder and depression and anxiety problems. Furthermore, the persisters showed a trend of having a lower IQ at baseline, but the differences did not reach statistical significance (109.2 vs 110.8 vs 111.7; $p = 0.063$). The GAF (global assessment functioning) scores were significantly lower for the persisters at baseline (47 vs 53 vs 53; $p = 0.0001$) and at follow-up (52 vs 60 vs 64; $p = 0.0001$). Overall, the persisters had higher exposure to family conflicts, a stronger family history of ADHD, and were more severely affected and impaired by ADHD at both baseline and follow-up. In other words, resilience (better functioning and escaping impairments at outcome) was associated with a desisting life course, which in turn was predicted by lower symptom levels, better adjustment, lack of family history, and lack of family conflict at the baseline.

In recent work, Chen and Simonoff (unpublished) studied a U.K. birth cohort with parental and teacher rating scales and found that hyperactivity (HA) exerted a relatively weak and nonenduring antecedent effect on conduct problems, a moderate dose–response effect

(length of exposure as dosage), and a very strong proximity effect of HA on the development of conduct problems. This finding offers support to the idea that it is the maintenance and chronic course of HA, rather than its simple presence in earlier childhood, that leads to conduct problems with their ensuing complications. In the same study, it was also suggested that declining HA life trajectories were protective against conduct problems at age 16. Furthermore, a shorter exposure to HA was associated with a lower risk of conduct problems at age 16 in the longitudinal follow-up study. This would mean that a short course and discontinuity of HA symptoms was associated with a low level of conduct problems and their ensnaring consequences. It was not clear whether treatment and therapeutic reduction in symptoms would confer the same benefit.

With regards to the definition of persistence, Biederman et al. (2000) identified a shift in the patterns of symptoms and impairments with age. The symptoms of inattention remitted for fewer subjects than did symptoms of hyperactivity or impulsivity. To some extent, it seemed the proportion of subjects experiencing remission varied considerably with the definition used (highest for syndromic remission, lowest for functional remission). This finding was also supported by an earlier longitudinal follow-up study of 106 boys with DSM-III-R ADHD (Hart, Lahey, Loeber, Applegate, & Frick, 1995). Hyperactivity-impulsivity symptoms declined with increasing age, but inattention symptoms did not. Inattention declined only from the first to the second assessment and remained stable thereafter in boys of all ages. The rate of decline in hyperactivity-impulsivity symptoms was independent of the amount and type of treatment received. Furthermore, they found that boys who still met the criteria for ADHD at follow-up were significantly more hyperactive-impulsive and more likely to exhibit conduct disorder at baseline than boys who no longer met the criteria at follow-up. The findings suggest possible heterogeneity in the childhood form of ADHD, with one subtype traversing a symptom-declining trajectory and another a more symptom-persistent trajectory.

So far we have examined maladjustment in relation to persistent ADHD trajectory and resilience in relation to desisting trajectory. We now turn to the interesting question on predictors of resilience despite persistence of symptoms. That is, can resilience exist in spite of persistent ADHD, and if it does, what are they? In a follow-up study of a clinic sample comprised of 85 boys with persistent ADHD diagnosed by DSM-III-R criteria, Biederman, Mick, and Faraone (1998) attempted to disentangle syndromic persistence from functional outcome in ADHD youths. The subjects were followed prospectively into midadolescence and compared with 68 non-ADHD boys. Three domains of functioning were recorded at baseline and follow-up: school, social, and emotional. At follow-up, the persistent ADHD sample fell into three groups: 20% functioning poorly in all domains, 30% functioning well, and 60% with intermediate outcomes. They found that impulsivity reduced the likelihood for normalization of functioning (odds ratio [OR] for normalization of functioning = 0.7 with 95% CI of 0.5–0.9). That is, among those persistent ADHD subjects, those with a high level of impulsivity had more impaired function. Likewise, psychiatric comorbidity (OR = 0.3 with 95% CI of 0.1–0.7), exposure to maternal psychopathology (OR = 0.3 with 95% CI of 0.1–0.8), and larger number of siblings (OR = 0.5 with 95% CI of 0.3–0.9) all predicted lower adjustments. Learning difficulties impeded normalization of school functioning (OR = 0.15 with 95% CI of 0.05–0.53). The converse was also true, that is, the absence of these risk factors was associated with improved functioning despite persistence of ADHD. Furthermore, improvement in one area of functioning had a snowball event, increasing the chance of improvement in other areas. Good baseline functioning also predicted normalized functioning at follow-up. Good emotional functioning at baseline predicted normalized function of both emotional functioning (OR = 5.6 with 95% CI of

2.2–14.6) and school functioning (OR = 2.4 with 95% CI of 1.01–5.8). Good social functioning at baseline predicted normalized emotional functioning at follow-up (OR = 3.1 with 95% CI of 1.05–9.3). Good school functioning at baseline predicted normalized school functioning at follow-up (OR = 3.6 with 95% CI of 1.4–9.1). In short, good baseline functioning and lack of adverse predictors confer relative resilience despite persistence of ADHD. This suggests that normalization of functioning and syndromic persistence of ADHD may be partially independent.

Genetic Influence: The Role of Gene and Environment Interaction

There is no published evidence in the field of ADHD demonstrating the effect of gene and environment interaction in moderating resilience. However, we anticipate this area to be a new area of interests for ADHD research. For non-ADHD subjects, two recent publications have demonstrated that genetic factors can influence resilience following exposure to childhood abuse and life stress.

Caspi, Sugden, Moffitt, Taylor, Craig, Harrington et al. (2003) investigated the role of genetic contribution to account for why some children who are maltreated grow up to develop antisocial behavior, whereas others do not. A functional polymorphism in the gene encoding the neurotransmitter-metabolizing enzyme monoamine oxidase A (MAOA) was found to moderate the effect of maltreatment. Subjects with a genotype conferring high levels of MAOA expression (associated with an increased level of this enzyme in the brain) were less likely to develop antisocial problems following exposure to childhood maltreatment. Those with a genotype conferring low levels of MAOA expression had an increased risk of developing antisocial behaviors. Their findings suggested that the genotype associated with a high level of MAOA expression can also confer resilience following exposure to childhood abuse. They also provided early evidence that genotypes can moderate children's sensitivity to environmental insults.

In the second study by the same group, Caspi, Sugden, Moffitt, Taylor, Craig, Harrington et al. (2003) investigated why stressful experiences led to depression in some people but not in others. They used a prospective-longitudinal study of a representative birth cohort and investigated the moderating effects of a functional polymorphism in the promoter region of the serotonin transporter (5-HTT) gene. There are two common variants of this gene: a short and a long form (or allele). They found that subjects who are homozygous or heterozygous (with one or two copies respectively) of the short allele of the 5-HTT promoter polymorphism exhibited more depressive symptoms, diagnosable depression, and suicidality following exposure to stressful life events than individuals homozygous for the long allele. This study again provides another piece of early evidence that an individual's response and resilience to environmental insults can be moderated by his or her genetic makeup.

In the field of ADHD, there is early evidence that comorbid ADHD and CD may be an etiologically distinct disorder entity as suggested by analysis of familial history and aggregates (Faraone, Biederman, Jetton, Tsuang, 1997; Thapar, Harrington, McGuffin, 2001); and also that adult ADHD may be a more homogenous condition with stronger familial etiological risk factors than the childhood form (Biederman, Faraone, Mick, Spencer, Wilens, Kiely et al., 1995). Within the childhood form, there are likely to be subtypes of persistent and nonpersistent variants, possibly mediated by different genetic and environmental influences. A transient course of ADHD is associated with better prognosis; in contrast, both persistent ADHD and the comorbid form of ADHD/CD are associated with greater maladjustment. If genetic factors are proven to be associated with these varying subtypes of clinical phenotypes, genetic makeup will also influence resilience and vulnerability in the

presence of ADHD. We anticipate that genetic research and gene–environment interaction research in the near future may provide interesting insights into the biological and environmental substrates that confer resilience.

Resilience, Treatments, and Lessons from the MTA

Here we examine the effects of treatment and medication in terms of symptom reduction and “normalization” of behaviors. In particular, we summarize some of the key relevant findings from the recent publications from the Multimodal Treatment of Attention-Deficit Hyperactivity Disorder (MTA) study. A reader may refer to an overview summary paper on the MTA (Jensen, Hinshaw, Swanson et al., 2001) and one on the effect of comorbidities in the MTA (Jensen, Hinshaw, Kraemer et al., 2001).

There is in excess of 200 published studies reporting the efficacy and effectiveness by stimulant treatment on inattentive and hyperactive symptoms. More interestingly, there are other studies examining the effects of stimulants on symptomatic impulsivity, aggression, and conduct problems, as well as on executive function and the impacts on parental negative expressed emotions.

In both laboratory and naturalistic settings, stimulants have been found to be effective in reducing aggression and impulsivity. Improvements in social and interpersonal functioning as a result of reduction in aggression and impulsivity have been confirmed in naturalistic studies. In other words, the effects of stimulants are not only confined to attention, they also affect emotional and social processing and can correct disruptive, intrusive, and aggressive behaviors, which often render hyperactive children unpopular among their peers. In nonhyperactive children with CD, a study (Klein, Abikoff, Klass, Ganeles, Seese, Pollack, 1997) reported improvements in conduct symptoms with stimulant treatment, confirming the effect of stimulants on nonhyperactive symptoms.

The positive effects of stimulant medication on social functioning within the family have been demonstrated. In a double-blinded crossover treatment study, Schachar, Taylor, Wieselberg, Thorley, and Rutter (1987) found that the family function and relationships improved in children who responded to methylphenidate treatment: there was a reduction in negative sibling encounters and a reduction of parental negative expressed emotions. Treatment response was defined as 50% or greater reduction in hyperactive symptoms while on stimulant treatment. Measures of maternal warmth, criticism, contacts with parents, parental coping, and positive/negative encounters with siblings were gathered by raters blinded to the treatment and response status. Among responders, methylphenidate was significantly associated with more expressed maternal warmth, less criticism, increased contact between mother and child, and fewer negative encounters between the child and his siblings.

If symptom control by treatment can improve social, interpersonal, and cognitive functioning, then it is important to identify the most effective form of treatment. The MTA study compared the effects of different modes of treatment.

ADHD Symptoms

In the MTA, subjects were randomized to four arms: community care (CC), intensive behavioral treatment (Beh), state-of-the-art medication management (Med), and a combination of Beh and Med (Comb). The key initial finding was that for core ADHD symptoms, the Comb and Med treatments were more effective than Beh and CC (i.e., Comb ~ Med > Beh ~ CC, with an effect size [ES] of 0.50–0.60). Ninety Percent of children on Comb

and 88% on Med no longer met the full criteria for ADHD at the study end point. Two more recent secondary analyses (one using a composite outcome measure and another using a categorical outcome measure) identified a significant but marginal superiority of Comb over Med in addition to the initial findings (i.e., Comb > Beh ~ CC, with ES = 0.70; and Comb > Med with ES = 0.28).

The difference between Med and CC was striking. Interestingly, two thirds of CC subjects also took medication. But there were important differences between the community practice and study protocol in medication management. Subjects in the Med arm were given a detailed initial dose titration over 28 days. This was followed by monthly review, with adjustment of dosage, or change of medication if indicated. The prescribing clinicians also contacted the teachers before each monthly review. Adjustments of medication after initial dose titration were common, and only about 30% of the children remained on the initial dose established by initial titration by the end of the 14-month trial period. This means that about 70% of the children needed continuing monitoring and dose adjustment to obtain the optimal treatment response. Interestingly, most of the dose adjustment was toward a higher dosing, especially for those starting on a low and intermediate posttitration dose. Med subjects were on three times daily dosing, with a higher average daily dose (average total daily dose = 32.8 mg) and 12 visits per year; in contrast, CC subjects were on twice daily dosing, with a lower average daily dose (average total daily dose = 18.7 mg) and an average of 2.3 visits per year. It appears that initial dose titration followed by close monitoring and effective dosing with careful adjustment to maintain response over time and to avoid side effects will markedly improve the effectiveness of stimulants.

Non-ADHD Symptoms

The study also examined non-ADHD outcome measures. These measures included parent-child relationship, teacher-rated social skills, anxiety/depression symptoms, and oppositional/defiance symptoms as well as academic achievement and functioning. Comb had a small but statistically significant superiority to Beh for (1) academic functioning, (2) WIAT reading scores, (3) controlling internalizing, and (4) oppositional/defiance symptom (with ES range 0.26 ~ 0.28). Comb was also superior to CC in improving parent-child relationship, additional to the above four measures. Med was located in between Comb and CC, not statistically different from either. The nonsignificant differences should not be regarded as “no difference” as MTA was designed to have 80% power to detect ES of 0.4 or greater; so any real difference of a magnitude smaller than this ES is less likely to be detected.

Moderators

Factors whose presence alter the likelihood of treatment response are known as moderators. Moderators identified by the MTA were: (1) comorbid anxiety disorder and patterns of comorbidities, (2) socioeconomic status and educational background of the parents, and (3) comorbidity status. These factors were already present prior to the randomization, so the influences of moderators on the outcome of the study are protected by the randomization process. They should be distinguished from “mediators,” which are factors that occur after the randomization process, such as clinic attendance, compliance, adherence to treatment, and therapeutic alliance with the therapists; and the latter are thus not protected by the randomization process.

Children with comorbid anxiety are more likely to respond to Beh. That is, Beh appeared more effective than indicated in the primary analyses. First, it diverged from CC,

and converged with Med. Second, Comb treatment was also more effective, diverging from Med. Differences in treatment effects were most evident in outcome measures on (1) parent-reported hyperactivity and inattention, (2) parent-child relationship, and (3) teacher-rated social skills. Perhaps children with anxiety symptoms are biologically more sensitive and hence responsive to conditioning. About 33% of subjects met DSM-III-R criteria for an anxiety disorder excluding simple phobias. Moderating effect of anxiety favors the inclusion of psychosocial treatment for them. This positive effect was also identifiable in parent-reported outcome measures on disruptive behavior, internalizing symptoms, and inattention (March et al., 2000).

Family socioeconomic status (SES) can be fractionated into two independent measures: parental education and parental occupation. The key departures from the primary finding (Comb ~ Med > Beh ~ CC) due to moderating effect of SES were for disruptive behavioral, inattentive, and hyperactive symptoms. For families with a low SES, Comb was more effective than all three other treatments (Com > Med ~ Beh ~ CC) for oppositional/defiance symptoms only. There is no additional advantage of Comb for ODD symptoms among children from families with higher occupational status. For the high educational status group, Comb is more effective than Med (Comb > Med > Beh ~ CC) for hyperactive and inattentive symptoms. One explanation for these findings is that perhaps ODD symptoms in children from advantageous background were more biologically determined; whereas in children from disadvantageous backgrounds the same symptoms were more attributable to poor parenting. Correcting parenting skills in low SES families thus had a more marked effect than the other group. Second, core ADHD symptoms could be more recalcitrant to behavioral treatment, requiring parents with higher educational backgrounds to implement the program more effectively. In recommending treatment, clinicians should identify target symptoms and familial characteristics and offer the optimal intervention plan according (Rieppi, Greenhill, Ford, Chuang, Wes, & Davies, 2002).

Finally, the presence of comorbid conditions also moderates treatment response. Jensen, Hinshaw (2001), found that the presence of anxiety symptoms (ANX) with ADHD regardless of CD status increased the likelihood of response to behavioral treatment. ANX status confers benefits on ADHD children regardless of the presence of oppositional defiance/conduct disorder symptoms (ODD/CD). Its presence exerted ameliorating effects on concurrent ODD/CD (i.e., ADHD + ANX + ODD/CD versus ADHD + ODD/CD). As a simple rule for predicting treatment response, ADHD plus ANX subjects were likely to respond to any of the three treatments: behavioral alone, medication alone, and combination of medication and behavioral intervention. In other words, all interventions are likely to be effective for them. In contrast, ADHD only and ADHD plus ODD/CD subjects usually responded only to interventions that included medication. That is, for these two groups, medication appeared especially indicated, and behavioral intervention alone seemed contraindicated. However, for the doubly comorbid group with ADHD plus ANX plus ODD/CD, combination interventions appeared to offer substantial advantages over other treatment.

In summary, the MTA study identified that management with state-of-the-art medication alone is more effective than conventional medication management and behavioral management combined. The additional benefit of combination treatment should be reserved for special cases, such as children with double comorbidities (ADHD + ANX + CD/ODD), and children from low SES background with severe ODD/CD symptoms. Children with comorbid anxiety disorder can be given behavioral management as the first line of treatment, especially if they are from high SES background and targeted for inattentive and hyperactive symptoms. Behavioral treatment alone is not as effective for children with ADHD only and

ADHD plus CD (but of course some families will prefer the option, knowing that adverse effects are probably less likely in behavioral treatment). Treatment should be tailored according to the psychosocial and clinical profiles of a child. There is no single treatment strategy that would confer universal benefits for all subtypes of ADHD.

Resilience, Stimulant Treatment, and Subsequent Substance Abuse

Data from more than 200 randomized clinical trials have consistently found stimulants an effective treatment for children and adults with ADHD. One study reported that childhood treatment with stimulants for ADHD increased the risk for subsequent cigarette smoking and nicotine and cocaine dependence in adulthood (Lambert & Hartsough, 1998). This study received much media attention and public concerns have been raised whether early exposure to stimulant medication predisposes to subsequent substance abuse and dependency.

This study, however, represents the only study so far reporting such an association. Twelve other studies have not found evidence that childhood stimulant treatment for ADHD leads to an increased risk for substance experimentation, use, dependence, or abuse by adulthood. Wilens, Faraone, Biederman, and Gunawardene (2003) conducted a metaanalysis on six of the larger published studies, two studies with follow-up in adolescence and four in young adulthood. The analysis comprised 674 medicated and 360 unmedicated subjects. The combined estimate of the odds ratio using random-effect metaanalysis indicated a 1.9-fold reduction in risk (95% confidence interval = 1.1–3.6) for substance use disorder (SUD) for those exposed to childhood stimulant treatment compared with those not exposed. The age effect showed that studies with follow-up into adolescence showed a greater protective effect (OR 5.8) than studies with follow-up to adulthood (OR 1.4). It was possible that the extended follow-up period to adulthood increased the likelihood of exposure to drug experimentation and hence misuse. Alternatively, this might be due to higher dropout in stimulant treatment in early adulthood, leading to loss of risk protection. However, data on duration of exposure to pharmacotherapy were not available and did not allow further analysis to test the hypothesis. Another explanation was that enhanced parental supervision for youths receiving medication might have confounded the analysis.

Furthermore, there were major methodological problems with the study by Lambert et al. They found that stimulant treatment increased the risk of subsequent drug use in young adults. In particular, they found that exposure to earlier stimulant treatment was linearly related to nicotine and cocaine abuse, with similar trends to alcohol abuse. There were, however, significant differences on baseline characteristics between the medicated and unmedicated subjects, conduct disorder was overrepresented in the medicated group. Prospective studies have consistently identified conduct disorder as a major risk factor for the development of SUD among ADHD subjects. Conduct disorder, therefore, represents an important confounder in their analysis, which was likely to give rise to a false association.

Overall, the evidence indicates no harmful association between childhood exposure to stimulant treatment to ADHD and subsequent substance abuse in adolescence and adulthood. There is evidence from the pooled estimates derived from metaanalysis to suggest that stimulant treatment reduces the risk of subsequent substance abuse, and thus confers resilience.

CONCLUSION

This review of available published literature suggests that resilience is related to characteristics of the child, family, and environment. Aggression, low frustration tolerance,

severity, and persistence of ADHD symptoms appear to increase risks of later maladjustment in the child. Urban dwelling, poor parental control, a high level of expressed emotions, and the presence of parental psychopathologies also increase risks. The presence of conduct problems in conjunction with ADHD represents a particularly strong predictor of adverse outcome, in terms of subsequent antisocial behaviors, social and occupational impairments, substance abuse, antisocial personality disorders, and associated mood problems. Positive endowments such as high IQ, emotional stability, minimal impairments of functioning, and favorable family background with the presence of supportive adults all confer resilience. Symptom reduction, associated with either a desisting hyperactive symptom trajectory or response to treatment, predicts better outcomes. Behavioral modifications and intervention alone, in the absence of medication intervention, are not very effective for severely affected children, though they may indeed have a place in the early management of children with milder levels of ADHD. Behavioral modifications alone are also useful for preschool children, children with anxiety symptoms, or children with parents of high educational background and are desirable *in conjunction with* medication for comorbid children and those in disadvantaged families. Strengths and skills development by cognitive-behavioral models alone have not been shown to confer protection against social impairment. The role of genetic and environmental contributions to resilience is likely to represent an area of expanding research interest, and may well generate new ideas about what the targets of intervention should be.

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IV

SHAPING THE FUTURE OF CHILDREN

17

Positive Adaptation, Resilience, and the Developmental Asset Framework

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Advances in our understanding of adaptation are rooted in the seminal work of Garmezy, Rutter, Werner, and others who “discovered” a not inconsiderable proportion of children who, thought to be at risk for current and future maladaptation, showed few or no signs of pathology and often exhibited high levels of competence (Garmezy, 1974; Rutter, 1979; Werner & Smith, 1982). Investigating what made a difference in this group of children’s lives led at first to descriptions of correlates of positive development among children living in high-risk contexts and has progressed to complex process models allowing for multiple causal effects across multiple ecologies (Masten, 1999a). Two of the great contributions from this line of work have focused on elucidating the mechanisms thought to underlie both adaptive and maladaptive developmental trajectories under conditions of adversity, as well as advancing the position that studies of positive adaptation and competence should be studied alongside the more dominant models of risk, pathology, and treatment (Garmezy, 1974; Rutter, 1979; Masten, 2001). These advancements in turn have been instrumental in current intervention and prevention practices (Rolf & Johnson, 1999).

This attention to the broad array of factors that facilitate healthy youth development has fueled a relatively new set of models focusing on the strengths, resources, and positive experiences of youths and of their communities (Benson & Pittman, 2001). Under the broader rubric of positive youth development, and with the knowledge gained from decades of research on resilience and risk and protective factors, these models seek new ways of conceptualizing, measuring, and promoting optimal outcomes for youth (Connell, Gambone, & Smith, 2001; Eccles & Gootman, 2002; Pittman, Irby, & Ferber, 2001).

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One of these models is Search Institute's developmental asset framework. Over the past 10 years, Search Institute has been active in theoretical and empirical work examining the relations among developmental resources, optimal development, and community mobilization (Benson, 2003), with the primary goal of establishing an interdisciplinary and applied line of inquiry exploring the viability and developmental significance of the "informal, natural, and nonprogrammatic capacity of community" (Benson & Saito, 2001, p. 146).

In this chapter we describe the developmental asset framework and its relation to resilience models by addressing three dimensions salient to both approaches: (1) the taxonomy of factors thought to promote positive development and adaptation; (2) the criteria used to determine or define positive developmental outcomes; and (3) strategies and mechanisms for enhancing the development of youth. In the process, we highlight points of convergence and distinction from resilience models along these three dimensions. Given that resilience is not a homogeneous arena of research, with differences in models, terminology, and assumptions, we will draw on broad themes to provide the context for the description of the developmental asset model.

FACILITATORS OF POSITIVE DEVELOPMENT: THE DEVELOPMENTAL ASSET FRAMEWORK

The developmental asset framework is part of the rapidly developing field of positive youth development (PYD). PYD is the umbrella term for a number of approaches that, by and large, share the following characteristics (see also Hamilton, Hamilton, & Pittman, 2003):

- *A strength-based approach to development.* An emphasis on elements that facilitates optimal (thriving) development rather than factors associated with problematic behavior. The converse of strength-based models is the *risk or deficit-model*, where the emphasis is on problem behaviors and how to reduce or prevent them.
- *Multiple agents across multiple sectors.* Children develop in families, schools, neighborhoods, and in the context of multiple relationships. Any model that purports to describe development must reflect the various settings in which development proceeds.
- *Focus on relationships.* Positive development as a function of intentional and meaningful relationships with youth—getting to know them, asking their opinions, acknowledging that youth have a voice and something to contribute.
- *Facilitating positive development is an everyday, commonplace occurrence.* Promoting youth development is not solely the province of professionals or practitioners; everyone in a community has a role and a responsibility in the lives of youth.

Search Institute's attempt at capturing these four elements lies in our work on how young people experience various "developmental assets." Developmental assets are defined as a set of interrelated experiences, relationships, skills, and values that are known to enhance a broad range of youth outcomes and are assumed to operate similarly for all youth (Benson, Leffert, Scales, & Blyth, 1998; Scales & Leffert, 1999). We have identified 40 of these assets, which reflect broad conceptualizations about strength-based, positive child and youth development that are rooted in explications of key developmental socialization processes of connection, support, regulation, autonomy, and competencies (Barber & Olsen, 1997; Benson, Scales, & Mannes, 2002; Scales & Leffert, 1999).

These developmental processes, however, need to be understood in light of the multiple and interactive influences on child well-being. The asset framework borrows heavily from Bronfenbrenner's (1979) notion that successful development is a function of

the individual in constant transaction with multiple supportive ecologies. Additionally, the work of Jessor (1993) and Sameroff, Seifer, and Bartko (1997) on the “shared causation” and cumulative nature of risk and protective factors have informed the development and interpretation of developmental assets. Thus, one of the main purposes of the asset framework is to identify correlates and predictors of short- and long-term positive outcomes in order to guide theory and research on developmental strengths. Central to these efforts is an examination of interactive and richly layered community effects on youth development.

Like various lists of protective factors (Eccles & Gootman, 2002; Hawkins, Catalano, & Miller, 1992; Masten, 2001; Masten & Reed, 2002; Werner & Smith, 1993), the asset framework identifies both external and internal qualities (see Table 17.1). The external

Table 17.1 The Developmental Asset Framework

| | | |
|--|-----------------------------|---|
| External Assets | Support | 1. Family support—Family life provides high levels of love and support. |
| | | 2. Positive family communication—Young person and her or his parent(s) communicate positively, and young person is willing to seek advice and counsel from parents. |
| | | 3. Other adult relationships—Young person receives support from three or more nonparent adults. |
| | | 4. Caring neighborhood—Young person experiences caring neighbors. |
| | | 5. Caring school climate—School provides a caring, encouraging environment. |
| | | 6. Parent involvement in schooling—Parent(s) are actively involved in helping young person succeed in school. |
| | Empowerment | 7. Community values youth—Young person perceives that adults in the community value youth. |
| | | 8. Youth as resources—Young people are given useful roles in the community. |
| | | 9. Service to others—Young person serves in the community one hour or more per week. |
| | | 10. Safety—Young person feels safe at home, at school, and in the neighborhood. |
| | Boundaries and Expectations | 11. Family boundaries—Family has clear rules and consequences and monitors the young person’s whereabouts. |
| | | 12. School boundaries—School provides clear rules and consequences. |
| | | 13. Neighborhood boundaries—Neighbors take responsibility for monitoring young people’s behavior. |
| | | 14. Adult role models—Parent(s) and other adults model positive, responsible behavior. |
| | | 15. Positive peer influence—Young person’s best friends model responsible behavior. |
| | | 16. High expectations—Both parent(s) and teachers encourage the young person to do well. |
| | Constructive Use of Time | 17. Creative activities—Young person spends three or more hours per week in lessons or practice in music, theater, or other arts. |
| | | 18. Youth programs—Young person spends three or more hours per week in sports, clubs, or organizations at school and/or in the community. |
| | | 19. Religious community—Young person spends one or more hours per week in activities in a religious institution. |
| 20. Time at home—Young person is out with friends “with nothing special to do” two or fewer nights per week. | | |
| Internal Assets | Commitment to Learning | 21. Achievement motivation—Young person is motivated to do well in school. |
| | | 22. School engagement—Young person is actively engaged in learning. |
| | | 23. Homework—Young person reports doing at least one hour of homework every school day. |
| | | 24. Bonding to school—Young person cares about her or his school. |
| | | 25. Reading for pleasure—Young person reads for pleasure three or more hours per week. |

Table 17.1 (Continued)

| | | |
|---------------------|-----|--|
| Positive values | 26. | Caring—Young person places high value on helping other people. |
| | 27. | Equality and social justice—Young person places high value on promoting equality and reducing hunger and poverty. |
| | 28. | Integrity—Young person acts on convictions and stands up for her or his beliefs. |
| | 29. | Honesty—Young person “tells the truth even when it is not easy.” |
| | 30. | Responsibility—Young person accepts and takes personal responsibility. |
| | 31. | Restraint—Young person believes it is important not to be sexually active or to use alcohol or other drugs. |
| Social Competencies | 32. | Planning and decision making—Young person knows how to plan ahead and make choices. |
| | 33. | Interpersonal competence—Young person has empathy, sensitivity, and friendship skills. |
| | 34. | Cultural competence—Young person has knowledge of and comfort with people of different cultural/racial/ethnic backgrounds. |
| | 35. | Resistance skills—Young person can resist negative peer pressure and dangerous situations. |
| | 36. | Peaceful conflict resolution—Young person seeks to resolve conflict nonviolently. |
| Positive Identity | 37. | Personal power—Young person feels he or she has control over “things that happen to me.” |
| | 38. | Self-esteem—Young person reports having a high self-esteem. |
| | 39. | Sense of purpose—Young person reports that “my life has a purpose.” |
| | 40. | Positive view of personal future—Young person is optimistic about her or his personal future. |

assets (i.e., health-promoting features of the environment) are grouped into four categories: (1) support; (2) empowerment; (3) boundaries and expectations; and (4) constructive use of time. The internal assets (i.e., competencies and skills that young people use to guide their behavior) are placed in four categories as well: (1) commitment to learning; (2) positive values; (3) social competencies; and (4) positive identity. Search Institute’s studies collectively involving more than 2 million 6th to 12th graders (Benson, Scales, Leffert, & Roehlkepartain, 1999; Leffert et al., 1998; Scales, Benson, Leffert, & Blyth, 2000), as well as our extensive synthesis of empirical studies on development in adolescence (Scales & Leffert, 1999) and middle childhood (Scales, Sesma, & Bolstrom, 2004), have yielded numerous positive conclusions about the contribution of developmental assets to students’ avoidance of high-risk behaviors and measures of thriving, including helping others, overcoming adversity, and school success.

Though important to our conceptual and empirical work on positive development, this framework was also designed with highly applied objectives as well. Thus, a second purpose of the asset model is to create an easily accessible language around positive development that can act as a catalyst for community mobilization and action on behalf of its youth. The significance of this facet cannot be overstated. Developmental assets were specifically chosen to reflect the kinds of relationships, environments, norms, and competencies over which people in a community have some degree of control (Benson et al., 2002). As Scales and Leffert (1999) put it:

although not everyone can offer youth a well-designed experience that builds their planning and decision-making skills, everyone can talk with adolescents, keep an eye on

them when their parents are not around, protect them, and give them help when they need it. Everyone can help make youth feel valued and supported. (p. 13)

Much of the research and applied fieldwork conducted at Search Institute addresses the significance of these kinds of experiences for youth, including how to mobilize individuals within communities to begin engaging in these kinds of intentional relationships with youth.

The Relation of Developmental Assets to Outcomes

The fundamental assumption of the asset model is that the more positive experiences youth possess, the greater the likelihood they will succeed developmentally. Studies from Search Institute and others consistently show that youth who report relatively more assets are less likely to engage in problematic risk behavior patterns and more likely to endorse engaging in positive, socially constructive behaviors (Scales et al., 2000; Taylor et al., 2002). For example, 50% of youth with 0–10 assets report engaging in a pattern of problematic alcohol use, compared to only 3% of youth with 31–40 assets, a 17-fold risk ratio. Conversely, 89% of youth with 31–40 assets report that they value and affirm cultural diversity, while only 34% of youth with 0–10 assets report this. Similarly, 32% of asset-depleted youth report engaging in early sexual intercourse, versus only 3% for asset-rich youth, and only 8% of asset-depleted youth report getting mostly As in school, compared with 49% of asset-rich youth (Search Institute, 2001). Multivariate analyses investigating the cumulative effect of assets indicate that the total number of assets explains 57% of the variance in a composite index of risk behaviors (Leffert et al., 1998), and between 47 to 54% of the variance in a composite index of positive behaviors (Scales et al., 2000), all over and above demographic variables such as maternal education, grade, and gender. Similar cumulative effects are found when the sample is broken down by race/ethnicity and SES levels (Sesma & Roehlkepartain, 2003).

Another way of showing this effect is to create a cumulative asset gradient. Figure 17.1 depicts the mean number of high-risk behavior patterns (e.g., problematic alcohol use, antisocial behavior) and thriving outcomes (e.g., values diversity, succeeds in school, exhibits leadership; see next section below) plotted as a function of the number of assets experienced by youth. These linear functions mirror the more oft-cited cumulative risk graph, wherein *risk* factors are plotted along the *x*-axis. The concept of cumulative risk grew out of two consistent findings: risk factors often co-occur, and that it is the accumulation of many risk factors, not just one, that thwarts developmental progress (Belsky & Fearon, 2002; Sameroff & Fiese, 2000). Few factors moderate this linear function, as it has been documented across age, gender, race/ethnicity, socioeconomic status (SES) level, and cross-culturally (Keating & Hertzman, 1999). What these findings from cumulative risk effects suggest is that the power of assets lies in the cumulative pile-up of effects across multiple contexts. A corollary to this echoes the admonition from resilience researchers when discussing risk factors: there is unlikely to be one asset or set of assets that is the “most important” for enhancing development. Attempts at identifying the “magic bullet” of assets violates the assumption of the multifinality of positive development and are unlikely to yield fruitful results (Masten, 1999b; Scales & Leffert, 1999).

Although the majority of studies show point-in-time connections between assets and positive youth outcomes, some also demonstrate the link between assets at one point in time and outcomes one or more years later. Both the amount of an asset (or the number of assets if multiple assets are studied) and specific clusters of assets are related to outcomes

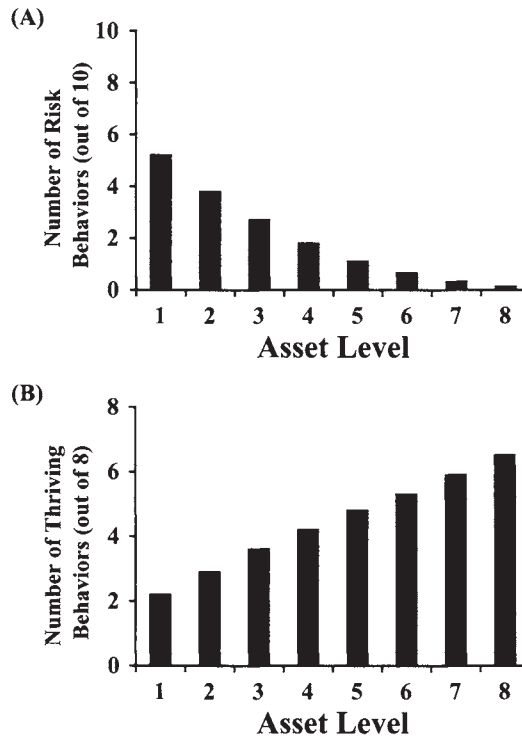


Figure 17.1 Cumulative asset gradient—Number of Risk Behaviors (A) and Thriving Behaviors (B) reported by youth as a function of cumulative assets (each asset point is in increments of 5 assets; 1 = 0 to 5 assets, 2 = 6 to 10 assets, etc.). Unpublished Search Institute data.

over time. For example, Scales and Roehlkepartain (2003) found that each increase in the level of assets young people reported (from 0–10, to 11–20, 21–30, and 31–40 assets) in 1998, when the sample was in seventh through ninth grades, was associated with a significantly higher grade point average (GPA) 3 years later, when the sample was in the 10th through 12th grades; this finding also held when Time 1 GPA was controlled. This is significant because GPA tends to be very stable over time, such that one's previous grades are by far, in all studies, the single best predictor of one's future grades. Moreover, assets in one year are strongly related to grades that same year. These results support the hypothesis that early asset levels provide significant independent contribution to later academic performance. In a study of whether changes in assets are related to changes in outcome, Taylor and his colleagues (2002) measured assets and positive functioning a year apart for youth involved in gang activity and a control group of youth involved in a community-based organization (CBO). Among the results reported was that for both gang- and CBO-involved youth, changes in positive functioning covaried positively with increases in assets over the year interval.

Developmental Assets and Resilience Constructs

Even though the fundamental distinction between developmental assets and protective factors would seem to be that protective factors are, by definition, operative only under the context of risk (Rutter, 2000), while assets are presumed to be operative regardless of any presumed

moderator (e.g., risk/adversity, gender, SES, etc.), attempts at greater terminological clarity of resilience constructs have blurred this distinction (Luthar, Cicchetti, & Becker, 2000). Thus, terms like “protective-stabilizing” and “vulnerability” are added to the resilience lexicon in order to lend greater precision to the putative interactions among risk, moderating attributes, and competence outcomes (Luthar et al., 2000). Using these more differentiated constructs, developmental assets seem to be most closely related to *protective factors* (Luthar et al., 2000), *promotive factors* (Sameroff, 1999), or *assets* (Masten & Reed, 2002). The core element of all of these constructs is a direct positive influence on development regardless of risk status. Though it is likely that some of the developmental assets interact with or moderate risk effects (i.e., should really be characterized as protective-enhancement or protective-stabilizing factors), we do not posit the kinds of complex interactions across assets and risk as outlined by some resilience researchers, for at least two reasons.

First, the preponderance of research on each of these assets shows, in general, similar predictive utility across different groups of youth (Benson et al., 2002; Scales & Leffert, 1999). Second, our work with communities indicates that individual adults are more likely to be engaged and active in intentional activities if the focus is shifted from vulnerable youth and adolescents to all children and adolescents. Focusing on at-risk and vulnerable youth seems to have the unfortunate effect of strengthening the belief that youth development is the responsibility of the professional sector (clinicians, program implementers, social workers), which has the concomitant effect of fostering civic disengagement (Benson et al., 1998). Of course, this does not preclude examinations of how assets interact with risk-only factors, such as ADHD or poverty (Stouthamer-Loeber et al., 1993). Studies investigating the moderating effects of developmental assets, both with other assets as well as with risk factors, are currently under way. Furthermore, it seems that most of the developmental assets fall into what Sameroff (1999) and Rutter (2000) call dimensional factors, and what Stouthamer-Loeber and her colleagues (1993) call protective plus risk effects. These are factors that, depending on the spectrum one chooses to emphasize, can either be a risk or a protective factor. For example, one of our assets is *family support*, which is defined in a way that emphasizes the positive end of the construct. However, other researchers can use the same global construct (a facet of family functioning) and focus on the negative pole (lack of family support; high degree of family conflict) and call this a risk factor. This does not appear to be all that problematic, given that one’s theoretical model should dictate how one chooses to define relevant constructs (so long as the dimensionality of the construct is not forgotten), but also since the effect seems to be the same whether one is increasing protective factors or reducing risk factors (Sameroff, Bartko, Baldwin, & Seifer, 1999).

INDICATORS OF COMPETENCE: THRIVING

The second dimension relevant to both assets and resilience models refers to how each model operationalizes competence or positive development. Masten and Curtis (2000), using the concept of stage-salient tasks, define competence as a track record of “adaptation success in the developmental tasks expected of individuals of a given age in a particular cultural and historical context” (p. 533). Other resilience researchers define competence as the absence of psychopathology or problems, while still others incorporate both stage-salient tasks and absence of symptoms to determine their outcome criteria (Masten, 2001). Luthar et al. (2000) attempt to refine the criteria and standards used to

determine competence by positing that the selection of outcomes should be dictated by the type and severity of stress, and by a conceptual link between the presenting risk factors and the outcome. They suggest that perhaps the outcome criterion be excellent or superior functioning in a theoretically related domain when risk levels are low or moderate. This criterion for determining an outcome—excellent or optimal functioning—comes closest to Search Institute’s recent work on defining what it means to *thrive* developmentally (Scales & Benson, 2004). At this point, the concept of thriving is still evolving; below represents our thinking thus far.

Scholars and practitioners are beginning to focus more on what defines not just normal or adequate development, but optimally successful development, or thriving. A new science of “positive psychology” is emerging that focuses on human happiness, optimism, and fulfillment rather than on the pathology and deficits that have driven psychology for the past 50 years (Seligman & Csikszentmihalyi, 2000). The integration of the positive aspects of Erikson’s life cycle framework and the core principles of positive psychology, resilience, positive youth development, and the developmental assets framework together may provide an even more comprehensive canvas on which the strength-based child and adolescent research and practice of the coming decades unfolds.

A developmental systems focus on such constructs of human thriving echoes the notions of maximum personal fulfillment reflected in Maslow’s theory of self-actualization. However, conceptualizations of thriving must give greater emphasis to this construct not only as an element of personal actualization, but also as inextricably bound with the moral ethos of the larger community in which persons live and to which, even as young people, they are essential contributors. In other words, when young people thrive, they are not simply doing well as individuals; they also are connected and contributing in meaningful ways to the common good that is realized through the groups, neighborhoods, communities, and societies to which they belong (Lerner, Brentano, Dowling, & Anderson, 2002).¹

Differences Between Developmental Assets and Thriving Indicators

The concept of thriving encompasses not only the relative absence of pathology, but also more explicit indicators of healthy and even optimal development. There is some conceptual similarity between the notion of developmental assets and that of thriving indicators, in that both concepts focus on the presence of strengths in young people’s lives. However, there are some important differences between these concepts.

Most important, thriving signifies optimal developmental outcomes, not just adequate, competent functioning. As such, thriving indicators are unipolar constructs. That is, the absence of thriving in the sense defined here is not necessarily negative. The individual may still be experiencing adequate development and achieving basic competency across various outcomes. In contrast, the relative absence or lower levels of developmental assets, as reflected in the research findings to date, seems associated with poorer developmental outcomes among adolescents (Benson et al., 1999).

¹ Thriving may also be seen as both outcome and process. In this chapter, we focus on thriving as reflected in one-time measures of young people’s positive developmental outcomes. But thriving may also be understood as a developmental process of recursive cause and effect engagement with one’s ecology over time that repeatedly results in optimal outcomes as viewed at any *one* point in time. Thriving in this sense reflects processes that are unique to or more pronounced in particular stages of development, such as the successful navigation of rapidly expanding peer relationships in middle childhood, or the significant cognitive maturation in early adolescence that can radically affect, for better or worse, young people’s construction of supportive social environments.

Second, assets are conceptualized as *building blocks* of success, whereas thriving indicators are seen as *signs or markers* of success. In explanatory terms, developmental assets experienced cumulatively over time are considered predictors of or contributors to developmentally optimal outcomes that are represented by thriving indicators. If the assets are conceptualized as the “building blocks” of success, the question can then be raised, building toward what? The thriving indicators represent the “what” that the assets are helping young people build toward. Experiencing the assets defines conditions under which the attainment of those thriving outcomes is made more likely.

The third important difference between assets and thriving is that thriving is reflected more (although not exclusively) through the young person’s own behavior than are assets. In contrast, most of the developmental assets are considered to be either provided by others in a young person’s environment (e.g., family support, a caring neighborhood) or are conceptualized as subjective, internal self-perceptions, attitudes, or values (e.g., a sense of purpose, having the value of responsibility).

To some extent, “thriving” can only be judged subjectively, by the individual him- or herself. For example, who can say that people are not thriving who are happy, emotionally open, and socially generous, but not as rich or powerful as they could have been, because they exercised their autonomy to make a choice not to pursue such paths? Perhaps they did so precisely because the pursuit of riches and power would have conflicted with other “well-being outcomes” they valued even more, such as a wonderful marriage, lots of time with their own kids and other people’s kids, or the in-depth pursuits of hobbies or volunteering.

Nevertheless, thriving suggests not only internal satisfaction, but also demonstrable excellence *or* substantive positive growth in a dimension of life. This may be measured either by comparison to others or by comparison to where one was before on that “outcome.” Without this criterion as a form of one’s “personal best,” the concept of thriving becomes elitist. Instead, with the dual notion of thriving signifying demonstrable excellence *or* substantive positive growth, everyone is capable of thriving. In addition, some people are more capable of thriving by being “better” than others in given areas.

Thriving Indicators for Adolescents

Compared to the voluminous literature on adolescent risk-taking and negative behaviors, or the substantial literature on adequate development or competence, there is a relative paucity of research around what constitutes thriving in adolescence. The orientation of both the public and researchers toward young people is predominantly toward naming and reducing negative behavior, or, at best, how to promote adequate or competent functioning among young people (Benson, 1997; Scales, 2001; Scales et al., 2003). The territory of thriving is beginning to be discussed, but is largely uncharted. Thus, public and scientific consensus has been more difficult to achieve on what constitutes adolescent “thriving” than it has been to agree about the constellation of risk behaviors that is desirable to reduce in adolescence.²

² There are recent exceptions, such as two special issues of the *Journal of Adolescent Research*, one that is devoted to “positive aspects of adolescence” (Adams, 2001) and the other that calls for youth social policy to focus on positive outcomes as much as it does on negative ones (Pittman, Diversi, & Ferber, 2002). Toward that end, for example, Child Trends, Inc., and the Chapin Hall Center for Children at the University of Chicago, in collaboration with the U.S. Department of Health and Human Services, hosted a conference of state leaders in 2002 to suggest positive indicators of youth development. If added to state-level data collection, such indicators would better inform policymakers’ decisions about child, youth, and family policies and programs. But there are relatively few examples of studies or policy initiatives that go beyond measuring only negative or just adequate behavior among youth.

Undoubtedly, that relative difficulty also is partly due to notions of “thriving” being more rooted in moral worldviews and more culturally contextualized than are ideas about risk (Scales & Benson, 2004). For example, youth involvement in violence or cigarette smoking is plainly harmful to them and can kill them. These effects are appreciable regardless of one’s cultural background or moral orientation. But showing leadership ability or being individually successful in other ways may not be so highly valued within a culture or moral orientation that values self-effacement and group harmony more highly. Thus, any taxonomy of thriving indicators necessarily reflects a particular moral and cultural framework that is likely to have less universality than competing taxonomies of risk or basic competence.

In addition, definitions of thriving clearly need to vary by age. Although the main focus of our work has been on adolescence, a useful framework of thriving also must include constructs that are continuous from earlier stages, as well as constructs that are unique to particular developmental stages. For example, there likely are some potential thriving indicators that are developmentally relevant to adolescence but not to middle childhood, such as having a significant girlfriend or boyfriend relationship. At the same time, valid thriving indicators for adolescence likely include some that are essentially the same as developmentally valid indicators for middle childhood. Young people’s active helping of others might be an example. The items used to measure the “helping others” indicator might differ between those two developmental stages, but the essence of the prosocial behavior as an indicator of thriving would not. For example, perhaps we would expect adolescents to formally volunteer more as an indicator of thriving, whereas we would expect younger children’s helping to be demonstrated more by informal helping of their friends and neighbors.

Search Institute has studied seven indicators of thriving among adolescents: school success, helping others, valuing diversity, exhibiting leadership, overcoming adversity, maintaining physical health, and delaying gratification. These seven indicators were selected for study for two main reasons. First, a wealth of research suggests that these indicators are related to numerous positive physical, socioemotional, psychological, and cognitive outcomes, both proximally and distally, and that these positive associations occur among diverse young people by gender, race/ethnicity, and socioeconomic background (see review in Scales & Leffert, 1999). Second, these thriving indicators collectively reflect that adolescents have accomplished at least adequately and perhaps excellently a number of developmental tasks conceived as important for all young people, regardless of cultural background. These would include developing their intellectual capacities and a sense of belonging, being able to explore and enlarge their worlds while minimizing risks, and being able to persist and succeed despite challenge (detailed in Scales et al., 2000). Such thriving indicators seem to satisfy what Takanishi, Mortimer, and McGourthy (1997) defined as their “primary” criterion for indicators of positive adolescent development: the attainment of social competency for adult roles and responsibilities. That broad criterion includes being an educated and productive worker, a person who can maintain a healthy lifestyle, a caring family member, and an involved citizen in a diverse society.

FOSTERING POSITIVE DEVELOPMENT: DEVELOPMENTALLY ATTENTIVE COMMUNITIES

The final dimension relates to the way in which positive development or adaptation is achieved. From a resilience perspective, the dominant delivery system for fostering

resilience is via science-based intervention and prevention programs that, ideally, reduce risk factors and enhance protective factors (Rolf & Johnson, 1999). Masten and Reed's (2002) tripartite typology for promoting resilience highlights this goal by suggesting strategies that prevent or reduce risks and stressors, strategies that improve the number and/or quality of resources or assets, and strategies that bolster and strengthen basic human adaptive systems (e.g., cognitive functioning, attachment relationships). Prevention and intervention programs are increasingly targeting multiple risk and protective factors across multiple contexts in fostering resilience and positive development, at times with impressive results (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002; Weissberg & Greenberg, 1998).

From a developmental asset perspective, programs are important, but cannot be the sole strategy in facilitating healthy outcomes for youth. Programs alone cannot offer the kinds of supports, opportunities, and relationships young people need. This work requires a broader strategy in which multiple contexts in young people's lives are strengthened to promote the kinds of factors that sustain and support positive development for all youth (Benson & Saito, 2001; Connell et al., 2001; Villaruel, Perkins, Borden, & Keith, 2003).

One way to conceive of this broader approach is through the notion of a "developmentally attentive community." This conception of community is rooted in strategies that identify mutually reinforcing lines of action, all intended to make communities places that promote youth development. Through our study of community change models and observations of hundreds of community initiatives that are using the framework, we have identified five components (as depicted in Table 17.2) that can transform communities into more developmentally attentive places; that is, places that are more intentional in their efforts to foster the healthy development of their children and adolescents. Central to this multifaceted approach is to mobilize young people, such that youth themselves are engaged in a community's activities. This echoes others' assertions that from a positive youth perspective, young people are seen as resources and contributors to their environments (Eccles & Gootman, 2002; Lerner et al., 2002; Whitlock & Hamilton, 2003). Another strategy is to activate the various sectors of a community; that is, the organizations, institutions, and settings that are able to promote youth development, including schools, families, faith-based organizations, neighborhoods, and youth organizations. Rallying the multiple settings of a community around positive youth development provides an important redundancy of messages and experiences to youth regarding their value in the community (Scales et al., 2003). A third strategy, engaging adults, refers to adults both in their formal roles as citizens, leaders, members, and decision makers who can influence the sectors, but also to adults as individuals who by their actions and statements can build youths' assets.

Becoming a mentor is a formal illustration of such engagement, but informal interactions can also be important (Lopez & McKnight, 2002). When many adults demonstrate their respect and appreciation of youth and when they actively seek to get to know them, the community becomes more welcoming and more growth-enhancing. Fourth, influencing civic decisions is necessary to both promote and sustain a community's activities.

Finally, the last component of a developmentally attentive community is the presence of effective programs. As noted above, programs have the potential to significantly alter maladaptive developmental trajectories, indeed, evidence suggests that, however, without significantly changing the environments in which youth live may lead to the kinds of modest short- and long-term effects often reported in reviews of prevention programs (Eccles & Gootman, 2002). Indeed, this raises an interesting moderating hypothesis: Are the effects of a proven program enhanced when implemented in a community characterized by these other four components? Questions such as this one are possible when we begin to think

Table 17.2 Search Institute’s Five Action Strategies for a Developmentally Attentive Community

-
1. *Engage adults.* Engage adults from all walks of life to develop sustained, strength-building relationships with children and adolescents, both within families and in neighborhoods.
 - Young people need the adults in their lives to acknowledge them, affirm them, and connect with them. They need these things from the adults who are not paid to work with them, as well as the professionals who are.
 - Engaging parents as asset builders—and affirming the many ways they already build assets—is particularly important, given their central role in children’s lives.
 2. *Mobilize young people.* Mobilize young people to use their power as asset builders and change agents.
 - Many youth feel devalued by adults. And most report their community does not provide useful roles for young people. It should become normative in all settings where children and youth are involved to seek their input and advice, to make decisions with them, and to treat them as responsible, competent allies in all asset-building efforts.
 - It is also important to help young people tap their own power to build assets for themselves, their peers, and younger children.
 3. *Activate sectors.* Activate all sectors of the community—such as schools, congregations, children and youth, businesses, human services, and health care organizations—to create an asset-building culture and contribute fully to young people’s healthy development.
 - Young people are customers, employees, patients, participants—members of their community in many of the same ways adults are. All sectors have opportunities to examine the ways they come in contact with young people and identify ways they can support their healthy development.
 4. *Invigorate programs.* Invigorate, expand, and enhance programs to become more asset rich and to be available to and accessed by all children and youth.
 - Though much asset-building occurs in daily, informal interactions, programs young people take part in throughout their community must also become more intentional about asset building. Opportunities for training, technical assistance, and networking should be made available in these settings.
 5. *Influence civic decisions.* Influence decision makers and opinion leaders to leverage financial, media, and policy resources in support of this positive transformation of communities and society.
 - Community-wide policies, messages, and priorities not only shape people’s perceptions of youth, but they also can motivate and support individuals, organizations, and sectors to make asset building an ongoing priority.
-

beyond program models as the only planned or intentional efforts at influencing development and start to acknowledge the powerful role that a community can play when united around its youth.

What should be clear from this model is our assumption that not only are programs not sufficient to promote positive development across many groups of youth, but also that youth cannot be the only target of change—adults are implicated as much if not more so in this work. Unless adults believe that they have the potential to play a significant role in the lives of youth, much of the work described in this chapter cannot take place. Thus, the strategies and assumptions that stem from our work do not focus on fixing or changing young people’s behavior as much as they focus on influencing the attitudes, perceptions, and behaviors of adults toward youths (Benson, 1997).

There is no single model for how a community-wide, asset-building initiative is launched and sustained. We believe that each community brings a unique mix of strengths, history, and existing efforts into the planning and implementation of its initiative. However, certain dynamics appear essential.

- *Cultivate a shared vision.* Invite community members to articulate and keep alive a shared vision for an asset-rich community. Develop a shared community-wide vision centered on increasing the asset base for all children and adolescents. Know that reaching this target cannot be rushed or done with a single new idea or program.

Rather, it will take long-term commitment, multiple and coordinated changes, and a passion for the vision that will sustain your efforts.

- *Recruit and network champions.* Nurture relationships with people who have the passion to spread the word and help make the vision a reality. Create opportunities for these champions to learn from, support, and inspire each other.
- *Communicate.* Distribute information, make presentations, and tap the media to raise awareness about asset building and local efforts. Share with your community what young people experience. Emphasize the ability of *all* community members—including young people—to build assets.
- *Strengthen capacity.* Provide or facilitate training, technical assistance, coaching, tools, or other resources that help individuals and organizations in their asset-building efforts.
- *Reflect, learn, and celebrate.* Reflect on and learn from current progress and challenges. Many people, places, and programs already build assets. Highlight and honor existing and new asset-building efforts in the community.
- *Manage and coordinate.* Manage and coordinate schedules, budgets, and other administrative tasks, as needed.

Asset-building communities mobilize people, organizations, institutions, and systems to take action around a shared understanding of positive development. Ultimately, rebuilding and strengthening the developmental infrastructure in a community is not a program run by professionals. It is a movement that creates a community-wide sense of common purpose. It places residents and their leaders on the same team moving in the same direction, and creates a culture in which all residents are expected, by virtue of their membership in the community, to promote the positive development of children and youth.

CONCLUSION

As this review suggests, there is a great deal of consonance between the developmental asset framework and models of resilience. Both approaches identify multiple sources of developmental nutrients across numerous ecologies likely to foster adaptive functioning and optimal development. Likewise, both approaches provide complementary notions regarding the configurations of positive developmental outcomes for youth. And both affirm the significance of programs as a mechanism for promoting healthy behaviors and attitudes.

Because the developmental asset framework is different from a programmatic approach, the scope and implications of our work are broader. This work represents a shift away from relying solely on prevention and intervention efforts to the intentional mobilization and engagement of individuals and systems within communities in the service of healthy youth development. This is no simple task, not the least of which because “community” as the unit of analysis is far less wieldy than a controlled program design, but also because of the paucity of research examining the role of deliberate community-wide effects on the health and well-being of youth. Note though that this discussion of community mobilization in no way is meant to replace or supplant targeted programmatic efforts; one of the implications of the asset model is that strong and effective programs are a necessary component of a developmentally attentive community and that programs are eminently complementary to positive youth development approaches (Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002; Resnick, 2000; Whitlock & Hamilton, 2003).

Nevertheless, if, as Bronfenbrenner and Morris (1998) note, the “growing chaos in . . . everyday environments in which human beings live their lives . . . interrupts and undermines the formation and stability of relationships and activities that are necessary for psychological growth” (p. 1022), then working toward bringing structure and intentionality to these environments under the banner of positive youth development provides a promising approach to increasing the developmental outcomes for young people.

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18

The Power of Parenting

Robert B. Brooks

I have focused for more than 20 years on examining the impact that parents have in nurturing hope, self-esteem, and an optimistic outlook in their children (Brooks, 1999; Brooks & Goldstein, 2001, 2003). My intention in this chapter is to examine specific steps that parents can take on a daily basis to reinforce a resilient mindset and lifestyle in their children. Before describing both the characteristics of this mindset and strategies to strengthen it in youngsters, I believe it is necessary to address the following two questions: What is meant by the concept of resilience? Do parents *really* have a major influence on the development of resilience in their children?

WHAT IS RESILIENCE?

Resilience can be understood as the capacity of a child to deal effectively with stress and pressure, to cope with everyday challenges, to rebound from disappointments, mistakes, trauma, and adversity, to develop clear and realistic goals, to solve problems, to interact comfortably with others, and to treat oneself and others with respect and dignity (Brooks & Goldstein, 2001).

In scientific circles research related to resilience has primarily studied youngsters who have overcome trauma and hardship (Beardslee & Podorefsky, 1988; Brooks, 1994; Hechtman, 1991; Herrenkohl, Herrenkohl, & Egolf, 1994; Masten, Best, & Garmezy, 1990; Rutter, 1985; Werner & Smith, 1992). However, several researchers and clinicians have raised important issues, such as: Does a child have to face adversity in order to be considered resilient? or Is resilience reflected in the ability to bounce back from adversity or is it caused by adversity? (see Chapter 3 in this volume for a thoughtful discussion of this issue).

Sam Goldstein and I believe that the concept of resilience should be broadened to apply to every child and not restricted to those who have experienced adversity (Brooks & Goldstein, 2001, 2003). All children face challenges and stress in the course of their development and

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even those who at one point would not be classified as at risk can suddenly find themselves placed in such a category. This abrupt shift to an at-risk classification was evident on a dramatic scale for the hundreds of children who lost a parent or loved one as a consequence of the terrorist attacks on 9/11. Nurturing resilience should be understood as a vital ingredient in the process of parenting every child, whether that child has been burdened by adversity or not.

Other mental health specialists have also expanded the definition or scope of resilience to go beyond bouncing back from adversity. Reivich and Shatte (2002) contend that “everyone needs resilience” and they write:

resilience is the capacity to respond in healthy and productive ways when faced with adversity and trauma; it is essential for managing the daily stress of life. But we have come to realize that the same skills of resilience are important to broadening and enriching one's life as they are to recovering from setbacks. (p. 20)

A more inclusive definition of resilience that embraces all youngsters encourages us to consider and adopt parenting practices that are essential for preparing children for success and satisfaction in their future lives. A guiding principle in each interaction parents have with children should be to strengthen their ability to meet life's challenges with thoughtfulness, confidence, purpose, responsibility, empathy, and hope. These qualities may be subsumed under the concept of resilience. The development of a resilient mindset, which will be described in detail later in this chapter, is not rooted in the number of adversities experienced by a child, but rather in particular skills and a positive attitude that caregivers reinforce in a child.

DO PARENTS HAVE A MAJOR INFLUENCE ON THE DEVELOPMENT OF RESILIENCE IN THEIR CHILDREN?

Many people, convinced of the profound influence that parents exert on a child's development and resilience, might wonder why it is necessary to pose this question. However, the answer is not as clear-cut as many may believe (Goldstein & Brooks, 2003). Recently developed, sophisticated scientific instruments have highlighted the significant impact of genetics on adult personality, adaptation, and cognitive and behavioral patterns. As a consequence, the degree to which parents influence their child's development has been questioned by several researchers (Harris, 1998; Pinker, 2002).

In her book *The Nurture Assumption*, Harris (1998) presented evidence to suggest that the extended environment outside the home, particularly the impact of peers, explained much of the nongenetic differences in human behavioral traits. Though some have lauded Harris for her contribution to the field of child development, she has also been widely criticized by professionals who have interpreted her conclusions as suggesting that parents are inconsequential players in their children's lives (Pinker, 2002).

However, Harris's position may be interpreted not as a dismissal of the influence of parents, but rather as a call to be more precise in understanding the impact of parents on the present and, ultimately, future lives of their children. Pinker (2002), citing a number of studies of fraternal and identical twins reared together or apart, contends that it is not that parents don't matter; they in fact matter a great deal. It is that over the long term, parents' behavior does not appear to significantly influence a child's intelligence or personality. In contrast, Siegel (1999) has posited that a child's attachment and relationship with caregivers is a major determinant of mental health and adaptation.

The position taken in this chapter is that even if those personality qualities in a child attributed to parental influence are in a statistical equation much smaller than previously assumed, they may in the daily lives of children be the difference in determining whether a child succeeds in school, develops satisfying peer relationships, or overcomes a developmental or behavioral impairment. Parents possess enormous influence in the lives of their children. Data suggesting that a particular parenting style may play a minimal role in intelligence or personality development does not absolve parents of their responsibility to raise their children in moral, ethical, and humane ways. The quality of daily parent-child relationships makes a vital difference in the behavior and adjustment of children. As Sheridan, Dowd, and Eagle note in Chapter 10 of this volume, “The development of resiliency and healthy adjustment among children is enhanced through empathetic family involvement practices.”

Not surprisingly, the impact of parental behavior on children is less debatable when the behavior in question is inappropriate, humiliating, or abusive compared with that which is positive or benign. For example, in Chapter 9 of this volume Jaffee has highlighted the devastating effects on a child’s emotional well-being and resilience when confronted with parents who have a history of mental disorder and also engage in violent and abusive behavior. Kumpfer and Alvarado (2003), emphasizing the significance of parental behavior, write:

The probability of a youth acquiring developmental problems increases rapidly as risk factors such as family conflict, lack of parent-child bonding, disorganization, ineffective parenting, stressors, parental depression, and others increase in comparison with protective or resilience factors. Hence, family protective mechanisms and individual resiliency processes should be addressed in addition to reducing risk factors. . . . Resiliency research suggests that parental support in helping children develop dreams, goals, and purpose in life is a major protective factor. (p. 458)

Pinker (2002) notes, “Childrearing is above all an ethical responsibility. It is not okay for parents to beat, humiliate, deprive, or neglect their children because those are awful things for a big strong person to do to a small helpless one” (p. 398). Similarly, Harris (1998) writes, “If you don’t think the moral imperative is a good enough reason to be nice to you kid, try this one: Be nice to your kid when he’s young so that he will be nice to you when you’re old” (p. 342).

Pinker (2002) poignantly captures the moral dimension of parenting practices in the following statement:

There are well-functioning adults who still shake with rage when recounting the cruelties their parents inflicted on them as children. There are others who moisten up in private moments when recalling a kindness or sacrifice made for their happiness, perhaps one that the mother or father has long forgotten. If for no other reason, parents should treat their children well to allow them to grow up with such memories. (p. 399)

Given the complexity of a child’s development, it is unlikely that a specific number will ever be assigned as a “parent’s share” or percentage of that development. As Deater-Deckard, Ivy, and Smith wisely observe in Chapter 4 of this volume, “The question is no longer whether and to what degree genes or environments matter, but how genes and environments work together to produce resilient children and adults.”

They conclude:

resilience is a developmental process that involves individual differences in children’s attributes (e.g., temperament, cognitive abilities) and environments (e.g., supportive parenting, learning enriched classrooms). The genetic and environmental influences underlying these individual differences are correlated, and they interact with each other to produce the variation we see between children and, over time, within children. . . . It is

imperative that scientists and practitioners recognize that these gene–environment transactions are probabilistic in their effects, and the transactions and their effects can change with shifts in genes or environments.

Although researchers and clinicians debate the extent to which particular parenting practices impact children in specified areas, it seems that all agree that parents make a significant difference either in the day-to-day and/or future lives of their children. We concur with this position and believe that it is essential that we identify both those parental practices that nurture the skills, positive outlook, and stress hardiness necessary for children to manage an increasingly complex and demanding world as well as those that do harm to children. We must search for consistent ways of raising children that will increase the likelihood of their experiencing happiness, success in school, contentment in their lives, and satisfying relationships. If children are to realize these goals, they must develop the inner strength to deal competently and successfully, day after day, with the challenges and pressures they encounter (Brooks & Goldstein, 2001).

THE CHARACTERISTICS OF A RESILIENT MINDSET

Resilient children possess certain qualities and ways of viewing themselves and the world that are not apparent in youngsters who have not been successful in meeting challenges. The assumptions that children have about themselves influence the behaviors and skills they develop. In turn, these behaviors and skills influence this set of assumptions so that a dynamic process is constantly operating. This set of assumptions may be classified as a mindset (Brooks & Goldstein, 2001).

An understanding of the features of a resilient mindset can provide parents with guideposts for nurturing inner strength and optimism in their children. Parents adhering to these guideposts can use each interaction with their children to reinforce a resilient mindset. Although the outcome of a specific situation may be important, even more essential are the lessons learned from the process of dealing with each issue or problem. The knowledge gained supplies the nutrients from which the seeds of resiliency will flourish.

The mindset of resilient children contains a number of noteworthy characteristics that are associated with specific skills. These include:

- They feel special and appreciated.
- They have learned to set realistic goals and expectations for themselves.
- They believe they have the ability to solve problems and make sound decisions and thus are more likely to view mistakes, setbacks, and obstacles as challenges to confront rather than as stressors to avoid.
- They rely on effective coping strategies that promote growth and are not self-defeating. They are aware of and do not deny their weaknesses and vulnerabilities but view them as areas for improvement rather than as unchangeable flaws.
- They recognize and enjoy their strong points and talents.
- Their self-concept is filled with images of strength and competence.
- They feel comfortable with others and have developed effective interpersonal skills with peers and adults alike. This enables them to seek out assistance and nurturance in a comfortable, appropriate manner from adults who can provide the support they need.
- They are able to define the aspects of their lives over which they have control and to focus their energy and attention on those rather than on factors over which they have little, or any, influence.

The process of nurturing this mind-set and associated skills in children requires parents to examine their own mind-set, beliefs, and actions. We will now examine guideposts that can facilitate this process together with case examples.

PARENTING PRACTICES THAT NURTURE RESILIENCE IN CHILDREN

Following is a list of ten guideposts proposed by Brooks and Goldstein (2001, 2003) that form the scaffolding for reinforcing a resilient mind-set and lifestyle in children. These guideposts are relevant for all interactions parents and other caregivers have with children, whether coaching them in a sport, helping them with homework, engaging them in an art project, asking them to assume certain responsibilities, assisting them when they make mistakes, teaching them to share, or disciplining them. Although the specific avenues through which these guideposts can be applied will differ from one child or situation to the next, the guideposts themselves remain constant.

Being Empathic

A basic foundation of any relationship is empathy. Simply defined, in the parenting relationship empathy is the capacity of parents to place themselves inside the shoes of their children to see the world through their eyes. Empathy does not imply that you agree with what your children do, but rather that you attempt to appreciate and validate their point of view. Also, it is easier for children to develop empathy when they interact with adults who model empathy on a daily basis. It is not unusual for parents to believe they are empathic, when the reality is that empathy is more fragile or elusive than many realize. Experience shows that it is easier to be empathic when our children do what we ask them to do, meet our expectations, and are warm and loving. Being empathic is tested when we are upset, angry, or disappointed with our children. When parents feel this way, many will say or do things that actually work against a child developing resilience. To strengthen empathy, parents must keep in mind several key questions, questions that I frequently pose in my clinical practice and workshops. They include:

How would I feel if someone said or did to me what I just said or did to my child?

When I say or do things with my children, am I behaving in a way that will make them most responsive to listening to me?

Do I behave in ways that would prompt my child to describe me in the way I hope?

How would my child actually describe me and how close is that to how I hope my child would describe me?

While thinking about these questions is essential to effective parenting, they are often neglected when parents are confronted with frustration and anger. This is evident in the following two case examples.

Mr. and Mrs. Kahn¹ were perplexed why their son John, a seventh-grader, experienced so much difficulty completing his homework. John was an excellent athlete but had a long history of struggling to learn to read. His parents, noticing John's lack of interest in school activities, believed he was "lazy" and he could do the work if he "put his mind to it."

¹ Pseudonyms used throughout this chapter.

They often exhorted him to “try harder” and they angrily reminded him on a regular basis how awful he would feel as a senior in high school when he was not accepted into the college of his choice.

Although perhaps well intentioned, when Mr. and Mrs. Kahn told John to “try harder” they failed to consider how these words were experienced by their son. Many youngsters who are repeatedly told to “try harder” interpret this statement not as helpful or encouraging but rather as judgmental and accusatory, intensifying their frustration rather motivating them to improve. Thus, the words the Kahns used worked against their goal to motivate John. If they had reflected on how they would feel if they were having difficulty at work and their boss yelled, “Try harder,” they may have refrained from using these words.

Mr. and Mrs. Kahn learned that by placing themselves inside John’s shoes they could communicate with him in ways that would lessen defensiveness and increase cooperation. They told him that they realized they came across as “nagging” but did not wish to do so. They said that they knew he possessed many strengths, but there were areas that were more challenging for him such as reading. By being empathic they transformed an accusatory attitude into a problem-solving framework by asking John what he thought would help. This more positive approach made it easier for John to acknowledge his difficulties in school and prompted his willingness to receive tutoring.

Sally, a shy 8-year-old, was frequently reminded by her parents, Mr. and Mrs. Carter, to say hello when encountering family or friends. Yet, from a young age Sally’s temperament left her feeling anxious, fearful, and easily overwhelmed in new situations. It was not unusual for Sally to seek refuge behind her mother when people she did not know visited the Carter home. Both of the Carters were outgoing and were perplexed by Sally’s cautiousness and fearfulness, especially since they viewed themselves as supportive and loving parents. They felt that Sally could be less shy “if she just put her mind to it.”

The Carters became increasingly frustrated and embarrassed by Sally’s behavior, prompting them to warn her that if she failed to say hello to others she would be lonely and have no friends. They frequently asked her after school if she had taken the initiative to speak with any of the children in her class. These kinds of comments backfired, prompting Sally to become more anxious.

Mr. and Mrs. Carter, desiring their daughter to be more outgoing, failed to appreciate that Sally’s cautious demeanor was an inborn temperamental trait and could not be overcome by simply telling her to “say hello” to others. They were to discover that each reminder on their part not only intensified Sally’s discomfort and worry but also compromised a warm, supportive relationship with their daughter.

In parent counseling sessions the Carters learned that they could assist Sally to be less shy, but they first had to reflect upon how their current actions and words impacted on their daughter. They had to ask, “If I were shy would I want anyone to say to me what I say to Sally?” or “Am I saying things to Sally that are helping or hindering the process of her becoming more comfortable with others?” In essence, these kinds of questions helped them to assume a more empathic stance. Both parents learned that telling a shy person to try to become less shy is often experienced as accusatory and not as a source of encouragement.

Mr. and Mrs. Carter informed Sally that they knew that it was not easy for her to say hello to people she did not know and added that it was not easy for many other children as well. They said that maybe by working together with Sally they could figure out steps she could take to make it less difficult to greet others. These comments served to empathize and validate what Sally was experiencing and also to convey a feeling of “we’re here to help, not criticize.” Finally, they communicated to Sally, “Many kids who have trouble saying

hello when they're young, find it easier as they get older." This last statement conveyed realistic hope. And hope is a basic characteristic of a resilient mind-set.

Being empathic permitted the Carters to communicate with Sally in a nonjudgmental way and in the process they nurtured their daughter's resilience.

Communicating Effectively and Listening Actively

Empathy is closely associated with the ways in which parents communicate with their children. Communication is not simply how we speak with another person. Effective communication involves actively listening to our children, understanding and validating what they are attempting to say, and responding in ways that avoid power struggles by not interrupting them, by not telling them how they should be feeling, by not derogating them, and by not using absolute words such as *always* and *never* in an overly critical, demeaning fashion (e.g., You never help out; You always act disrespectful).

Resilient children demonstrate a capacity to communicate their feelings and thoughts effectively and their parents serve as important models in the process. When 10-year-old Michael insisted on completing a radio kit by himself and then was not able to do so, his father, Mr. Burton, angrily retorted, "I told you it wouldn't work. You don't have enough patience to read the directions carefully." Mr. Burton's message worked against the development of a resilient mind-set in his son since it contained an accusatory tone, a tone focusing on Michael's shortcomings rather than on his strengths. It did not offer assistance or hope.

Covey (1989), describing the characteristics of effective people, advocates that we first attempt to understand before being understood. What he is suggesting is that prior to expressing our views, we would be well advised to practice empathy by listening actively and considering what messages the other person is delivering. Effective communication is implicated in many behaviors associated with resilience, including interpersonal skills, empathy, and problem-solving and decision-making abilities.

Given the significance of effective communication skills in our lives, during my therapeutic activities and my workshops I frequently pose the following questions for parents to consider when they interact with their children:

- Do my messages convey and teach respect?
- Am I fostering realistic expectations in my children?
- Am I helping my children learn how to solve problems?
- Am I nurturing empathy and compassion?
- Am I promoting self-discipline and self-control?
- Am I setting limits and consequences in ways that permit my children to learn from me rather than resent me?
- Am I truly listening to and validating what my children are saying?
- Do my children know that I value their opinion and input?
- Do my children know how special they are to me?
- Am I assisting my children to appreciate that mistakes and obstacles are part of the process of learning and growing?
- Am I comfortable in acknowledging my own mistakes and apologizing to my children when indicated?

If parents keep these questions in mind, they can communicate in ways that reinforce a resilient mind-set. However, this task is not always easy to accomplish, as was evident at a family session with Mr. and Mrs. Berlin and their 13-year-old daughter Jennifer.

The Berlins sought a consultation given Jennifer's sadness and what they called "her pessimistic attitude toward everything."

At the first session, Jennifer said, "I feel very sad and unhappy."

Mrs. Berlin instantly countered, "But there's no reason for you to feel this way. We are a loving family and have always given you what you need."

Jennifer's expression suggested both sadness and anger at her mother's remark. Although Mrs. Berlin may have intended to reassure her daughter, her comment served to rupture communication. People do not want to be told how they should or should not feel. If someone says she feels depressed, she does not want to hear that there is no reason to feel this way.

What might Mrs. Berlin have said? A good place to start is validation. Parents must first validate what their child is saying. Validation does not mean you agree with the other person's statement, but that you convey to that person you "hear" what is being said. Consider the following response that Mrs. Berlin might have offered: "I know you've been feeling depressed. I'm not certain why, but I'm glad you could tell us. That's why we're seeing Dr. Brooks to try and figure out what will help you to feel better and also, how Dad and I can help." If the messages of parents are filled with empathy, validation, and support, a climate is established for nurturing resilience.

Changing Negative Scripts

Well-meaning parents have been known to apply the same approach with their children for weeks, months, or years even when the approach has proven ineffective. For instance, a set of parents reminded (nagged) their children for years to clean their rooms, but the children failed to comply. When I asked why they used the same unsuccessful message for years, they responded, "We thought they would finally learn if we told them often enough."

Similar to the reasoning offered by these parents, many parents believe that children should be the ones to change, not them. Others believe if they change their approach, it is like "giving in to a child," and they are concerned that their children will take advantage of them. One mother said, "My son forgets to do his chores and I keep reminding him and we keep getting into battles. But I can't back off. If I do my son will never learn to be responsible. He will become a spoiled brat like too many other kids are these days." Without realizing it, the mother's constant reminders backfired. They not only contributed to tension in the household, but in addition, they reinforced a lack of responsibility in her son by always being there to remind him of what he was expected to do rather than having him learn to remember his responsibilities on his own.

Parents with a resilient mind-set of their own recognize that if something they have said or done for a reasonable amount of time does not work, then they must change their "script" if their children are to change theirs. This position does not mean giving in to the child or failing to hold the child accountable. It suggests that we must have the insight and courage to consider what we can do differently, lest we become entangled in useless, counterproductive power struggles. It also serves to teach children that there are alternatives ways of solving problems. If anything, it helps children learn to be more flexible and accountable in handling difficult situations.

Mr. Lowell was imprisoned by a negative script, especially toward his 12-year-old son Jimmy. The moment Mr. Lowell arrived home, the first question he asked Jimmy each and every day was, "Did you do your homework? Did you do your chores?" Even if Jimmy had not done his homework or chores, he quickly responded "yes" just to "get my father off my back." Over several years their relationship deteriorated. Jimmy felt all his father cared

about were grades and chores. Mr. Lowell felt his son was “lazy” and needed daily “prodding” to become more responsible.

In counseling sessions, Mr. Lowell became aware of how his words echoed those of his father when Mr. Lowell was Jimmy’s age. With impressive insight he said, “Jimmy must see me just like I saw my father, an overbearing man who rarely complimented me but was quick to tell me what I did wrong.”

Mr. Lowell ruefully asked, “Why do we do the same things toward our kids that we didn’t like our parents doing to us?” It is a question frequently raised. Although the answer can differ to some extent from one person to the next, the basic issue is how easily we become creatures of habit, incorporating the script of our own parents even if we were not happy with that script. We practice what we have learned.

Yet parents are not destined to follow these ineffective, counterproductive scripts. Once they are aware of their existence they can consider other scripts to follow. Mr. Lowell, equipped with new insight, no longer greeted Jimmy with questions about his homework or chores, but instead showed interest in his son’s various activities, including drawing and basketball. He and Jimmy signed up for an art class together offered by a local museum and they “practiced hoops” on a regular basis. Similar to the Kahns’ approach with John and the Carter’s with Sally, Mr. Lowell recognized that if Jimmy were to change, he, as the adult, would have to make the initial changes.

Loving Our Children in Ways That Help Them to Feel Special and Appreciated

It is well established that a basic foundation of resilience is the presence of at least one adult (hopefully several) who believes in the worth and goodness of the child. The late psychologist Julius Segal (1988) referred to that person as a “charismatic adult,” an adult from whom a child “gathers strength.” One must never underestimate the power of one person to redirect a child toward a more productive, successful, satisfying life.

Parents, keeping in mind the notion of a charismatic adult, might ask each evening, “Are my children stronger people because of the things I said or did today or are they less strong?” Certainly, Mr. Burton yelling at his son Michael when the latter had difficulty completing a radio kit or Mr. and Mrs. Carter questioning Sally each day if she had initiated conversations with classmates were actions that diminished their children’s emotional well-being. Neither Michael nor Sally was likely to gather strength when confronted with their parents’ statements and questions.

Unconditional love, which we will discuss in greater detail in the next guidepost, is an essential feature that charismatic adults bestow on children. If children are to develop a sense of security, self-worth, and self-dignity, they must have people in their lives who demonstrate love not because of something they accomplish but because of their very existence. When such love is absent, it is difficult to develop and fortify a resilient mind-set.

When I have asked adults to recall a favorite occasion from their childhood when their parents served as a charismatic adult for them, one of the most common memories involved doing something pleasant and alone with the parent. One man described having his father’s “undivided attention.” He said, “My father really listened to me when no one else was around and we could talk about anything. It was tougher to do when my older sister and younger brother were also there.”

Similarly, a woman said, “I loved bedtime when my mother or father read me a story. If my mother was reading to me, my father was reading to my brother. If my father was

reading to me, my mother was reading to my brother.” With a smile, this woman added, “Don’t get me wrong, I loved my brother and I enjoyed when we did things as a family, but I think I felt closest to my parents when I did something alone with each. My husband and I do the same things with our kids today.”

The power of “special times,” poignantly captured in the words of this man and woman, are recalled by many adults. It is recommended that parents create these times in the lives of their children. Parents of young children might say, “When I read to you or play with you, it is so special that even if the phone rings I won’t answer it.” One young child said, “I know my parents love me. They let the answering machine answer calls when they are playing with me.”

When children know that they will have a time alone with each parent, it helps to lessen sibling rivalry and vying for the parent’s undivided attention. A parent of six children asked at a workshop, “Is it possible to create special moments with each child when you have six?” The answer is that it is more difficult with six than with two children in the household, but it is still possible. It requires more juggling, but if these times result in children feeling special in the eyes of their parents, the struggle to juggle one’s schedule is worth the effort. As Pinker (2002) advised, “If for no other reason, parents should treat their children well to allow them to grow up with such memories” (p. 399).

Children are very sensitive if a parent is not present at their birthday, at a holiday, at their first Little League game, or at a talent show. In today’s fast-paced world many parents work long hours and travel, and, thus, it is likely they may miss some of their children’s special moments, but these absences should be kept to a minimum. One adult patient recalled that his father missed all but a couple of his birthdays between the ages of 5 and 12. “I know he had to travel for his business, but he knew when my birthday was. I think he could have scheduled his business trips to be there for my birthday.” Tears came to his eyes as he added, “You certainly don’t feel loved when your father misses your birthday. And to make matters worse, most of the time he forgot to call.”

Time alone with each child does not preclude family activities that also create a sense of belonging and love. Sharing evening meals and holidays, playing games, attending a community event as a family, or taking a walk together are all opportunities to convey love and help children feel special in the eyes and hearts of their parents.

Accepting Our Children for Who They Are and Helping Them to Establish Realistic Expectations and Goals

One of the most difficult but challenging parenting tasks is to accept our children for who they are and not what we want them to be. Before children are born parents have expectations for them that may be unrealistic given the unique temperament of each child. Chess and Thomas (1987), two of the pioneers in measuring temperamental differences in newborns, observed that some youngsters enter the world with so-called easy temperaments, others with cautious or shy temperaments, while still others with “difficult” temperaments.

When parents lack knowledge about these inborn temperaments, a powerful determinant of personality and behavior according to Harris (1998), they may say or do things that compromise satisfying relationships and interfere with the emergence of a resilient mindset. This dynamic certainly occurred in Mr. and Mrs. Carter’s initial approach to their daughter Sally’s shy demeanor. Basically, they exhorted her to make friends, feeling that her cautious, reserved nature could easily be overcome. They did not appreciate how desperately Sally wished to be more outgoing and have more friends, but it was difficult to do

given her temperament. It was only when her parents demonstrated empathy and communicated their wish to help that Sally felt accepted.

Another example concerned 10-year-old Carl. He dawdled in the morning, often missing the school bus. His parents, Mr. and Mrs. Thomas, found themselves obligated to drive him to school. A neighbor suggested they not drive Carl to school, that by doing so they were just “reinforcing his lateness.” They took this neighbor’s advice and told Carl if he was not ready when the school bus arrived, they would not drive him and he would miss school. Carl missed school, which upset him. However, much to the dismay of his parents, his upset did not prepare him to be ready for school the next day. They were confused about what to do next and became increasingly angry with their son for his irresponsibility. As a further motivation to be ready on time, they decided to restrict many of his pleasurable activities if he was late. Unfortunately, that failed to bring about the desired results.

Carl’s parents were unaware that his difficulty with lateness was not because he was irresponsible, but rather because he moved at a slow pace and was distractible, frequently becoming drawn into other activities. Instead of yelling and punishing, it would have been more effective to accept that this is their son’s style and to engage him in a discussion of what he thinks would help to get ready on time. As we shall see under the guidepost for developing responsibility discussed below, when given the opportunity even young children are capable of offering sound solutions to problems they encounter.

In addition, collaborating with Carl’s school to have a motivating “job” or responsibility waiting for him might have provided a positive incentive to assist him to consider ways to be ready on time even with his slower temperament. I frequently use such a strategy. A child with whom I worked who was tardy on a regular basis was given the job of “tardy monitor” at his school, a position that entailed arriving early and keeping track of which students were late. The child loved the responsibility and arrived on time with renewed purpose.

Accepting children for who they are and appreciating their different temperaments does not imply that we excuse inappropriate, unacceptable behavior but rather that we understand this behavior and want to help to modify it in a manner that does not assault a child’s self-esteem and sense of dignity. It means developing realistic goals and expectations for our children. Fortunately, in the past 10 to 15 years there have been an increasing number of publications to help parents and teachers appreciate, accept, and respond effectively to a child’s temperament and learning style (Carey, 1997; Keogh, 2003; Kurcinka, 1991; Levine, 2002, 2003; Sachs, 2001).

Helping Our Children Experience Success by Identifying and Nurturing Their “Islands of Competence”

Resilient children do not deny problems that they may face. Such denial runs counter to mastering challenges. However, in addition to acknowledging and confronting problems, youngsters who are resilient are able to identify and utilize their strengths. Unfortunately, many children who feel poorly about themselves and their abilities experience a diminished sense of hope. Parents sometimes report that the positive comments they offer their children fall on “deaf ears,” resulting in parents’ becoming frustrated and reducing positive feedback.

It is important for parents to be aware that when children lack self-worth they are less receptive to accepting positive feedback. Parents should continue to offer this feedback, but must recognize that true self-esteem, hope, and resilience are based on children experiencing success in areas of their lives that they and significant others deem to be important. This requires parents to identify and reinforce a child’s “islands of competence.” Every child

possesses these islands of competence or areas of strength, and we must nurture these rather than overemphasize the child's weakness.

During an evaluation of a child, I regularly ask the parents to describe their child's islands of competence. I ask the child to do the same, often via the question, "What do you think you do well?" or "What do you see as your strengths?" For children who respond, "I don't know," I answer, "That's okay, it can take time to figure out what we're good at, but it's important to figure out." If we are to reinforce a more optimistic attitude in children, it is imperative that we place the spotlight on strengths and assist children to articulate the strengths they possess.

One problem related to the issue of acceptance, discussed in the previous guidepost, is when parents minimize the importance of their child's island of competence. For example, 13-year-old George struggled with learning problems. Unlike his parents, Mr. and Mrs. White, or his 16-year-old sister, Linda, he was not gifted academically or athletically. When his parents were asked during an evaluation to identify George's islands of competence, they responded with an intriguing, "We're somewhat embarrassed to tell you. We just don't think it's the kind of activity that a 13-year-old boy should be spending much of his time doing."

Eventually, Mr. White revealed, "George likes to garden and take care of plants. That would be okay if he did well in school and was involved in other activities. How can a 13-year-old boy be so interested in plants?"

Rather than my finding fault with the Whites' reactions to George's interests, it was vital to help them understand the importance of identifying and building on his strengths, even if those strengths were not initially valued by them. To be resilient children need to feel they are skilled in at least one or two areas that are esteemed by others.

Clinicians and educators should ensure that treatment and educational plans begin with a list of the child's strengths and include strategies that can be used to reinforce and display these strengths for others to see and praise. Of what use are a child's strengths if they are not observed and supported by others?

Laurie, a teenager, had difficulty getting along with her peers, but young children gravitated toward her. Her parents described her as the "pied piper" of the neighborhood. Given this strength, she began to babysit. As the responsibilities involved with babysitting helped her to develop confidence, she was more willing to examine and change her approach with her peers, which led to greater acceptance. Similarly, 10-year-old Brian, a boy with reading difficulties, had a knack for artwork, especially drawing cartoons. His parents and teachers displayed his cartoons at home and school, an action that boosted his self-esteem and in a concrete way communicated that his reading problems did not define him as a person, that he also possessed strengths.

When children discover their islands of competence, they are more willing to confront those areas that have been problematic for them. Adults must be sensitive to recognizing and bolstering these islands.

Helping Children Realize That Mistakes Are Experiences From Which to Learn

There is a significant difference in the way resilient children view mistakes compared with nonresilient children. Resilient children tend to perceive mistakes as opportunities for learning. In contrast, children who are not very hopeful often experience mistakes as an indication that they are failures. In response to this pessimistic view, they are likely to flee

from challenges, feeling inadequate and often blaming others for their problems. If parents are to raise resilient children, they must help them develop a healthy attitude about mistakes from an early age.

The manner in which children respond to mistakes provides a significant window through which to assess their self-esteem and resilience. For example, in a Little League game two children struck out every time they came to bat. One child approached the coach after the game and said, "Coach, I keep striking out. Can you help me figure out what I'm doing wrong?" This response suggests a child with a resilient mind-set, a child who entertains the belief that there are adults who can help him to lessen mistakes (strikeouts).

The second child, who unfortunately was not resilient, reacted to striking out by flinging his bat to the ground and screaming at the umpire, "You are blind, blind, blind! I wouldn't strike out if you weren't blind!" Much to the embarrassment of his parents he then ran off the field in tears, continuing to blame the umpire for striking out. Since this child did not believe he could improve, he coped with his sense of hopelessness by casting fault on others.

Parents can assist their children to develop a more constructive attitude about mistakes and setbacks. Two questions that can facilitate this task are to ask parents to consider what their children's answers would be to the following questions:

When your parents make a mistake, when something doesn't go right, what do they do?
When you make a mistake, what do your parents say or do to you?

In terms of the first question, parents serve as significant models for handling mistakes. It is easier for children to learn to deal more effectively with mistakes if they see their parents doing so. However, if they observe their parents blaming others or becoming very angry and frustrated when mistakes occur or offering excuses in order to avoid a task, they are more likely to develop a self-defeating attitude toward mistakes. In contrast, if they witness their parents use mistakes as opportunities for learning, they are more likely to do the same.

The second question also deserves serious consideration by parents. Many well-meaning parents become anxious and frustrated with their children's mistakes. Given these feelings they may say or do things that contribute to their children fearing rather than learning from setbacks. For instance, parental frustration can lead to such comments as "Were you using your brain?" or "You never think before you act!" or "I told you it wouldn't work!" These and similar remarks serve to corrode a child's sense of dignity and self-esteem.

No one likes to make mistakes or fail, but parents can use their children's mistakes as teachable moments. They can engage their children in a discussion of what they can do differently next time to maximize chances for success. Using empathy, they can refrain from saying things that they would not want said to them (e.g., how many parents would find it helpful if their spouse said to them, "Were you using your brain?").

Parents must also have realistic expectations for their children and not set the bar too high or too low. If the bar is set too high, children will continually experience failure and are likely to feel they are a disappointment to their parents. Setting the bar too low may rob children of experiences that test their abilities and their capacity to learn to manage setbacks. Very low expectations also convey the message, We don't think you are capable.

If parents are to reinforce a resilient mind-set in their children, their words and actions must convey a belief that we can learn from mistakes. The fear of making mistakes and being humiliated is one of the most potent obstacles to learning, one that is incompatible with a resilient lifestyle.

Developing Responsibility, Compassion, and a Social Conscience by Providing Children With Opportunities to Contribute

Parents often ask what they can do to foster an attitude of responsibility, caring, and compassion in their children. One of the most effective ways of nurturing responsibility is offering children opportunities to help others. When children are enlisted in helping others and engaging in responsible behaviors, parents communicate trust in them and faith in their ability to handle a variety of tasks. In turn, involvement in these tasks reinforces several key characteristics of a resilient mind-set including empathy, a sense of satisfaction in the positive impact of one's behaviors, a more confident outlook as islands of competence are displayed, and the use of problem-solving skills.

Too often parents label the first responsibilities they give children "chores." Most children and adults are not thrilled about doing chores, whereas almost every child from an early age appears motivated to help others. The presence of this "helping drive" is supported by research in which adults were asked to reflect on their school experiences and to write about one of their most positive moments in school that boosted their self-esteem and motivation (Brooks, 1991). The most frequently cited memory was being asked to assist others (e.g., tutoring a younger child, painting murals in the school, running the film projector, passing out the milk and straws).

To highlight the importance of teaching responsibility and compassion, I typically ask parents how their children would answer the following questions:

What are the ways in which your parents show responsibility?

What behaviors have you observed in your parents that were not responsible?

What charitable activities have your parents been involved with in the past few months?

What charitable activities have they and you been involved with together in the past few months?

Parents would be well advised to say as often as possible to their children, "We need your help" rather than "Remember to do your chores." In addition, parents who involve their children in charitable endeavors, such as walks for hunger or AIDS or food drives, appreciate the value of such activities in fostering self-esteem and resilience. Responsibility and compassion are not promoted by parental "lectures," but rather by opportunities for children to assume a helping role and to become part of a "charitable family," a family that is engaged in acts of compassion and giving.

Teaching Our Children to Solve Problems and Make Decisions

Children with high self-esteem and resilience believe they are masters of their own fate and that they can define what they have control over and what is beyond their control. A vital ingredient of this feeling of control is the belief that when problems arise, they have the ability to solve problems and make decisions. Resilient children are able to articulate problems, consider different solutions, attempt what they judge to be the most appropriate solution, and learn from the outcome (Shure, 1996; Chapter 22 this volume).

If parents are to reinforce this problem-solving attitude in their children, they must refrain from constantly telling their children what to do. Instead it is more beneficial to encourage children to consider different possible solutions. To facilitate this process, parents might wish to establish a "family meeting time" every week or every other week during which problems facing family members can be discussed and solutions considered.

Jane, a 9-year-old girl, came home from school in tears and sobbed to her mother, Mrs. Jones, that some of her friends refused to sit with her at lunch, telling her they did not want her around. Jane felt confused and distressed and asked her mother what to do. Mrs. Jones immediately replied that Jane should tell the other girls that if they did not want to play with her, she did not want to play with them. Although this motherly advice may have been appropriate, quickly telling Jane what to do and not involving her in a discussion of possible solutions took away an opportunity to strengthen Jane's problem-solving skills.

As another example, Barry and his older brother, Len, constantly bickered. According to their parents, Mr. and Mrs. Stern, they fought about everything, including who would sit in the front seat of the car and who would use the computer. Len was frequently reminded by his parents to be more tolerant since he was the older of the two. They warned him that his failure to comply with their request would result in punishment. Len's response was to become angry and distant, feeling he was being treated unfairly. Eventually, the parents sat down with Barry and Len, shared with them the negative impact that their arguing was having on the family, and asked them to come up with possible solutions to particular problems and to select what they considered to be the best solution.

Much to the surprise of Mr. and Mrs. Stern, their sons came forth with solutions that were noteworthy for being grounded in simple rules. The boys decided that they would take turns sitting in the front seat as well as alternating every half hour in the use of the computer.

As Shure (1996) found in her research, even preschool children can be assisted to develop effective and realistic ways of making choices and solving problems. When children initiate their own plans of action with the guidance of parents, their sense of ownership and control is reinforced, as is their resilience.

Disciplining in Ways That Promote Self-Discipline and Self-Worth

To be a disciplinarian is one of their most important roles that parents assume in nurturing resilience in their children. In this role parents must remember that the word *discipline* relates to the word *disciple* and thus is a teaching process. The ways in which children are disciplined can either reinforce or erode self-esteem, self-control, and resilience.

Two of the major goals of effective discipline are: (a) to ensure a safe and secure environment in which children understand and can define rules, limits, and consequences, and (b) to reinforce self-discipline and self-control so that children incorporate these rules and apply them even when parents are not present. A lack of consistent, clear rules and consequences often contributes to chaos and to children feeling that their parents do not care about them. On the other hand, if parents are harsh and arbitrary, if they resort to yelling and spanking, children are likely to learn resentment rather than self-discipline.

There are several key principles that parents can follow to employ discipline techniques that are positive and effective. Given the significant role that discipline plays in parenting practices and in nurturing resilience, they are described in detail.

Practice Prevention

It is vital for parents to become proactive rather than reactive in their interactions with their children, especially in regard to discipline. For example, discipline problems were minimized in one household when a young, hyperactive boy was permitted to get up from the dinner table when he could no longer remain seated. This approach proved far more effective than the previous one used by the parents, namely, to yell and punish him; when a punitive atmosphere was removed, this boy also learned greater self-control. In another

home a boy's tantrums at bedtime ended when he was allowed to have a nightlight in his room and keep a photo of his parents by his bedside (both were his ideas to deal with nightmares he was experiencing).

Work as a Parental Team

In homes with two parents, it is important that parents set aside time for themselves to examine the expectations they have for their children as well as the discipline they use. This dialogue can also occur between divorced parents. Although parents cannot and should not be clones of each other, they should strive to arrive at common goals and disciplinary practices, which most likely will involve negotiation and compromise. This negotiation should take place in private and not in front of their children.

Be Consistent, Not Rigid

The behavior of children sometimes renders consistency a Herculean task. Some children, based on past experience, believe that they can outlast their parents and that eventually their parents will succumb to their whining, crying, or tantrums. If guidelines and consequences have been established for acceptable behavior, it is important that parents adhere to them. However, parents must remember that consistency is not synonymous with rigidity or inflexibility. A consistent approach to discipline invites thoughtful modification of rules and consequences, such as when a child reaches adolescence and is permitted to stay out later on the weekend. When modifications are necessary, they should be discussed with children so that they understand the reasons for the changes and can offer input.

Select One's Battlegrounds Carefully

Parents can find themselves reminding and disciplining their children all day long. It is important for parents to ask which behaviors merit discipline and which are not really relevant in terms of nurturing responsibility and resilience. Obviously, behaviors concerning safety deserve immediate attention. Other behaviors will be based on the particular values and expectations in the house. If children are punished for countless behaviors, if parents are constantly telling them what to do in an arbitrary manner, then the positive effects of discipline will be lost.

Rely When Possible on Natural and Logical Consequences

Children must learn that there are consequences for their behavior. It is best if these consequences are not harsh or arbitrary and are based on discussions that parents have had with their children. Discipline rooted in natural and logical consequences can be very effective. *Natural* consequences are those that result from a child's actions without parents having to enforce them, such as a child having a bicycle stolen because it was not placed in the garage. While *logical* consequences sometimes overlap with *natural* consequences, logical consequences involve some action taken on the part of parents in response to their child's behavior. Thus, if the child whose bicycle was stolen asked parents for money to purchase a new bicycle, a logical consequence would be for the parents to help the child figure out how to earn the money needed to pay for the new bicycle.

Positive Feedback and Encouragement Are Often the Most Powerful Forms of Discipline

Although most of the questions I am asked about discipline focus on negative consequences or punishment, it is important to appreciate the impact of positive feedback and encouragement as disciplinary approaches. Parents should “catch their children doing things right” and let them know when they do. Children crave the attention of their parents. It makes more sense to provide this attention for positive rather than negative behaviors. Well-timed positive feedback and expressions of encouragement and love are more valuable to children’s self-esteem and resilience than stars or stickers. When children feel loved and appreciated, when they receive encouragement and support, they are less likely to engage in negative behaviors.

CONCLUDING REMARK

Research may never be able to assign a precise percentage to capture the impact of a parent on a child’s development. However, as noted earlier, whatever the percentage, we know that the day-to-day interactions parents have with their children are influential in determining the quality of lives that their children will lead. Parents can serve as charismatic adults to their children. They can assume this role by understanding and fortifying in their children the different characteristics of a resilient mindset, by believing in them, by conveying unconditional love, and by providing them with opportunities that reinforce their islands of competence and feelings of self-worth and dignity. Nurturing resilience is an immeasurable, lifelong gift parents can offer their children. It is part of a parent’s legacy to the next generation.

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19

Building Educational Opportunity

Maurice J. Elias, Sarah Parker, and Jennifer L. Rosenblatt

Education then, beyond all other devices of human origin, is the great equalizer of the conditions of men, the balance-wheel of the social machinery

—Horace Mann, Annual Report to the
Massachusetts Board of Education, 1848

Equal access to educational opportunity is the philosophical cornerstone of the U.S. public education system. Although significant advances toward realizing this goal have been made over recent decades, educational quality still varies widely across social strata. The agents of this inequity are familiar to most in disadvantaged educational environments: educator stress, low academic expectations, and impaired relations with students; ecological instability; and a culture that discourages academic achievement and healthy behavior—as well as a host of other circumstances that demand the attention of students and educators at the expense of learning. Although years of policy initiatives have worked to eliminate these problems, U.S. public education still falls far short of Mann’s vision.

Educational intervention strategies have long focused on reducing or eliminating negative circumstances, such as those mentioned above, in order to create opportunities for student success. They have done so through targeting environmental characteristics, such as altering drug-use policies and implementing gang-prevention initiatives, and by focusing on individuals and their responses to their environments, such as offering school-based counseling services and health promotion and/or bullying-prevention curricula. Interventions such as these have frequently had marginal and/or inconsistent effects, perhaps because programs that focus on a restricted set of “risks” do not address the spectrum of systemic forces that cluster within low-socioeconomic educational contexts (Jessor, 1993).

Yet Mann offered a tantalizing ideal: education as a neutralizer of the harmful effects of circumstances over which individuals have little direct control. Indeed, educational interventions have long been fueled by the belief that schools can reduce inequities historically

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depicted as inherent to human social structure. In light of a current view that these inequities are dynamic interactions between people and their environments, school-based prevention initiatives that are comprehensive, coordinated, and developmentally sequenced hold great potential: not only can they directly affect individuals, but they can also improve the context in which those individuals function (Weissberg & Elias, 1993). Schools, therefore, can have significant influence in helping youth achieve resilient outcomes.

CONCEPTUALIZING RESILIENCE

It is impossible to enter into any discussion of resilience without first addressing the complex, and largely unresolved, conceptual issues surrounding the construct. Since Norman Garmezy's introduction of the concept of resilience over 50 years ago (Rolf, 1999), a great many empiricists have adopted the term and applied it to their own work. The term *resilience*, though, is often subjected to a variety of usages (Glantz & Johnson, 1999; Greene & Conrad, 2002). A now substantial body of theoretical literature has developed in response to this problem, propelling an ongoing debate over the ultimate utility of the concept (see Glantz & Johnson, 1999). Although challenges to the construct's parsimony and integrity are numerous and valid (e.g., Kaplan, 1999), many researchers are reluctant to abandon a concept that has such powerful heuristic value (Luthar, Cicchetti, & Becker, 2000).

It is beyond the scope of this chapter to enter fully into this highly nuanced debate. Within any intricate theoretical discussion lies the danger of moving so far into abstraction as to undermine the concrete applications that give meaning to the concept itself. The view that productive theoretical discussions require periodic regrounding in practical application provides the rationale for this chapter. The present focus is the utility of the resilience construct within the restricted domain of informing educational interventions in low socioeconomic status (SES) communities. To this end, our initial discussion will focus on formulating a practical, working definition of resilience that maximizes its utility in the development of these specific interventions. Specifically, the present evaluation of the concept's value is structured around two key criteria: (1) the resiliency construct must add value to existing (and perhaps more parsimonious) constructs and (2) the concept of resilience must be able to inform the design of interventions.

Resilience as Protective Processes

At a preliminary level, several competing definitions of resilience seem good candidates for meeting these criteria. The simplest of these holds the term to be conceptually equivalent to "protective processes" in models of risk and protection. The latter concept is of undoubted importance in the formulation of educational interventions in underresourced communities. The move toward identification of these processes resulted in an important shift in how researchers viewed the life courses of individuals within challenging environments (Garmezy, 1985). Rather than solely focusing on preventing negative outcomes, researchers expanded their focus and intervention efforts to bolstering processes that were associated with adaptive outcomes frequently termed "resilient." Different types of protective forces were identified and studied. Luthar (1991), for example, identified two types. The first,

“protective processes,” counteract the harmful effect of stressors (such as providing peer mentors for students during school transitions, or providing parents with explicit approaches they can use to manage the dramatic influx of homework their children receive as they move through primary and secondary schooling). The second, called “protective-enhancing processes,” strengthen children’s competence so they are better able to manage stressors (these include social-emotional skills, which are described later in the chapter, or teaching children how to handle sexual harassment by a caregiver adult). The former moderates the effect of stressors on the child through changing environmental characteristics; the latter moderates harm by changing the child’s ability to handle challenges.

The basic premise underlying these ideas—that avenues for intervention exist even when the removal of negative forces seems unfeasible—is key for educational interventions in areas where many of the negative forces a child faces (e.g., racism, poverty) exist on a macro level beyond the direct influence of most community-based efforts. In this way, the “protective processes” definition of resilience satisfies the criterion of being able to inform interventions. Where this definition falters, however, is in the first criterion: offering a value added to other existing constructs. Though the importance of risk and protective models is well established, there seems to be little advantage accrued by attaching the label “resilience” to these models. Indeed, applying a superfluous and discrepantly defined term to a relatively well-understood and clearly delineated construct would instead seem to constitute a significant disadvantage.

Resilience as the Interaction of Protection and Risk

Based on deficiencies such as these, some theorists have challenged the practice of equating the term resilience with protective processes, arguing that doing so reduces the potentially unique and powerfully predictive concept of resilience to a description of competing probabilities among risk and protective processes (Kaplan, 1999). Such description does little to clarify or expand the theory behind intervention strategies because it does not identify the mechanisms that intervention strategies can use to target specific risks. In short, although researchers and educators have a good description of what kind of processes in general can be helpful to most individuals, they still do not have a clear understanding of how to best help those individuals who have the highest likelihood of poor outcomes.

This gap in models of risk and protection offers a window in which some have argued resilience can offer the greatest value. Models of risk and protective processes propose personal and environmental characteristics, identified primarily through correlational studies, which theoretically have varying amounts of influence on the probability of a given outcome. Although they have descriptive power, their lack of demonstrated causal mechanisms hinders their application to interventions. One compelling view of resilience positions the construct as a means of redressing this weakness by defining resilience as a transactional and three-dimensional (person, environment, and time) theoretical framework. In this model, resilience refers to a process in which specific protective influences moderate the effect of risk processes within both individual and environment over time in order to foster adaptive outcomes. This framing of resilience would not include protective processes that affect outcome by lessening the magnitude of risk processes by acting on them directly, nor would it include those protective processes that impact outcome uniformly, regardless of the presence of risk. Instead, resilience would comprise interactions between risk and protective processes, and in this way

might offer the substantial informative value of being able to prescribe particular protective processes as ameliorative to specific areas of risk.

Such transactional models of resilience, however, have been plagued by two significant challenges. The first, outlined by Luthar and Cushing (1999), is of a statistical nature: in relying on an interaction term to identify resilient individuals, researchers not only are unable to specify the actual number of individuals represented by the interaction but also are frequently unable to replicate their findings because of the typically small effect sizes associated with interaction terms. Models of resilience based on interactions between risk and protective processes face an additional challenge: no matter how detailed the model may be, it can nevertheless be refined further. Kaplan (1999) argues convincingly how individuals identified as resilient were likely never at risk in the same manner as their vulnerable peers; instead, they were included in models of resilience only because the field had an inadequate predictive model of how risk operates in combination with other factors.

An example can illustrate this problem: resilient outcomes have been found within troubled schools (risk factor) in those who have a strong internal locus of control and social problem-solving skills (protective factors). However, one could argue that those individuals are not in fact resilient because they were never at risk. Many researchers have cited the distinction between distal and proximal sources of risk in explaining this situation. It has been argued that the lack of understanding of the proximal, or more direct, risk processes has resulted in models that fail to distinguish the presence of protective processes from the lack of risk. Therefore, in this example, the phenomenon is not so much resilience as it is the possession of appropriate locus of control and problem-solving skills. Furthermore, even if subsequent research discovered that others who lacked even those traits nevertheless were resilient because of some other individual or environmental characteristic interacting with the troubled school environment, it could then be argued that it was the lack of predictive power in the model, not resilience, that accounts for their success (Kaplan, 1999).

Resilience as a Conceptual Placeholder

In the 1999 chapter that detailed the preceding argument, Kaplan concludes that resilience is a once-useful construct whose time has since passed. Indeed, conceptualizations of resilience as a character trait or a consistent process cannot stand close scrutiny; there is no tangible, observable, defining feature common across all individual instances of “resilience.” Resilience is an aberration—a failure in the predictive model—and the potential causes for this aberration are infinite (Kaplan, 1999). They range from a child’s broad social context to minute features of a child’s environment at the precise moment outcome was measured, or any combination of the factors in between. Research identifying variables that account for this aberration is of greater theoretical and practical utility when it includes these variables in a refined predictive model that applies to all at-risk individuals, rather than to partition them off into a separate category of resilience. In this way, resilience is not seen as a specific phenomenon *per se*, but rather as a conceptual tool in the development of increasingly refined predictive models. This conceptual tool would function as a placeholder, highlighting a group for whom the predictive model has failed and reserving a space in the model for an as-yet undiscovered set of variables that might explain this failure.

In essence, Kaplan’s argument is consistent with this “placeholder” view in conceptualizing the bounds of utility for the resilience construct. The difference lies in the expiration of that utility. Although Kaplan sees resilience as a concept that has historically served to

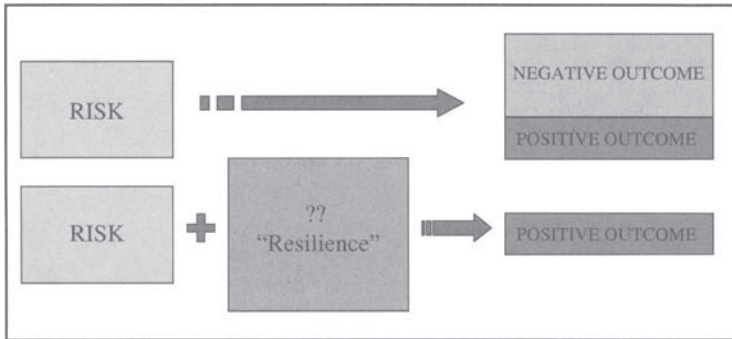


Figure 19.1 The placeholder conceptualization of resilience.

highlight some predictive failures and models in need of refinement, he argues that this function has acted on a broad conceptual level, and, having done so, resilience has served out its utility. In contrast, we see resilience as having continued applicability in the process of refining each individual predictive model, prescribing an examination of unexpected outcomes and holding a place in the model for variables that will explain them. The concept of resilience, then, takes on a sustained utility—not only in the development of new models, but also the continued refinement of old ones. This process cannot be expected to end in a model yielding perfect predictions, but models can (and should) be refined in a series of successive approximations toward that goal. Each stage of this process can be aided by examining instances of resilient outcome and analyzing these instances for systematic differences that can inform the identification of new predictors.

The placeholder conceptualization of resilience, as depicted in Figure 19.1, offers the greatest practical utility in formulating educational interventions for youth considered to be at risk, thereby satisfying the second criterion for defining the term. The refinement of predictive models is clearly central to this task, both in helping to identify intervention targets accurately and for discovering the specific risk and protective processes the intervention should be formulated to address. The specific directives the resilience construct adds to the refinement process meet the first, value-added criterion.

Remaining Conceptual Challenges

This definition does not resolve all conceptual difficulties, however. The researcher still must make a subjective judgment in determining what constitutes positive outcome, even within an educational environment. This judgment necessarily relies on the culturally and temporally biased perspective of the researcher, a perspective that might overlook key factors at work in the population of interest. However, considering the construct of resilience within a certain setting—in the current discussion, urban, low SES educational institutions—reduces these biases (Kaplan, 1999). Although academic completion and achievement are indeed “positive” outcomes only because they are valued by the dominant culture, they are nonetheless agreed-upon by the educational system and its participants. Arguably, families who participate in the public education system enter into an unwritten social contract with their schools that is fulfilled only through the exchange of a set level of skill accumulation and degree attainment for a certain amount of schooling. Using this

“contract” helps to delineate more objectively what comprises positive outcomes in a model of educational resilience.

Focusing on resilience within educational settings also allows researchers to avoid another common critique that resilience research has faced: in order to accommodate the statistical and logistical demands of research, those who study resilience often define positive outcomes narrowly, failing to acknowledge the numerous aspects of life in which a person can succeed. This has resulted in models of resilience that seemingly ignore important areas in which those who did not achieve resilient outcomes have succeeded. For example, a student who drops out of school to support her family would not be identified as resilient in models that focus solely on academic outcomes. An educational resilience model avoids this by restricting its focus to the K–12 educational experience; by doing so, it can employ a widely accepted, context-specific definition of “positive adaptation” (e.g., graduation, grades, and achievement on standardized tests) while acknowledging that individuals who do not reach optimal functioning within this context can still do so in other aspects of their lives.

Overall, working within the educational resilience framework retains many of the benefits of resilience while excising some of its hazards. Within the bounds of this restricted focus, we will use academic achievement (including grade point average, standardized test scores, educator ratings of academic performance, and level of schooling completed) during the typical urban, low SES, K–12 educational experience as the measure of positive adaptation in the process of educational resilience.

FORMULATING INTERVENTIONS

Our adoption of the placeholder conceptualization of resilience is rooted largely in its ability to dictate a clear structure within which predictive models can be refined and interventions can be designed. This interpretation of resilience leads us to a four-step approach:

1. *Identify distal agents of risk.* Given our overarching goal of working toward equalizing educational opportunity, our starting point is the identification of a single risk factor—attendance at a low SES school—and a single associated outcome: poor academic achievement.
2. *Identify instances of resilience.* The next step requires us to identify those students who have defied our initial predictive relationship, those who have managed to achieve academic success despite their disadvantaged school setting.
3. *Look for systematic differences that differentiate instances of resilience.* These differences are perhaps best conceptualized as the absence of risk processes, the presence of protective processes, or a set of such processes interacting. Although the operational distinction between the absence of risk and the presence of protection is often difficult to delineate, such distinctions are rarely of practical import. As outlined in the following section, we propose that social and emotional skills constitute a set of protective processes that systematically differentiate academically successful students in high-risk settings.
4. *Identify best options for intervention.* Once a theoretical understanding of those processes associated with instances of resilience is established, interventionists must adopt a practical stance in assessing the implications of these findings. Decisions must be made as to the relative feasibility of lessening specific risk processes or bolstering specific protective processes. Particularly in underresourced communities, it is essential to design interventions that provide the optimal balance of efficacy and efficiency.

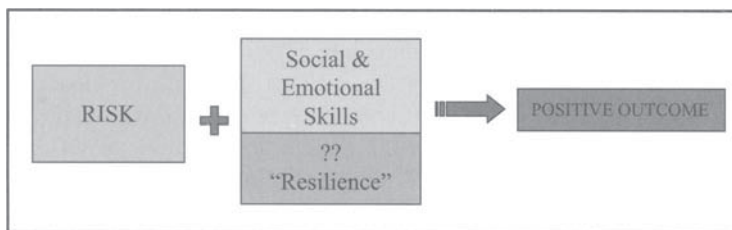


Figure 19.2 Theoretical model of social and emotional learning as a variable in explaining resilience.

SOCIAL AND EMOTIONAL LEARNING

The remainder of this chapter applies the preceding framework to our specific concern: equalizing educational opportunity. Given this point of entry, the identified distal agent of risk is low SES educational settings. Students in such environments are clearly at heightened risk for poor academic outcome (Elias et al., 1997). However, while these associations between risk and outcome offer a prediction, they do not offer a prognosis. Some students are exceptions to the rule; they find pathways to academic success despite challenging school environments. The educational resilience paradigm directs us to look to these exceptions to find ways to change the rule.

The next step, then, involves examining ways in which these students differ from their peers. An increasing body of research points to social and emotional skills as key factors distinguishing students who attain academic success in challenging environments. Resilience holds a place for variables in a predictive model that can accommodate these instances of academic success; social and emotional learning may be one such variable (see Figure 19.2).

Social and Emotional Learning Defined

Just as students arrive at school with unique bodies of knowledge and cognitive strategies, they come equipped with their own social and emotional skills. They have often developed these techniques through interactions in their homes and communities; as such, they can also learn new strategies in the school environment through social and emotional learning (SEL) programs. These initiatives broadly aim to develop social competence, defined as “the capacity to integrate cognition, affect, and behaviors, to achieve specified social tasks and positive developmental outcomes. . . . [It is] a set of core skills, attitudes, abilities, and feelings given functional meaning by the contexts of culture, neighborhood, and situation” (Elias, Kress, & Neft, 2003, p. 1023). In short, SEL interventions help students accumulate knowledge and skills that facilitate the optimal emotional processing of, and response to, their social contexts. Targeted competencies include self-awareness, self-management, social awareness, relationship skills, and decision making (CASEL, 2003a).

SEL as a Predictor of Resilience

The claim that SEL skills constitute important variables explaining instances of resilience requires empirical support on two levels. The first level is the demonstration that SEL skills can reliably differentiate instances of resilience from more typical academic outcomes. Such research is necessarily correlational in nature and, as such, is restricted in its ability to infer causation. Causation can be better examined at the second level of research—intervention

evaluation—which allow approximate experimental control of targeted skills, thereby affording stronger evidence for model formulation.

At the first level, a number of studies have found SEL skills (or closely related constructs) to be associated with instances of academic resilience. For example, studies have identified associations between school achievement and positive social and emotional skills (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; DiPerna & Elliott, 1999; Feshbach & Feshbach, 1987; Haynes, Ben-Avie, & Ensign, 2003; Masten et al., 1999). Research has also linked social and emotional skills with higher achievement on standardized tests (Malecki & Elliott, 2002; Welsh, Parke, Widaman, & O’Neil, 2001; Wentzel, 1993). Conversely, antisocial conduct often co-occurs with poor academic performance (Hawkins, Farrington, & Catalano, 1998; Masten et al., 1999).

SEL Intervention Research

These associations are encouraging, but far from conclusive as to the specific role SEL skills play in instances of resilience. Research at the second, intervention-evaluation level helps to elucidate the patterns of causality in these relationships. Although a true experimental manipulation of SEL skills is logistically impossible, intervention research approximates such manipulations by providing experimental groups with opportunities for the development of SEL. Well-designed studies also provide SEL measures to check for the success of skill acquisition. Although the exact mechanisms responsible for any differences in the experimental group cannot be concluded with certainty, this method arguably offers the most scientific available for maximizing this certainty.

To that end, a number of analyses of school-based prevention programs conducted in recent years provide general agreement that some of these programs are effective in reducing maladaptive behaviors, including those related to school success (e.g., Durlak, 1995; Elias et al., 1985; Gottfredson, 2001; Mrazek & Haggerty, 1994; for a review of evidence linking SEL to improved academic outcome, see Zins et al., 2004). These findings offer empirical justification for the implementation of SEL programs, but they offer little theoretical explanation for their demonstrated efficacy. The remainder of the chapter will focus on propositions as to *why* SEL interventions are effective, their mechanisms of action, and their key implementational advantages. It should be emphasized that this discussion is theoretical and heuristic, rather than empirical, in nature. One of the goals of future research in this area will be to design studies so that the specific processes underlying the success of SEL interventions can be delineated.

A guiding assumption in the current discussion is that any variable that might explain educational resilience will ultimately be dependent on a dynamic interaction of three dimensions: person, environment, and time. By nature, these three dimensions are mutually determined, so there is little meaning in the examination of one in the absence of the other two. Thus, this discussion of the probable agents of educational resilience presumes them to be also of a three-dimensional nature. School-based SEL programs counteract common mechanisms of risk and foster the protective resources in all three dimensions of educational resilience: the students themselves, their educational and social environments, and the interaction of these dimensions over time.

In order to come to a clearer understanding of the mechanisms through which students demonstrating educational resilience can be buffered from negative influences on academic outcomes, it is necessary to parse the broad risk processes associated with poverty into their more proximal agents of risk in an educational context. The following sections

identify such mechanisms, which are hypothesized to mediate the relationship between poverty and suboptimal academic achievement. The discussion covers categories of risk that were culled from a review of literature from the education-reform, resilience, and educational-resilience fields. Processes selected were those that theoretically and/or empirically were found to a greater degree among low SES schools than among their wealthier counterparts. The processes were also linked with poor academic outcomes in such communities and were theoretically and/or empirically demonstrated as mediators of the relationship between SES and academic outcomes. Risk categories described in the following sections were then created by grouping together those mechanisms that theoretically and/or empirically were elements of the same larger process. This method yielded the following broad mechanisms for intervention: factors that influence the student–educator dynamic (i.e., educator stress/frustration, low academic expectations, and impaired educator–student relationships) and factors that influence the student–community dynamic (i.e., ecological instability and disconnect between school and community cultures). The processes through which SEL interventions interact and ameliorate each of these risks will be outlined theoretically and supported with relevant research in the following section.

STUDENT–EDUCATOR INTERACTIONS

The manner in which students and their educators and/or school administrators interact has enormous influence on student learning (Wang, Haertel, & Walberg, 1997). Often the emotional climate in low SES, underperforming schools can affect educators in ways that ultimately harm the academic outcomes of their students. Specifically, the emotional climate can function proximally to students through high levels of educator stress and low academic expectations, both of which have been identified as more common within low-SES educational environments (Peng & Lee, 1994). These factors hamper student achievement by discouraging educators from spending time and energy supporting and motivating their students in positive ways. As depicted in Figure 19.3, the result of this interaction is poor educator–student relationships and lowered academic performance, both of which continue cycles of educator stress and low academic expectations.

This is an especially worrisome cycle within low SES schools because positive educator–student relationships have been found to protect at-risk students from negative academic outcomes (Esposito, 1999). Some research has suggested that these relationships can hold particular protective value for minority students (Meehan, Hughes, & Cavell, 2003; Wang, Haertel, & Walberg, 1997). Unfortunately, data also suggest that minority students are less likely to enjoy strong relationships with their educators in comparison to their

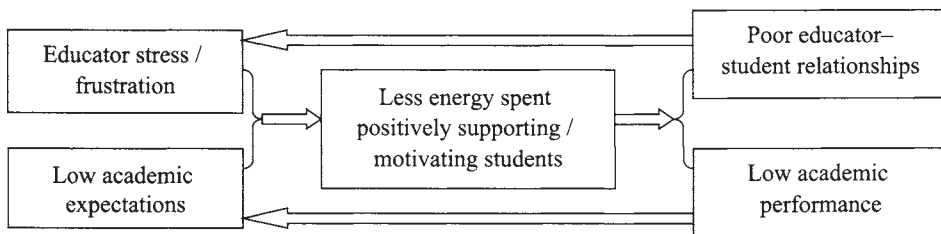


Figure 19.3 Reciprocal influences in high-risk school settings.

more advantaged peers. Contributing factors within disadvantaged school districts have been identified above and in Figure 19.3, and they include widespread disengagement of faculty and staff, a lack of interpersonal and self-regulatory skills among students to form strong relationships with adults, and everyday challenges that absorb student and teacher energy at the expense of educator–student relationships.

SEL interventions can ameliorate the cycle of educator stress, low expectations, poor student–teacher relationships, and low academic performance in two ways: (1) through professional development that helps educators to manage their stress and to understand the role that low expectations might play in student behavior and (2) by encouraging students to change their behavior in such a way that they are able to persist on difficult academic tasks and elicit more support from educators. These mechanisms of action are discussed in further detail below.

Poor Educator–Student Relationships

Educator Effects

When school environments are chaotic, the effort that educators might otherwise apply to educating and motivating students in a positive way must be diverted to managing problematic student behavior and their own worries about personal safety. The stress and frustration brought about by this and other aspects of the school environment decrease educators' levels of commitment to their students and their careers and can ultimately lead to burnout. Positive correlations between number of years of educator experience and student achievement suggest that the inability of urban, low-SES school to retain experienced teachers can be particularly detrimental to students' educational experience (Glass, 2002).

SEL programs address educator stress through professional development. The orientation and training received through most empirically supported SEL programs help educators gain the same emotion-regulation and social problem-solving skills as they are expected to foster in their students. These skills help them better manage the stress and demands that often arise in their roles as educators and can increase their career efficacy and satisfaction (CASEL, 2003a). The best SEL programs provide professional development before program implementation, tools for internal and external personnel to observe program implementation, and feedback and coaching for educators (CASEL, 2003b). In this way, educators are empowered to use new and frequently more effective ways to maintain a positive and productive atmosphere in their classrooms.

Many SEL programs offer support for educators; one such program offering extensive professional development is Responsive Classroom (Northeast Foundation for Children). The program places less emphasis on social and emotional skill instruction and more emphasis on changing teaching strategies, employing six practices that help accomplish the program's goal: classroom organization, morning meetings, rules and consequences, academic choice, guided discovery, and family communication. These strategies help educators manage their classrooms in positive ways, which helps reduce their frustration and anxiety. The strategies also foster more open and effective educator–student relationships, which also can reduce educator stress. Responsive Classroom's professional development includes workshops, summer intensive programs, individual on-site consultation, and comprehensive guidelines that help the educator implement and integrate the program into existing curricula (CASEL, 2003b).

Student Effects

In addition to improving relations between educators and their students by reducing educators' levels of stress and frustration, SEL interventions explicitly teach social problem-solving skills that can generalize from students' peer relationships to their interactions with adults. These skills increase the likelihood that students will elicit positive, supportive behavior from their teachers. Primary social and emotional skills that help students become aware of their own and others' emotions, regulate their responses, and make good behavioral decisions all help students communicate more effectively and openly with their teachers. The Caring School Community program, for example, employs a number of strategies specifically aimed at strengthening educator–student relationships. The vehicle for these strategies is a schedule of regular class meetings in which communication and relationship-management skills are taught and practiced by both students and educators. Meetings are used to discuss problems, plan classroom activities, make class decisions, and reflect on classroom events. Emphasis is placed on creating an environment in which students are comfortable expressing their opinions and feel valued as contributing members of the classroom community.

SEL programs can dramatically improve classroom climate by providing educators with positive and effective classroom management techniques; these techniques reduce educator stress and remove many distractions from learning and teaching. SEL programs also help educators and students learn open and effective ways of communicating about conflict and emotional distress; when these skills are applied in the classroom, educator–student relations improve and educators are better able to motivate students and convey course information.

Low Academic Expectations

A large body of research has demonstrated that educator expectations can have a powerful impact on students' academic outcomes, regardless of the degree of congruity between these expectations and students' actual prior achievement (Good, 1981; Rosenthal & Jacobson, 1968; Rosenthal & Rubin, 1978; Wang & Haertel, 1995). Recent work has replicated these findings in urban samples (Gill & Reynolds, 1999; Kuklinski & Weinstein, 2001). Some data suggest that educators tend to have lower expectations for low SES, minority youth. Murdock (1999) examined differences in students' reports of their educators' expectations for their long-term success across socioeconomic (low vs. high income) and ethnic (African American vs. Caucasian American) groups. Low-income African American students perceived educators' expectations for them to be significantly lower than did high-income Caucasian American students. There are several potential explanations for this inequity. First, lowered expectations can be an artifact of educators' stereotypical beliefs about members of minority and low SES groups. A number of theorists have offered a second explanation, positing that educators' perceptions can be influenced by observing students within an educational structure based on the value system of a dominant culture (e.g., Murdock, 1999). Finally, given that race and economic status are significant risk factors for academic difficulty, educators might simply be forming expectations based on their own experience.

Educator Effects

SEL programs target negative teacher expectations directly and indirectly. The more immediate approach consists of professional development that explicates the goals of SEL, the

processes through which those goals are achieved, and the research supporting their effectiveness. This process makes explicit the potential of all students to learn, a phenomenon that contradicts low academic expectations. Such training also offers specific strategies to help educators become aware of and alter how they convey expectations to students. The Skills, Opportunities, and Recognition (SOAR) program, for example, helps educators develop and communicate clear standards for their students. In addition, educators are encouraged to actively seek out individual areas of strength for each student and provide recognition for students based on these strengths. SOAR techniques are directly counter low academic expectations, thereby reducing the likelihood that low expectations will be conveyed to students.

A second, less direct SEL program approach to modifying low academic expectations consists of bolstering student performance, the mechanisms of which are discussed in the following section. Many empirically supported SEL programs have been linked to improved academic performance. Educators who witness this change are provided with evidence that does not support their low expectations; as depicted in Figure 19.3, if educators respond to this by conveying higher academic expectations to their students, they often elicit better academic performance. The cycle of raised expectations and performance then can be maintained by students meeting increasingly higher academic expectations from their educators.

Student Effects

SEL programs bolster students' metacognition and self-efficacy with regard to academic and other tasks. These skills help students—especially those from historically disadvantaged groups—recognize and persevere in the face of low academic expectations. The High/Scope educational program, for example, aims to foster self-confidence, social competence, and a “can-do” attitude in each of its program participants (High/Scope Educational Research Foundation, 2003). Kindergarten through third-grade students who participated in High/Scope had significant improvement in 18 of 25 academic indicators, as compared to two control groups; strongest results were found for low SES students (Schweinhart & Smith, 2001).

COMMUNITY–STUDENT INTERACTIONS

Characteristics of the environment outside the school can play significant roles in student achievement within the school (Leventhal & Brooks-Gunn, 2000). This is true of both advantaged and disadvantaged communities; in the former, external characteristics tend to exert positive influences on student achievement. Wealth, for example, plays a stabilizing role in the life of a family, which facilitates student focus on academic material when in the classroom. Communities that share their schools' values—such as the importance of succeeding in and completing high school and higher education while young—reinforce academic achievement. Access to health information and resources, which often characterize wealthier communities, results in better student health choices and reduced consequences when they make poor choices. These outcomes reduce the negative impact of health behavior on student achievement. However, many characteristics of disadvantaged communities play detrimental roles in the academic achievement of their students. These roles, and how SEL programs can change them, are detailed in the sections that follow.

Ecological Instability

A number of factors related to ecological instability and transition have been found to increase students' risk for academic difficulty. Familial instability and divorce (Masten, Best, & Garmezzy, 1991; Wang & Gordon, 1994), frequent relocation (Lash & Kirkpatrick, 1994; Scanlon & Devine, 2001; Straits, 1987; Temple & Reynolds, 1999), and middle school transition (e.g., Elias, Gara, & Ubriaco, 1985) have all been linked with lower academic performance and increased rates of school behavior problems.

Not surprisingly, children in low SES communities tend to experience a greater degree of ecological instability than do their peers from more advantaged environments. Disadvantaged families are more likely to be headed by a single mother, and disadvantaged single mothers are more likely to experience instability in relationship partners, creating frequent changes in household composition and location. Poor families are also subject to more frequent residence changes in general (Kerbow, 1996), often resulting in multiple school changes.

The risk posed by ecological instability seems to be additive; that is, the more simultaneous the changes experienced by a student, the greater that student's academic decline (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). The logical inference from these data is that schools in low SES, highly unstable environments can help increase academic performance by fostering a stable school environment. Research supports this inference—in a study examining the long-term impact of family transitions on children, researchers found that structured, safe, and predictable school environments helped buffer children of divorced families from adverse environments (Hetherington, 1989).

Intervention strategies should therefore aim to increase the stability and predictability of the school environment. SEL programs achieve this end by offering a consistent and coherent framework that can encompass many of the disparate disciplinary policies and psychoeducational activities that often coexist in the school environment. Professional development in SEL strategies helps educators foster a collaborative and mutually reinforcing learning environment in which students experience a consistent set of behavioral expectations, classroom-management strategies, and extracurricular support (such as mentoring and emotional health groups) across schools, grades, and classrooms (Elias et al., 1997). Such consistency eases transitions between grades and schools.

Not only do SEL programs target ecological instability directly by creating consistent educational environments, they ameliorate the risks students face by helping them develop skills that buffer the negative impact of an unstable environment. A direct evaluation of a school-based intervention designed to bolster social problem-solving skills found that program participation mitigated the normative decline in academic performance associated with middle school transitions (Elias et al., 1985). This research implies that social and emotional competence can protect children against the deleterious academic effects of an unstable environment.

Two SEL programs include specific materials to help districts promote high academic achievement while supporting environmental consistency through school-wide implementation: the Lions-Quest "Skills" curricula (Lions Clubs International Foundation, 2003) and the Community of Caring program (Community of Caring, 2004). The Lions-Quest program, which targets social and emotional skills, positive health behaviors, and service learning, for example, helps schools create committees of faculty members, students, and parents to monitor the educational environment (CASEL, 2003b). The program also is designed to be continuous across grades, facilitated by school-wide programs and disciplinary strategies

and professional development for staff to increase program consistency. Unpublished studies of Lions-Quest programs that have been implemented with Caucasian, Asian, and African American students showed not only that students in the program had better social skills and fewer educator-reported behavior problems, but also had higher overall GPAs and math and English grades than did a control group (CASEL, 2003b).

The Community of Caring program addresses health behaviors and academic achievement through a whole-community approach that “works to implement and encourage five values—caring, responsibility, respect, trust, and family” (Community of Caring, 2004). The curriculum provides extra materials to aid implementation throughout the school (CASEL, 2003b) and involves on-site professional development for faculty and staff. Data from a variety of sources with Caucasian, Asian, and African American students indicated improved academic and behavioral outcomes for those who participated in the program (Community of Caring, 2004).

The consistent school environment created by SEL programs seems to counteract some of the negative effects of ecological instability that are experienced by many disadvantaged youth. The structured setting and consistent management and disciplinary techniques encouraged by SEL curricula can smooth the transition between grades or schools and can help students maintain a sense of security and predictability when other parts of their lives may be in flux. They also learn skills to better allow them to manage strong emotions and new situations. This helps students devote the energy they would have spent on managing stress and adapting to new rules toward learning. Improved academic outcomes for entire schools and districts that implement these programs support these claims.

Disconnect between School and Community

One risk process indicated in poor academic performance is incongruity between cultures inside and outside the school (Roosa, Dumka, Gonzales, & Knight, 2002; Tharp, 1989; Wang, Haertel, & Walberg, 1997). When the values espoused inside a school are not in accord with those promoting outside a school by students’ communities, families, and peers, students have difficulty identifying with and accomplishing academic goals (Roosa et al., 2002; Tharp, 1989). This can contribute to lower academic achievement and higher rates of truancy and dropout (Connell, Spencer, & Aber, 1994). SEL programs, therefore, strive to align school cultures with those outside the educational environment in a way that fosters positive development among youth. In support of this goal, two of the three key strategies identified by Greenberg et al. (2003) in a review of research on SEL programs involved aligning the school environment with the community and family environments. In addition, studies have found that interventions that connect families with their children’s schools and the larger community with its schools promote educational resilience (Wang & Haertel, 1987; Borman & Rachuba, 2001; Reynolds, 1999) and have larger and longer-lasting effects (Epstein, Salinas, & Simon, 1996; Haynes & Comer, 1996; Walberg, 1984).

School–Community Partnerships

SEL programs bridge the gap between schools and their families and communities in a variety of ways. One strategy is to improve the alliance directly through school–community or school–family partnerships (Greenberg, Domitrovich, & Bumbarger, 2001). Service learning and family outreach initiatives are especially effective at bridging the gaps between communities and families and their schools. For example, the Lions-Quest

program (Lions Clubs International Foundation, 2003) provides evidence-based, developmentally appropriate interventions for grades K–12 through school–community partnerships. In an effort to align the values of families with those of their children’s schools, the program includes homework assignments that students complete with their guardians and skills-building workshops for parents. The Lions-Quest program targets community culture through its high school curriculum, Skills for Action; this segment involves service learning in the surrounding community and has resulted in “gains in positive community values” and increased empathy and ability to work with and relate to diverse groups (Lions Clubs International Foundation, 2003). More important in a discussion of educational resilience, the program also reduced dropout risk.

Caring School Community (Child Development Project) also has specific strategies for fostering a sense of cohesive culture within all ecological levels in which the child functions: in the classroom through class meetings, within the school through buddy programs, within the family through conversation prompts, and throughout the community through school–community programs. Grade school students who went through the program had a stronger sense of the school as a community and more liking for their school. Even after the students transitioned to middle school, they maintained a stronger feeling of community and still reported more liking for their schools and greater trust in their educators than those who had not received the program (Battistich, 2001).

Confronting a Culture of Violence, Sex, and Substance Use

Many urban, disadvantaged communities struggle with a subculture that promotes violent solutions to interpersonal problems and glamorizes sex and substance abuse. This subculture frequently carries over into the community’s educational institutions, undermining academic achievement, healthy development, and prosocial behavior (U.S. Department of Health and Human Services, 2001). Various health behaviors have been identified as risk factors for low academic achievement and/or school dropout, including drug abuse (McCluskey, Krohn, Lizotte, & Rodriguez, 2002), alcohol abuse (McCluskey et al., 2002), smoking (Newcomb et al., 2002), and unprotected sexual activity (resulting in STDs or unwanted or early pregnancy) (McGee & Newcomb, 1992). These activities are widely associated with lower academic achievement in terms of grades, test scores, and school completion and tend to occur at significantly higher rates in low SES communities. Such poor health choices are linked to violence: 73% of deaths among youth are due to behavioral causes (accidents, homicides, and suicides), and alcohol and illegal substances often are involved in these behavioral causes. Furthermore, the culture that values violence poses risks not only for the aggressors but also for those around them, such that small groups of physically or emotionally destructive individuals can have disproportionately large negative effects on entire schools.

Research indicates that urban school children experience growth in aggression over the course of each school year; empirically supported SEL programs, such as the Resolving Conflict Creatively Program (RCCP), slow and virtually halt this process. SEL programs directly target violent and poor health behaviors through comprehensive, multimodal violence-prevention and health-promotion modules that have been shown to foster healthy decision making and reduce high-profile aggressive acts (such as bullying and gang involvement) and lower-profile and more commonplace antisocial behavior (such as interpersonal aggression and theft). They accomplish this through promoting five commonly identified social and emotional competencies, which constitute the focus for many SEL

programs (CASEL, 2003a). Bolstering students' skills in self-awareness (recognizing one's own emotions), social awareness (recognizing emotions in other people), self-management (acting on one's emotions in a controlled, productive, prosocial manner), relationship management (responding calmly and constructively to others' behavior), and decision making (focusing on long-term rather than short-term goals) all work to deescalate stressful interpersonal situations that frequently lead to poor health choices and violence at school and in the community. Decreased drug and alcohol use, pregnancy rates, health problems, and violent interactions result in less energy and time being devoted to managing these problems and their emotional effects (such as anxiety, anger, and grief) in students and educators. The time that administrators, educators, and students would have diverted toward those ends can then be applied to the task of teaching and learning, thereby fostering positive educational outcomes among students.

Many SEL programs identify violence prevention as a primary aim, and they use different techniques to achieve that aim. The I Can Problem Solve (ICPS; formerly, Interpersonal Cognitive Problem Solving) curriculum (Shure, 1992a, 1992b, 1992c), for example, focuses on five main problem-solving skills to reduce violence: means-end thinking, weighing pros and cons, alternative solution thinking, consequential thinking, and empathy. These skills have been shown to increase problem-solving skills and foster positive relationships and prosocial behavior both inside and outside the classroom, with effects lasting up to four years. ICPS has been shown to both intervene and prevent problem behavior such as bullying and violence. Another program, Peace Works, was based on resiliency theory and research, and it prevents violence through multimodal intervention in three dimensions: the learning environment, the student's social competence, and problem-behavior reduction. Studies of the program have found a reduction in fights (Diekmann, 2004). Use of the Second Step curriculum (Committee for Children) has similarly been found to increase frequency of neutral and positive student behavior and their understanding of social skills; educators reported that the program helped with classroom management and that it decreased disruptive and aggressive behavior in the classroom (Grossman et al., 1997).

The same social, emotional, and decision-making skills that decrease violent behaviors also support better health choices among youth. Know Your Body (American Health Foundation) targets general health behaviors through frequent lessons that target five areas: self-esteem, decision making, communication, goal setting, and stress management. Several evaluation studies have shown that Know Your Body results in improved health behaviors, including reduced rates of smoking. Teenage Health Teaching Modules (Education Development Center) is notable in its comprehensive programming that goes beyond drug prevention, healthy sexual development, and general health promotion and targets academic skills, citizenship, and violence prevention (CASEL, 2003b). A study of this program in high school found that it reduced tobacco, illegal drug, and alcohol use, along with consumption of fried foods (CASEL, 2003b). However, another unpublished study's findings of the program's effects in middle school were less conclusive (CASEL, 2003b).

In general, SEL programs reduce or moderate the effects of negative forces in the community outside the school, thereby supporting positive academic outcomes among youth. By providing students with safe, predictable educational environments that are responsive to the values of the context in which they function, schools can help students devote more energy to academic topics and do so in a more efficient manner. SEL programs provide a holistic framework that helps educators achieve these aims through systematic change.

IMPLEMENTATION OF THE EDUCATIONAL RESILIENCE MODEL

Research to date indicates that effectively implemented SEL programs are particularly far-reaching interventions that are associated with overcoming the clustering risks endemic to urban, low SES school environments. To the extent that SEL programs are implemented across grades and schools within a district—as they are designed to be—they can be particularly effective at ameliorating the chronic nature of risk processes that interfere with the achievement of developmental milestones (Gore & Eckenrode, 1994). However, the ability of the programs described in this chapter to build educational opportunity and contribute to resilient outcomes varies with, and in most cases, depends upon their level of implementation (Greenberg et al., 2003). This fact presents the most pressing issue for SEL researchers and supporters to resolve: barriers to implementation. Enacting the scope and degree of system change that are necessary to realize the positive effects of these programs is challenging for nearly all school districts, and can be especially so for ones whose financial, personnel, and physical assets are limited. Gathering the organizational and motivational resources to implement and subsequently evaluate an SEL program across a district's educators, grades, schools, and academic subjects can be overwhelming; fortunately, there are numerous resources that outline best practices for accomplishing such an initiative. Recommended resources are listed in Appendix A.

The foundation of successful implementation is selecting an SEL program with strong empirical validation. A number of programs exist with well-documented efficacy. The Collaborative for Academic, Social, and Emotional Learning (CASEL) has created a guide, *Safe and Sound* (2003a), which evaluates the efficacy of and evidence supporting widely available SEL programs. All of the curricula mentioned in this chapter are among the 21 programs given CASEL's "select" designation, based on program quality and evidence of effectiveness. A list of these programs is provided in Appendix B.

However, selecting such programs can be viewed as a necessary but still insufficient condition for effective implementation. Research shows clearly that even empirically validated programs are not "implementation proof," nor can they be rendered such (Gager & Elias, 1997). Still, the challenges involved in establishing a comprehensive SEL program need not deter educators from the task. Schools' status confers them a unique capability to build opportunity for their students. As institutions that are mandated to educate all children within a certain geographical area, schools are able to have unparalleled, far-reaching influence on their constituents. As institutions that are often respected and prominent in their communities, schools are able to set standards for and exert positive influence on numerous ecological levels: students, parents and families, neighborhoods, and the wider public. In addition, their ability to influence students over the course of time, across developmental stages and milestones, grants schools vast promise as a source of systematic, comprehensive change. The potential for such efficient and powerful enactment of social transformation provides the impetus for school administrators to choose an empirically validated SEL program and allocate the resources necessary for its full implementation.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

All research on the risk and protective forces in academic success carries with it the limitations of the educational field's current correlational methodologies. Although all of the risk factors discussed in this chapter are associated with both low SES and academic difficulty,

their presentation as causal agents should be treated as a theoretical, rather than empirical, assertion. Educational resilience research has yet to build a robust, empirically based understanding of mechanisms that link poverty and poor academic outcomes. However, SEL programs have been shown repeatedly to increase academic achievement, and such programs ameliorate many of the risk factors that have been proposed to hinder youth's academic achievement.

Furthermore, research designs and statistical analyses are often not focused on examining those who do not follow the paths of central tendency defined by the data. Optimal application of a transactional approach to resilience would include greater use of idiographic, person-based methodologies, to supplement the more usual nomothetic, variable-based methods. The resiliency paradigm offers us a framework for continuing research in which exceptions to the predictive model inform us as to the ongoing refinement of our models, in a series of successive approximations toward greater explanatory power.

Today's youth who are growing up in low SES communities face challenges too numerous and pervasive to be effectively eradicated within their lifetimes. The educational resiliency paradigm posits that this reality need not be deterministic of negative outcomes. Efforts to reduce these structural agents of risk should be pursued broadly and continuously; meanwhile, SEL offers an additional, and perhaps more immediately feasible, approach by ameliorating the negative effects of many of these structural agents of risk within disadvantaged educational environments. In essence, SEL programs offer a means of building educational opportunity, not only by targeting the educational environment itself, but also by fostering students' internal resources, allowing them to meet extraordinary challenges.

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Appendix A SEL Program Implementation Resources

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Appendix B CASEL's Select SEL Programs (adapted from CASEL, 2003a)

Caring School Community (Child Development Project)
www.devstu.org/cdp/index.html

Community of Caring (Growing Up Caring)
www.communityofcaring.org

High/Scope Educational Approach for Preschool and Primary Grades
www.highscope.org

I Can Problem Solve (ICPS)
www.thinkingchild.com/icps.htm

Know Your Body
www.kendallhunt.com

Learning for Life
www.learning-for-life.org

Lions-Quest ("Skills" series)
www.lions-quest.org

Michigan Model for Comprehensive Health Education
www.emc.cmich.edu/mm/default.htm

PATHS (Promoting Alternative Thinking Strategies)
www.channing-bete.com/positiveyouth/pages/PATHS/PATHA.html

Peace Works (Peace Education Foundation)
www.peaceeducation.com

Productive Conflict Resolution Program: A Whole School Approach
www.schoolmediationcenter.org/programs/whole/whole.htm

Project ACHIEVE
www.projectachieve.info

Reach Out to Schools: Social Competency Program (Open Circle Curriculum)
www.open-circle.org

Resolving Conflict Creatively Program (RCCP)
www.esrnational.org/es/rccp/htm

Responsive Classroom
www.responsiveclassroom.org

Second Step
www.cfchildren.org/ssf/ssf/sgindex/

Skills, Opportunities, and Recognition (SOAR)
www.channing-bete.com/positiveyouth/pages/SOAR/SOAR.html

Social Decision Making and Problem Solving Program
130.219.58.44/sdm/index.htm

Teenage Health Teaching Modules
www.thtm.org

Tribes TLC
www.tribes.com

Voices Reading Program:
www.voicespublishing.com/index.html
www.naschools.org/uploadedfiles/Voices%20of%20Love%20and%20Freedom.pdf

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Building Resilience in

All Children

A Public Health Approach

Emily B. Winslow, Irwin N. Sandler, and
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In this chapter,¹ we present a conceptual framework for the promotion of resilience in children that integrates concepts from the study of resilience with a public health approach to improving mental health at the population level. The chapter begins with a review of resilience and public health concepts and describes how these perspectives can be integrated within a broad framework for the promotion of health and prevention of dysfunction. We then present examples of evidence-based preventive interventions and policies that have successfully implemented components of this framework. Given our focus on promoting resilience, we limit discussion and examples of interventions to those designed to create resources for children not diagnosed with mental health disorder, although the framework could readily be extended to interventions for children with clinical levels of dysfunction. Finally, we provide an overview of how the framework might be used by planners to create resources in their communities that will promote resilience, as well as examples of tools currently available to assist planners in this process.

RESILIENCE CONCEPTS

We define resilience as “a child’s achievement of positive developmental outcomes and avoidance of maladaptive outcomes under significantly adverse conditions” (Wyman,

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Sandler, Wolchik, & Nelson, 2000, p. 133). Three concepts are central to this definition: adversity, positive outcomes, and the resources that are responsible for achieving positive outcomes under conditions of adversity.

Adversity

Adversity is conceptualized as a relationship between children and their environment in which satisfaction of basic needs and goals is threatened or in which accomplishment of age-appropriate developmental tasks is impeded (Sandler, 2001). Adversities can be conceptualized as occurring in individual, family, or community-organizational domains. Adversities in the individual domain include experiences such as illnesses, injuries, or abuse, which compromise children's relations with their environments. Adversities in the family domain include changes in family structure (e.g., divorce, deaths) or functioning (e.g., conflict) that threaten children's well-being. Adversities in the community-organizational domain include characteristics of communities (e.g., poverty, disorganization) or social institutions (e.g., school violence) that diminish children's satisfaction of basic needs and accomplishment of developmental tasks.

Relations between exposure to adversities in childhood and the development of a wide range of mental health and social adaptation difficulties in childhood and adulthood are well established (Grant et al., 2003; Kessler, Davis, & Kendler, 1997; Sandler, Ayers, Suter, Schultz, & Twohey, 2003). Illustratively, based on a study of 9,508 members of a large HMO, Felitti and colleagues (1998) observed that exposure to four or more adversities in childhood was associated with a 4- to 12-fold increase in risk for alcoholism, drug abuse, depression, and suicide attempts in adulthood. Similarly, Furstenberg, Cook, Eccles, Elder, and Sameroff (1999) found that the odds of negative mental health outcomes for children exposed to eight or more adversities was 5.7 times greater than for children exposed to three or fewer adversities. Studies have also demonstrated consistent relations between mental health and social adaptation problems and exposure to specific adversities in childhood such as parental divorce (Amato, 2001), poverty (Duncan & Brooks-Gunn, 2000), parental mental illness (Seifer & Dickstein, 2000), exposure to violence or abuse (Margolin & Gordis, 2000), and bereavement (Lutzke, Ayers, Sandler, & Barr, 1997).

Resources

Studies of resilience focus on identifying resources that facilitate the occurrence of positive outcomes and the avoidance of negative outcomes for children in the face of adversity (Wyman et al., 2000). Positive and negative outcomes are conceptualized as interrelated and include successful accomplishment of developmental tasks and avoidance of emotional and behavioral problems and mental disorders. Resources in the individual, family, and community-organizational domains facilitate positive outcomes by either promoting effective adaptation processes or by reducing the child's exposure to adversities (Sandler, 2001). Individual resources include cognitive, emotional, and behavioral skills, such as high cognitive ability, emotion regulation, and effective coping efforts. An important protective resource in the family domain involves parenting characterized by warmth, responsiveness, effective discipline, and support for effective coping. Community-organizational resources include access to high-quality schools, prosocial neighborhoods, or opportunities for involvement in other formal or informal systems that provide support or protect against the occurrence of adversities, such as religious or secular youth groups, organized sports,

community volunteer groups, groups that develop specific talents (e.g., music, art, drama), and relationships with extended family members.

PUBLIC HEALTH APPROACH

In contrast to the resilience perspective, which focuses on delineating resources and protective processes that promote healthy outcomes among individuals or families facing adversity, the public health approach to prevention focuses on how to change population-level behaviors, environmental factors, or processes to reduce incidence rates of disorders (i.e., number of new cases) and to increase healthy outcomes in a population (Rose, 1992). To effectively impact population-level outcomes while addressing individual differences (i.e., varying levels of adversities, resources, and problems), the public health model incorporates multiple intervention levels: *universal* programs for the benefit of all community members, *selective* interventions for those at risk due to exposure to specific adversities, and *indicated* programs for individuals experiencing subclinical symptomatology (Gordon, 1987; IOM, 1994).

Universal Programs

Universal mental health prevention programs are those given to the general public or a whole population group not identified on the basis of individual risk (IOM, 1994). These programs can be clearly advocated for the general public because the potential benefits outweigh the costs and potential risks for everyone, regardless of risk status. To justify inclusion of all individuals in a population and to maximize the benefit–cost ratio, universal prevention programs must be able to be delivered to everyone, should be low in costs per individual, should be effective and acceptable to the population, and present little potential for harm (Gordon, 1987; IOM, 1994).

Universal prevention programs can provide several benefits, particularly when incorporated within a multilevel system of strategies, such as increasing population awareness, providing support and recruitment for more intensive prevention efforts, reducing stigmatization for those participating in targeted programs, and reinforcing common messages provided via different outlets (Offord, 2000; Stormshak, Kaminski, & Goodman, 2002). For example, parents who participate in an intensive parenting skills intervention may feel supported by their community, rather than stigmatized, if universal efforts have been successful at promoting the importance of positive parenting and the value of actively improving one's parenting skills (Sanders, Turner, & Markie-Dadds, 2002). Universal programs can also be integrated into community structures or organizations that serve the full population (e.g., schools, health systems), and thus can promote policies or cultural practices (e.g., parental involvement in schools) that benefit the entire population. Furthermore, because a great number of people are involved, universal programs have the potential for producing large effects at the population level, although the benefits received by each individual can be relatively small (Offord, 2000; Rose, 1992).

Selective Programs

Selective preventive interventions are those targeted to specific individuals or subgroups of the population whose risk for mental disorder significantly exceeds that of the general population due to exposure to one or more adversities (e.g., parental mental illness), and

who can be identified based on some marker variable rather than individual assessment of problematic functioning (IOM, 1994). Although selective programs are not delivered to all members of the general population, these interventions could involve a large number of individuals, particularly if selected adversities are highly prevalent (e.g., parental divorce). Therefore, selective programs should not exceed moderate costs per individual and should be characterized by low risk for potential iatrogenic intervention effects (IOM, 1994).

Selective prevention programs can provide important services that supplement universal efforts. Selective programming provides a potentially efficient way to direct additional resources to individuals with higher than average need for services (Offord, 2000). In addition, targeting specific subgroups allows provision of services tailored to the unique needs of these subgroups (i.e., needs not shared by the general population). For example, children who experience traumatic events, such as parental divorce, death, or abuse, can benefit from specialized preventive services provided to caregivers and/or children that are designed to facilitate positive adjustment to the specific adversity.

Indicated Programs

In addition to programs for subgroups identified on the basis of exposure to adversities, indicated preventive interventions are targeted to children manifesting subclinical levels of mental health symptoms or families experiencing problems adapting to adversity (e.g., high-conflict divorces) based on individual assessment of child or family functioning (IOM, 1994). For example, children can be selected to participate in a behavioral management program on the basis of a parent or teacher report of high levels of disruptive behavior. The primary goal of an indicated program is to reduce the occurrence of new cases of mental disorder or other serious outcomes (i.e., incidence) by decreasing symptomatology and reversing the progression of severity. Indicated prevention programs are often moderately to highly intensive interventions that can include multiple components (e.g., parent education plus school-based behavior management) and/or involve individualized approaches, such as one-on-one sessions with a mental health counselor. Similar to selective prevention programs, indicated interventions provide a potentially efficient method of delivering additional resources (i.e., beyond universal level) to prevent the development of serious problems in families and children who are most at risk.

FRAMEWORK FOR BUILDING RESILIENCE IN ALL CHILDREN

As illustrated in the previous sections, the public health approach incorporates multiple intervention levels that fulfill distinct and mutually reinforcing roles when implemented simultaneously in a community. In such cases, all children or families in a population would have access to universal services. Subgroups identified on the basis of exposure to adversity would receive universal services as well as a more specialized selective intervention program(s). Those experiencing subclinical levels of symptomatology would have access to universal and indicated programs, which may include multiple intervention components designed to reduce symptoms and reverse the progression of severity. A minority of families would qualify for both selective and indicated services and would have access to all three levels of intervention.

From a resilience perspective, this multilevel framework takes into account the varying levels of exposure to adversity and availability of protective resources among members

of a population. Table 20.1 shows how multiple domains of interventions to promote resilience processes can be subsumed within the classification of universal, selective, and indicated interventions. Interventions at each level build individual, family, and/or community-organizational resources associated with resilient outcomes among children facing adversity. We refer to these as “constructed resilience resources,” given that they are promoted by interventions intentionally designed for that purpose. By looking across columns within each row of the matrix, one can see the range of interventions that might be used to construct resources in a given domain. For example, mutually reinforcing programs to improve parenting might be developed for the general population, as well as for those experiencing specific stressors or early levels of problems. By looking across the rows within each column, one can see how resources could be constructed in multiple domains to promote resilience in a defined population. For example, complementary child, family, and organizational programs might be developed for the entire community to build resources that promote mental health and prevent disorder.

Universal programs construct resources that promote resilience by reducing the occurrence of adversities for the full population or facilitating skills that promote healthy adaptation when adversities occur. Universal interventions can be designed to enhance *child* capacities (e.g., coping skills, academic competence), *family* competencies (e.g., parental warmth,

Table 20.1 Strategies to Construct Resilience Resources Across Multiple Domains and Levels

| Resource Domain | Intervention Level | | |
|--------------------------|--|---|---|
| | Universal | Selective | Indicated |
| Child | Promote child strengths to cope with stress, problem solve, regulate affect, and deal with potential problem situations (e.g., peer conflict). | Teach coping skills and provide information to children experiencing a specific stressor (e.g., parental divorce). | Teach skills (e.g., cognitive appraisals of stress) to children with elevated problems or skill deficits |
| Family | Promote parenting practices that enable children to avoid future adversities or strengthen the child’s ability to cope effectively. | Promote effective parenting for children exposed to a specific adversity (e.g., poverty). | Teach parenting skills to counteract ongoing problems (e.g., child externalizing behavior). |
| Community-Organizational | Promote community or organizational changes that reduce the occurrence of adversities or provide support for all children to adapt effectively to normative events (e.g., transition to junior high school). | Change ecologies of existing organizations (e.g., courts) to promote healthy adjustment for at-risk subgroups (e.g., divorced families). Develop new organizations to provide services for children exposed to a specific adversity (e.g., parental death). | Develop community structures to deal more effectively with youth experiencing subclinical levels of problems to strengthen their ability to cope effectively or prevent exposure to future adversities. |

effective discipline, communication), or *organizational* resources (e.g., learning structures, curricula, peer structures, school policies, neighborhood empowerment). Selective programs build resources to promote effective adaptation to specific adversities, such as *child* coping skills for parental divorce, parenting skills for poverty-stricken *families*, or *community-school* partnerships to facilitate successful transitions to high school for inner-city youth.

Indicated interventions construct resources to improve adaptation processes for those exhibiting mental health problems as a result of exposure to adversities, such as positive-thinking skills for *adolescents* experiencing subclinical depressive symptoms, parent-behavior management skills for *families* with oppositional children, or court *organizational* procedures for diverting delinquents to interventions rather than detention. In the following sections, we provide examples of programs with demonstrated efficacy in promoting child well-being through universal, selective, or indicated intervention strategies that construct resources in child, family, or community-organizational domains.

RESOURCES CONSTRUCTED IN THE CHILD DOMAIN

Universal Programs

Universal interventions designed to build child resources are based on the theory that promoting skills and strengths will help children effectively adapt to conditions of adversity (current and future) and decrease the likelihood of future adversities, facilitating successful attainment of developmental tasks (Sandler, 2001). Several preventive interventions designed for general populations have impacted child well-being outcomes by constructing resources in the child domain, including programs that teach skills such as problem solving, coping, affect regulation, empathy, and impulse control (see Greenberg, Domitrovich, & Bumbarger, 2001; Tobler et al., 2000; Wilson, Gottfredson, & Najaka, 2001 for reviews).

For example, the Promoting Alternative Thinking Strategies (PATHS) elementary multiyear curriculum is designed to build children's social and emotional competence through more than 50 lessons on knowledge about emotional states, skills for regulating affect, problem solving, and social skills (CPPRG, 1999; Greenberg, Kusche, Cook, & Quamma, 1995). Several randomized controlled trials have indicated that when PATHS is supported by schools and implemented well by teachers, the curriculum is successful in building cognitive skills and promoting social, emotional, and behavioral competence in a variety of populations, including children exposed to high neighborhood adversity (CPPRG, 1999; Kam, Greenberg, & Walls, 2003).

Selective Programs

In contrast to universal interventions, which are designed for all individuals in a population, selective prevention programs build resources for subgroups confronting specific adversities. Selective interventions in the child domain typically focus on bolstering coping skills needed to effectively handle the challenges posed by adversities such as parental divorce (Pedro-Carroll, 1997; Stolberg & Mahler, 1994), parental death (Sandler et al., and Twohey, 2003), or trauma (Enright & Carr, 2002), or enhancing cognitive skills to counteract the deleterious effects of adversities such as social disadvantage (Lange & Carr, 2002).

For example, the Children of Divorce Intervention Project (CODIP) is a 12-session, group intervention for school-age children whose parents have divorced and is designed to

help children identify and appropriately express emotions, cope effectively, restructure divorce-related misconceptions, and create positive perceptions of themselves and their families (Pedro-Carroll, 1997; Pedro-Carroll & Cowen, 1985). Pedro-Carroll (1997) found that participation in CODIP improved children's coping and problem-solving skills and resulted in increased competence levels when compared to a no-intervention group.

Indicated Programs

Indicated prevention programs are designed to meet the needs of individuals within a population who are experiencing mental health problems but do not meet the criteria for a mental health diagnosis. Indicated prevention programs in the child domain typically teach youth skills such as how to identify feelings, manage anger, or challenge distorted cognitions. This approach has been beneficial in reducing dysfunction among youth experiencing internalizing symptoms (e.g., Clarke et al., 1995, 2001; Kiselica, Baker, Thomas, & Reedy, 1994) but has resulted in limited success with youth exhibiting externalizing problems (Greenberg et al., 2001; Webster-Stratton & Taylor, 2001).

For example, the Coping with Stress course (Clarke et al., 1995) is a 15-session, school-based, group intervention designed to prevent unipolar depressive disorders among high school students with elevated depressive symptomatology who did not meet the criteria for an affective disorder diagnosis. Intervention development was guided by the theory that helping at-risk adolescents learn new coping mechanisms will provide them with "immunities" to counteract their known risk for affective disorder. The preventive intervention entailed teaching adolescents how to identify and challenge negative thoughts using cartoons, role plays, and group discussions. In a randomized controlled trial, Clarke and colleagues (1995) found that the incidence rate of affective disorders (i.e., major depressive disorder or dysthymia) was significantly lower among students who received the intervention (14.5%) than those who did not (25.7%) at a 12-month follow-up. More recently, Clarke and colleagues (2001) have also demonstrated that the Coping with Stress course is efficacious as an indicated intervention for adolescents with depressive symptoms whose parents have been diagnosed with clinical depression.

RESOURCES CONSTRUCTED IN THE FAMILY DOMAIN

Universal Programs

Universal prevention programs in the family domain typically focus on improving parenting practices and communication patterns to help children learn skills such as effective coping and self-regulation that will foster competence and prevent dysfunction. Several universal family-based programs have been shown to build family resources, increase child competence, and reduce the likelihood of substance abuse and other youth mental health problems (Lochman & van den Steenhoven, 2002).

For example, Spoth, Redmond, and Shin (1998, 2001) have evaluated the effects of two universal family-based prevention programs—the five-session Preparing for the Drug Free Years (PDFY) and the seven-session Iowa Strengthening Families Program (ISFP)—as compared to a minimal-contact control group. Both programs were designed to construct family resources, such as positive parent-child involvement and communication and effective parent management; however, PDFY intervenes primarily with parents, whereas

ISFP includes both parents and youth together in most sessions. Results of randomized, controlled evaluations with rural families of sixth-grade children have shown that both ISFP and PDFY improved parent-child warmth and effective discipline at posttest (Spoth et al., 1998). Long-term follow-up to the 10th grade demonstrated that youth whose families participated in the programs were less likely than those in the comparison group to initiate or increase substance use in adolescence (Spoth et al., 2001). Although both programs have empirical support, recent benefit-cost analyses suggest that ISFP may be more cost-effective than PDFY: the benefit-cost ratio for ISFP was \$9.60 per \$1 invested versus \$5.85 per \$1 for PDFY (Spoth, Gyll, & Day, 2002).

Selective Programs

Family-based selective interventions build resources to counteract conditions of adversity, such as premature birth, parental divorce, death, or abuse; or poverty and low socioeconomic status (SES) by providing parent or family skills training. Several family-based selective prevention programs have been shown to impact child and adolescent well-being (Lange & Carr, 2002; Lochman & van den Steenhoven, 2002; O'Sullivan & Carr, 2002; Webster-Stratton & Taylor, 2001). For example, Olds (2002) conducted three randomized controlled trials of an intensive nurse-visitation program designed to improve prenatal health-related behaviors, sensitive and competent caregiving, and maternal life course decision making (e.g., timing of future pregnancies) among socially disadvantaged mothers. Results of the first two trials indicated significant long-term effects on a variety of outcomes for both mothers and offspring, including lower rates of arrests, convictions, and alcohol use among adolescents whose mothers received home-visitation services prenatally and over the child's first two years of life. Effects were significantly stronger for mothers initially characterized by multiple social adversities (i.e., unmarried, low income, and low education) than those with only one of the three adversities. Benefit-cost analysis revealed net savings of \$4 for every dollar invested to provide nurse-visitation services to mothers who were unmarried and had low income at registration; whereas no net savings to government or society were apparent for serving married, high SES families.

Wolchik and colleagues also found that families facing multiple adversities benefited most from a parenting program for divorced mothers, the New Beginnings Program (NBP) (Dawson-McClure, Sandler, Wolchik, & Millsap, 2004; Wolchik et al., 2002). NBP was designed for divorced families of school-age children to improve mother-child relationships, increase effective discipline, promote father-child contact, and decrease children's exposure to interparental conflict and negative divorce events (Wolchik et al., 2000; Wolchik, West, Westover, & Sandler, 1993). Two randomized controlled trials conducted on NBP have shown that the program successfully decreased exposure to negative events and bolstered several family resources, including mother-child relationship quality, effective discipline, and willingness to change visitation (Wolchik et al., 1993, 2000).

Long-term follow-up of the second experimental trial demonstrated a wide array of program benefits lasting 6 years postintervention, when youth were ages 15 to 18, including fewer mental health and substance abuse problems compared to the control group (Wolchik et al., 2002). Children who showed the greatest long-term benefit from the program were those who entered NBP with higher risk for subsequent child mental health problems (based on a risk index of externalizing behaviors and family adversities) (Dawson-McClure et al., 2004). These findings are consistent with research demonstrating that children exposed to multiple adversities, rather than single stressors, are most at risk for mental health problems

and therefore most in need of selective prevention programs that build resources to reduce the negative effects of these adversities (Sandler et al., 2003).

Indicated Programs

In contrast to indicated programs for internalizing problems, which have successfully reduced symptomatology by constructing child-focused resources, effective indicated programs for youth exhibiting subclinical externalizing problems typically involve an individual- or group-based parent behavior management training approach (see Greenberg et al., 2001; Lochman & van den Steenhoven, 2002; Webster-Stratton & Taylor, 2001 for reviews). For example, the Incredible Years BASIC program (Webster-Stratton, 2001) is a 14-session, group, parent training intervention that employs video-taped parent-child interactions and group discussion to teach effective parenting practices, such as child-directed play time, effective commands, praise for prosocial behavior, and nonviolent consequences for misbehavior (i.e., time out, natural and logical consequences). The program's ability to reduce externalizing problems has been demonstrated in several randomized, experimental trials as an indicated prevention program for children exhibiting conduct problems (Webster-Stratton & Hammond, 1997), as well as a treatment program for children diagnosed with conduct disorder and/or oppositional defiant disorder (e.g., Webster-Stratton, 1994).

RESOURCES CONSTRUCTED IN THE COMMUNITY-ORGANIZATIONAL DOMAIN

Universal Programs

Universal prevention programs that focus on building resources in the community or organizational domain are based on the theory that changing aspects of children's macrolevel environments will reduce the likelihood of future adversities and provide support to help all children effectively manage stressors that occur in these settings (Sandler, 2001). Organizationally based universal programs have been developed to educate and mobilize citizens to promote healthy behaviors in their communities (Wandersman & Florin, 2003), change school ecologies to be more supportive of students (Battistich, Schaps, Watson, & Solomon, 1996; Felner, Favazza, Shim, Brand, Gu, & Noonan, 2001; Flannery et al., 2003; Olweus, 1993), and improve classroom management strategies to decrease undesirable student behaviors (Embry, 2002).

For example, the Good Behavior Game (GBG) is a classroom-based, behavior management intervention, which is based on the theory that disruptive behaviors by students in the classroom occur because peers reinforce misbehavior through reactions such as smiles, giggles, laughs, and pointing; therefore, reinforcement for negative behaviors can be diminished by providing group-based rewards for inhibiting them (Embry, 2002). The GBG intervention is presented as a game in which teachers positively reinforce student *teams* who do not exceed maladaptive behavior standards set by the teacher. GBG is played periodically over the school year, beginning with highly predictable procedures and immediate reward props and evolving into less predictable times and locations with deferred rewards (Kellam, Ling, Merisca, Brown, & Ialongo, 1998). In a large, randomized, preventive trial of first-grade students from 19 Baltimore public schools, Dolan and colleagues (1993) found significant reductions in aggression at posttest for both boys and girls in the intervention group as compared to the

control group. At 5-year follow-up, intervention effects on teacher-rated aggression remained for boys who were elevated in aggression at baseline (Kellam, Rebok, Ialongo, & Mayer, 1994). The GBG intervention appeared to improve behaviors of the more aggressive males by changing the ecology of the classroom to be less aggressive overall (Kellam et al., 1998).

School restructuring is another example of universal prevention in the organizational domain. Restructuring programs have been developed to reduce the adjustment problems of youth making the transition to junior high (or middle school) or high school. These school transitions are associated with increased risk for multiple negative outcomes including decreased grades, lower self-esteem, and higher distress, which place youth at increased risk for later problems such as depression and further academic difficulties (Seidman, Aber, & French, 2003). Developmental theorists have proposed that these negative effects are due to a mismatch between the school environment and adolescent needs for autonomy, identity formation and close affiliation with peers and adults (Eccles et al., 1993). The School Transitional Environment Project (STEP) was designed to restructure the school context to better meet the needs of students during these high-risk transitions by creating a small group of students who move through all primary classes together and by assigning a single adult to serve as counselor, advisor, and liaison for their families (Felner, Brand, Adan, Mulhall, et al., 1993). Thus, the program restructures the high school experience to increase social support from peers and adults. Evaluations have demonstrated that students who experienced the STEP program had better emotional adjustment, grades, and attendance levels, and were less likely to drop out of school by 12th grade, as compared to a random sample of students who experienced the usual high school transition (Felner et al., 1993).

Selective Programs

Society develops institutions, policies, and practices to deal with children and families experiencing stressful life situations such as poverty, parental divorce, bereavement, or physical illness. For example, the domestic relations court provides an institutional structure within which families can obtain a divorce and resolve legal issues (e.g., parental rights and responsibilities), as well as how financial assets will be divided. Alternative policies and practices can have a significant impact on children's exposure to postdivorce stressors such as interparental conflict, loss of contact with a parent, or economic hardship, as well as on the quality of children's adjustment following divorce. Consequently, the courts have been proactive in developing alternative practices to reduce conflict (e.g., mediation of disputes), increase children's involvement with both parents (e.g., joint custody), and strengthen parental functioning following divorce (e.g., mandatory parenting programs) (Braver, Hipke, Ellman & Sandler, 2003).

Postdivorce child custody is an example of policy in the organizational domain that has been shown through empirical research to be related to children's adjustment. Specifically, Bauserman (2002) recently conducted a metaanalysis of 33 studies comparing children's level of adjustment in joint versus sole custody arrangements. Although the magnitude of effects tended to be small, Bauserman found that when families were awarded joint custody rather than sole custody, family relations were better and children showed higher levels of adjustment across a variety of outcomes, including higher self-esteem and better emotional, behavioral, and divorce-specific adjustment. Although parents awarded joint custody were less conflictual before and after divorce than those awarded sole custody, interparental conflict did not account for the better adjustment of children in joint custody families.

In one prospective, longitudinal study, custody arrangement predicted children's later adjustment, even after controlling for a large number of predivorce selection factors, including

interparental relations, maternal and paternal parenting, parental adjustment, child adjustment, and demographic variables. Although causality cannot be inferred from these static-group investigations because families are not randomly assigned to different custody arrangements, the findings suggest that a judicial presumption in favor of joint custody for most families (i.e., those without parental fitness concerns) can help promote resilience among children who have experienced parental divorce (Gunnoe & Braver, 2001).

Indicated Programs

Organizational interventions to improve adaptation for youth already manifesting problem behaviors target policies or social structures designed to deal with these problems. The theory underlying these interventions is that policies or organizational structures can decrease or prevent the worsening of problems either by reducing future occurrence of adversities or by marshaling resources to promote resilience. Examples of such interventions include school policies for dealing with pregnant adolescents (Schellenbach, Leadbeater, & Moore, 2003) and court approaches to dealing with juvenile delinquents (Davidson, Redner, Amdur, & Mitchell, 1990) or high conflict divorces (Johnston & Roseby, 1997).

Although policies and organizational structures to deal with problem behaviors are ubiquitous, their effects on adversities, resilience resources, and problem outcomes have rarely been examined empirically. One well-evaluated program in the organizational domain to promote resilience in children experiencing behavior problems is the Juvenile Offender Diversion Program (Davidson et al., 1990). This program is based on theoretical propositions concerning the harmful effects of social labeling on the future course of delinquency and on the value of mobilizing community resources to support the competencies of juvenile offenders in adapting to prosocial roles in the community. The program targeted youth identified by law enforcement as involved in delinquent behaviors but not yet officially adjudicated in the juvenile justice system. As an alternative to involvement in the justice system, delinquents participated in advocacy, family, or behavioral interventions to improve their community adaptation. Multiple randomized experimental trials have demonstrated the efficacy of the diversion program model. Illustratively, in one study youth were assigned to one of six conditions. Three conditions were delivered by a student volunteer who did not work for the court; these conditions promoted competent adaptation through either advocacy plus behavioral contracting, family-focused intervention, or an empathic relationship with a student volunteer. A fourth condition was identical to the advocacy plus contracting intervention but was delivered by court personnel. A fifth condition was an attention placebo control involving primarily recreational activities. The sixth condition was treatment as usual by the juvenile court. The results showed a reduction of recidivism for the three active conditions that were delivered outside of the juvenile justice system as compared with the treatment as usual by the court (Davidson, Redner, Blakeley, Mitchell, & Ernschoff, 1987). The results provide evidence that keeping youth out of the court system can reduce the negative effect of social labeling, and that different types of interventions to assist adaptation can have relatively equivalent positive effects.

CONSTRUCTING RESOURCES ACROSS DOMAINS AND LEVELS

As the previous sections illustrate, a variety of preventive interventions have been empirically shown to promote resilience and prevent dysfunction by constructing resources in child, family, or organizational domains using universal, selective, or indicated intervention

approaches. Efficacious interventions have been identified for all nine cells in the matrix presented in Table 20.1. Although single efforts to build resilience can be described within each of the matrix cells, building resilience in all children requires coordinated efforts that combine interventions across domains (rows) and levels (columns) to address individual differences in adversities, resources, and needs among children in a community. Several evidence-based prevention programs have combined interventions across domains and/or levels to promote resilience and prevent dysfunction (CPPRG, 2002; Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001; Metropolitan Area Child Study Research Group, 2002; Reid, Eddy, Fetrow, & Stoolmiller, 1999; Sanders et al., 2002; Vitaro, Brendgen, Tremblay, 2001; Weikart & Schweinhart, 1997).

For example, the Seattle Social Development Project (SSDP) is an evaluation of a universal intervention provided to students exposed to community-school adversity (i.e., children attending public elementary schools in high-crime areas of Seattle) (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). In this nonrandomized controlled trial, three conditions were compared: full intervention, late intervention, and no intervention. In the full intervention condition, services were provided in grades one through six and included interventions in child, family, and organizational domains: social competence training for children, parenting classes, and annual teacher training. The late intervention included the same services provided only in grades five and six.

Long-term follow-up studies of the SSDP have indicated that children who received the full intervention (but not the late intervention) were more likely than the control group to be characterized by resilient academic outcomes (Hawkins et al., 2001). In adolescence and young adulthood, youth who received the full intervention engaged in significantly less school misbehavior, violent delinquency, heavy drinking, and risky sexual behavior; and females were less likely to become pregnant, as compared to those in the control group (Hawkins et al., 1999; Lonczak, Abbott, Hawkins, Kosterman, & Catalano, 2002).

In contrast to interventions such as SSDP that build resources across multiple domains, the Triple P—Positive Parenting Program (Sanders et al., 2002)—is an example of a program that promotes a specific resource (i.e., effective parenting) across multiple intervention levels. The Triple P model is based on the principle that individual families within a community differ with respect to the amount of support and assistance needed to promote positive parenting. Rather than being a single program, Triple P is a system of five intervention levels that vary in intensity from a media-based, universal parenting program to a brief, video-based selective program to more intensive, group-based indicated interventions. Multiple randomized controlled trials have been conducted on most of Triple P's intervention levels and have provided evidence for their efficacy in promoting effective parenting and children's prosocial behavior (Sanders et al., 2002).

PUTTING SCIENCE INTO PRACTICE

A growing number of efficacious prevention programs have been identified that promote resilience for children in stressful situations. These programs have two key characteristics. First, they build individual, family, and/or community-organizational resources associated with resilient outcomes for children in stress. Second, these programs have been shown to be efficacious in bolstering resources, preventing problem outcomes, and promoting resilience through well-controlled evaluation studies. Without evidence from well-controlled evaluations, programs can offer only promissory notes, not proven benefits. Unfortunately,

many communities have not adopted evidence-based programming, relying instead on interventions that have been well packaged but not adequately evaluated (Backer, 2000; Ennett et al., 2003). In the following sections, we examine some of the main issues and challenges communities must tackle to make effective use of evidence-based, resource-building interventions. We also discuss approaches to help communities identify needs and select programs that can be used to promote resilience for their children and families.

Needs Assessment

An important challenge a community initially faces involves conducting a needs and resources assessment of the population (Wandersman, Imm, Chinman, & Kaftarian, 2000). This process is critical for defining the problems and generating specific goals the community hopes to achieve. The process involves collecting epidemiological data on adversities, resources, and problems prevalent in the community, which are used to guide goal setting and the selection of intervention strategies. Identification of adversities, resources, and problems is facilitated by the use of multiple sources of data, including community member perceptions (i.e., youth and adult reports) and archival data (e.g., census, court, school records) (Wandersman et al., 2000).

Given that community leaders are likely to be unfamiliar with needs assessment methodology, several organizations have devised tools and services to guide leaders through this process (Whitlock & Hamilton, 2003). For example, the Search Institute² has developed surveys to assist community leaders in identifying whether “developmental assets” (i.e., research-based protective resources) are present or absent in their communities (Scales & Leffert, 1999). The Profiles of Student Life: Attitudes and Behaviors survey is a 156-item questionnaire administered in one 50-minute classroom period to students in grades 6 through 12. The survey assesses the availability of 20 external assets in students’ families and communities (e.g., nurturant relationships with adults, supportive institutions, enrichment opportunities, collective youth monitoring) and 20 internal assets (e.g., student commitment to learning, prosocial values, social skills, positive self-identity). The survey also obtains information on student demographics, high-risk behaviors, resilience indicators (e.g., school success), and developmental deficits (e.g., abuse history). The institute’s fee-based service includes telephone consultation on administration issues, an administration manual, student survey forms, computerized scanning of forms and analysis by the institute, a summary report of survey results, and resources to aid community mobilization efforts to develop asset-building strategies for promoting positive youth outcomes.

Communities That Care (CTC)³ is a similar fee-based service developed to help communities formulate strategies for promoting healthy behaviors and preventing negative mental health outcomes among youth (Hawkins, Catalano, & Arthur, 2002). CTC is a comprehensive, manualized system for guiding community leaders through the entire process of planning and implementing science-based prevention strategies including: (a) assessing community readiness to use CTC; (b) introducing prevention science and CTC principles to key stakeholders and community members; (c) establishing a community prevention board to carry out CTC activities; (d) collecting community-specific data on risk and

² Search Institute Website: <http://www.search-institute.org/surveys>.

³ CTC Websites: <http://www.channing-bete.com/positiveyouth/pages/CTC/CTC.html> and <http://www.communitiesthatcare.org.uk>.

protective factors, adolescent substance use, and other health and behavior problems; (e) using assessment data to develop an action plan; (f) selecting science-based prevention strategies shown to be effective in reducing community-specific risk factors and enhancing protective processes; (g) implementing selected prevention strategies; and (h) monitoring and evaluating implementation success.

During the needs assessment phase, the CTC community board develops a profile of community strengths and challenges based on results of student surveys and archival data (e.g., census) that measure risk behaviors (i.e., substance use, delinquency) and adversities and resources across four domains: community, school, family, and peer-individual (Hawkins et al., 2002). A community map is created detailing the distribution of adversities and resources across different neighborhoods in the community, allowing the board to focus efforts on high-risk neighborhoods.

Although some research supports the reliability and validity of the assessment tools developed by the Search Institute (Leffert, et al., 1998) and CTC (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002) and both systems have been field tested, randomized controlled trials have not been conducted to examine the effectiveness of these approaches in facilitating the implementation of science-based prevention strategies that lead to promotion of mental health in communities using these services. Whitlock and Hamilton (2003) conducted an informal study based on interviews with representatives of New York communities who used one or more youth survey approaches including those described here. They concluded that successful implementation of these approaches depended on widespread community buy-in and participation, combined with flexibility regarding the roles and actions of community coalition boards. Thus, the population impact of needs assessment services designed to help communities successfully implement evidence-based prevention programming has yet to be determined. Nevertheless, such approaches offer a potential way of helping communities use scientific methods to guide decision making regarding adversities, resources, and problems to target for intervention.

Prevention Strategy Selection

After the needs assessment and goal-setting phase, communities face the challenge of selecting the best intervention strategies to meet the community's goals (Wandersman et al., 2000). A multilevel approach that includes a mix of evidence-based universal, selective, and indicated prevention programs that counteract adversities and construct resources across multiple domains has the potential to provide an efficient way of meeting the diverse needs of individuals within the community, while building resilience at the population level (Hawkins et al., 2002; Sanders et al., 2002; Sheeber, Biglan, Metzler, & Taylor, 2002). The conceptual framework presented in this chapter could help guide the process of selecting appropriate intervention strategies. Community leaders could use data collected on adversities, problems, and resources prevalent in their area to choose selective interventions to counteract specific adversities that are highly prevalent in their community, multilevel strategies within a domain to bolster resources lacking, and indicated and universal programs to address specific substance use and/or mental health problems in the community.

However, to effectively choose programs that meet a community's needs, community leaders need to have access to concise information regarding programs that have been shown to construct specific resources, counteract specific adversities, and reduce specific adjustment problems. Recognizing the necessity of providing this type of information to communities and practitioners, a variety of federal agencies have developed principles of

effectiveness to guide the identification of prevention programs that work, as well as registries listing effective programs and details regarding the conditions under which these programs have been shown to be effective: Substance Abuse and Mental Health Service (SAMHSA) Center for Substance Abuse Prevention (CSAP)⁴; Office of Juvenile Justice and Delinquency Prevention (OJJDP)⁵; and U.S. Department of Education Safe and Drug-Free Schools Program (SDFSP)⁶. For example, CSAP's Prevention Pathway's Website offers a variety of online resources, including descriptions of prevention programs shown to be effective through methodologically rigorous evaluations. Model programs are described with respect to intervention level (i.e., universal, selective, indicated), intervention strategies employed, target populations served, key outcomes impacted, cost estimates, and program developer contacts.

Implementation and Evaluation

Selecting evidence-based programs does not guarantee that programs will be successfully implemented in a community. Even when evidence-based programs are selected, they are often not well-implemented in natural service delivery systems (Greenberg et al., 2003). Fidelity of implementation has been identified as an important factor determining whether evidence-based programs delivered in community settings produce the same effects as the original intervention models (Mayer & Davidson, 2000). Therefore, program packages need to include detailed manuals, training programs, technical assistance, and procedures for monitoring implementation as ways to promote adherence to interventions (Hays, Rebhook, & Kegeles, 2003; Kegeles et al., 2000; Torrey et al., 2001).

In addition to intervention packaging features, client characteristics, provider preferences, and organizational issues have been identified as factors that influence the quality of implementation and whether interventions are likely to be sustained over time (Backer, 2000; Mayer & Davidson, 2000; Sobell, 1996). Thus, it is important for communities to recruit organizations with a high likelihood of successful implementation, based on characteristics such as awareness and interest in program goals, staff with appropriate credentials and cultural competence, adequate resources to support the program, and strong organizational leadership (Price, 2002; Wandersman et al., 2000). Furthermore, implementation steps must be clearly defined and planned (e.g., timeline, responsibility assignments), and continuous quality improvement strategies need to be used to systematically assess and feed back information about intervention planning, implementation, and program outcomes to improve the effectiveness of evidence-based prevention programming delivered in community settings (Wandersman et al., 2000).

CONCLUSIONS

In this chapter, we have presented a conceptual framework that integrates concepts from resilience with a public health approach to building resilience and preventing mental health problems for all children. Individuals within a population are characterized by varying levels of adversities, resources, and problems. A multidomain, multilevel approach that

⁴ SAMSHA CSAP Website: <http://preventionpathways.samhsa.gov>.

⁵ OJJDP Website: <http://www.strengtheningfamilies.org>.

⁶ U.S. Department of Education SDFSP Website: <http://www.ed.gov/admins/lead/safety/exemplary01/index.html>.

includes a combination of universal, selective, and indicated prevention programs holds promise as an efficient, effective way to address the diversity of needs and simultaneously impact population-level mental health outcomes. A variety of universal, selective, and indicated interventions have been rigorously tested and shown to construct resources across multiple domains to promote resilience and prevent mental health problems. Unfortunately, most communities have not implemented evidence-based programming, highlighting the importance of developing methods for assisting community leaders to conduct needs assessments, select effective programs, implement programs with fidelity, and evaluate the impact of programs on youth outcomes. Building resilience in all children will require communities to identify specific goals regarding child competencies to promote and problems to prevent, assess the adversities that threaten those goals and the resources that promote them, and implement a coordinated combination of evidence-based prevention programs that construct resources across multiple domains and intervention levels.

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21

Resilience through Violence Prevention in Schools

Jennifer Taub and Melissa Pearrow

More than any other institution except the family, schools can provide the environment and conditions that foster resiliency in today's youth and tomorrow's adults.

—Henderson & Milstein, 1996, p. 2

When asked to write a chapter focusing on school for this book, we thought of the many fine books, chapters, and articles written about the multitude of school-based programs targeted at the prevention of social and emotional problems in children and adolescents. Indeed, programs such as school-based mental health clinics, drug and alcohol prevention programs, weapons-reduction programs, school–community partnerships, and school-based family support services (to name but a few) all target the social and emotional well-being of our nation's students. Many of these could be said to broadly foster resilience.

In addressing the issue of school-wide violence prevention, we will not be discussing programs that target youth who have been identified as having problems, programs with a clinical or mental health focus, or other programs that have a secondary or tertiary prevention focus. We strongly support such programs and believe they have a vital role in our nation's schools. We also believe such programs contribute, directly or indirectly, to the reduction of factors related to violence in schools, as well as the promotion of factors related to resilience in our nation's student population.

Additionally, programs that target students with identified problems are more likely to have a clinically focused symptom-reduction emphasis rather than a wellness-promotion resiliency model (Cowen, 1994). They typically target a small proportion of the overall student population; the U.S. Department of Education (2001) estimates less than 1% of students are identified as having an emotional disturbance qualifying them for services under

Individuals with Disabilities Education Act of 1997 (IDEA). In our focus on “school-wide” interventions, we are taking a primary prevention perspective, defined by Durlak and Wells (1997) as “an intervention intentionally designed to reduce the future incidence of adjustment problems in currently normal populations as well as efforts directed at the promotion of mental health functioning” (p. 117), where interventions target students with or without problem behaviors and are delivered to all students.

This chapter will broadly focus on school- and classroom-based programs that are implemented within the school environment and are specifically designed to promote social and emotional competence and prevent the development of violent behaviors. As such, treatments and strategies that target only individuals already identified as displaying problem behaviors (secondary prevention) will not be addressed. Our focus is on universal (school-wide) and primary prevention programs that target the entire school population. We believe a resilience focus necessitates enhancing social competence and promoting stress hardiness in all children to reduce the overall incidence of violence. The importance of such “universal” programs in school settings will be explored, as well as how they can enhance resilience through their implementation in the day-to-day activities of children and adolescents. Violence prevention programs that have been empirically validated will be reviewed, as well as strategies necessary to examine the effectiveness of such programs. Needs and future directions of violence prevention programming and research will also be highlighted.

DEFINITIONS OF RESILIENCE

Resilience has been defined as an individual’s capacity for adapting to change and stressful events in healthy and flexible ways. Or, as Henderson and Milstein (1996) state simply, it is how adults and children bounce back from stress, trauma, and risk in their lives. In research studies, resilience has been identified as a characteristic of youth who, when exposed to multiple risk factors, show successful responses to challenge and use this learning to achieve successful outcomes (e.g., Hawkins, Catalano, & Miller, 1992; Masten, Best, & Garmezy, 1990; Rutter, 1985; Werner, 1989). The National Academy of Sciences (Reiss & Roth, 1993) defined resilience as patterns that protect children from adopting problem behaviors in the face of risk. Huizinga, Loeber, and Thornberry (1995) suggested that resilience involves adaptive responses to such environmental stressors as changes in family or community circumstances.

In order for schools to foster resiliency, it is necessary to characterize the resilient child. As reviewed extensively in earlier chapters, there are two general groupings of protective factors associated with resiliency in children—internal and external. Internal protective factors are those that are located within the individual, such as impulse control, good decision making, social problem solving, and the ability to form positive relationships with others (Henderson & Milstein, 1996). External factors include having families, schools, and communities with characteristics such as setting and enforcing clear boundaries, limits, norms, and rules, encouraging supportive and caring relationships with others, and possessing values of altruism and cooperation (Henderson & Milstein, 1996). A school-wide program designed to foster resiliency can use as its mechanism the bolstering of internal factors by working at the student (individual) level. Such a program can teach skills such as conflict resolution or social problem solving to students. External (school) factors can be enhanced through implementing environmental changes such as introducing a peer mediation program or making changes in a school’s disciplinary policies.

PRIMARY PREVENTION

Some of the most serious health and social problems that confront American society today are caused in large part by behavior patterns established during youth (Kolbe, Collins, & Cortese, 1997). Primary prevention has been defined as “actions taken *prior* to the onset of disease to intercept its causation or to modify its course before pathology is involved” (Goldston, 1985, p. 454). As such, these programs are educational rather than clinical in nature, since they do not necessarily target disease or the amelioration of symptoms.

Reiss and Price (1996) indicate that for prevention programs to be effective, interventions must target developmental levels and include aspects of the individual and the environment. Effective prevention programs, such as those targeting tobacco, alcohol, and drug abuse, require comprehensive instruction that begins early in life (Reiss & Price, 1996). Although violence prevention programs are relatively new, developed within the past two decades, the research on the majority of these programs occurs in urban, inner-city neighborhoods with a focus on adolescents.

Research supports that a focus on younger children is especially important in a prevention framework (Campbell, 2002). Many of the undesirable behaviors related to later aggression and the attitudes that accompany such behaviors are evident long before adolescence. For instance, one large-scale survey found that children in grades three through five reported that during the past week, 15% had been sent to the office for disciplinary problems, 13% tried to start a fight, 27% hit someone, and 12% reported being threatened with a gun or knife (Embry, Flannery, Vazsonyi, Powell, & Atha, 1996). By the time children get to middle school, large numbers have engaged in aggressive, risky, or bullying behaviors (Bosworth, Espelage, DuBay, Dahlberg, & Daytner, 1996).

Flannery and Williams (1999) note that interventions should start early, since the resources spent on an adolescent are enormous compared to the cost of interventions spent early in a child’s life. Furthermore, violence prevention programs that target children in middle and high school have met with limited success (Johnson & Johnson, 1995; Petersen, Pietrzak, & Speaker, 1998). Interviews conducted with lead researchers in the area of violence prevention suggest that programs should begin in the primary grades and be reinforced across grade levels (Dusenbury, Falco, Lake, Brannigan, & Bosworth, 1997). A metaanalysis of primary prevention programs indicated greater effectiveness for programs targeting younger (preoperational) children than those targeting older (concrete operational) children and adolescents (Durlak & Wells, 1997).

IMPORTANCE OF SCHOOLS

Schools are the largest system capable of impacting the majority of children and their families. This setting allows the unique opportunity for community-based interventions that can target multiple issues, ranging from peer relations to problem solving, and with a greater ability to reach those with “internalizing disorders,” as they are less likely to seek therapeutic services. Schools provide the opportunity to observe and intervene directly in the setting where the child spends a significant amount of time while also reducing issues of stigma related to mental health treatment. Furthermore, the U.S. surgeon general’s report on mental health (U.S. Department of Health and Human Services, 1999) concluded that approximately 70% of children and adolescents in need of treatment do not receive mental health services, and for children who do receive mental health services, schools are the primary providers (Hoagwood & Erwin, 1997).

Schools can be a refuge where children who have many environmental risks can find structure and success (Doll, 1999). Schools are particularly well suited as sites to promote children's development in the area of social adjustment. The Consortium on the School-Based Promotion of Social Competence (1996) asserts that schools are the major setting in which activities should take place to promote students' competence and healthy behavior patterns.

Weissberg, Caplan, and Sivo (1989) advocate for the promotion of social competence within this naturalistic setting—in classrooms, on the playground—where the skills can be developed, generalized, and become more effective than efforts utilized in traditional person-centered interventions or through other community organizations. Furthermore, they suggest that schools are the logical site for prevention programs to be implemented, since the largest proportion of state and federal spending on children and youth is tied to school. For example, in 1999, the Commonwealth of Massachusetts, through the Department of Education, spent \$3.6 billion to provide services to children through educational systems (Massachusetts Board of Education, 2000). No other state or federally supported agency that provides services primarily to children and youth receives comparable financial support.

School effectiveness research shows that schools do have major effects on children's development (Johnson, Schwartz, Livingston, & Slate, 2000). The educational system offers "the most efficient and systematic means available to promote the psychological, social, and physical health of school-age children" (Weissberg, Caplan, & Harwood, 1991, p. 833). Factors like strong leadership, high and consistent academic and behavioral expectations, and creating a sense of belonging have been identified as strongly contributing to effective schools (Johnson et al., 2000). Weissberg et al. (1989) also argue that schools have access to children on a regular and consistent basis over the majority of their formative years, and also have reasonable access to most parents and guardians. Based on the ecological model, schools are in the microsystemic level of a child's life and are the "optimal" site to influence the child, as well as the family and community (Rutter, Maughan, Mortimore, Ousten, & Smith, 1979; Short & Talley, 1997; Teddlie & Stringfield, 1993).

Weissberg et al. (1989) differentiate between person-centered versus ecologically oriented programs to address the development of violent or aggressive behaviors. Ecologically oriented programs emphasize not only the teaching of skills, which is the focus of a person-centered approach, but also the creation of meaningful real-life opportunities to use these skills and a structure to provide reinforcement for effective skill application (Bronfenbrenner, 1995).

According to the ecological model, multisystemic interventions are required to actively prevent the development of violent and aggressive behaviors. The Consortium on the School-Based Promotion of Social Competence (1996) has compiled a list of factors associated with effective school-based social competence promotion programs. These programs include curriculum and instructional design factors, school and system-wide factors, school climate and norm structure factors, and community factors.

If the research suggests that interventions must begin early and include multiple levels of interventions, where does one start to help address this social epidemic? Pianta and Walsh (1998) suggest that resilience is multifaceted and connected to many factors in the different contexts surrounding the individual. Since schools are one of the institutions involved with children in their developmental years, they are the most logical places to begin these interventions. With the support of the community, schools could advocate for changes within this ecological system.

VIOLENCE IN SCHOOLS

Though the study of resilient development in the face of adversity is relatively new (Doll & Lyon, 1998), current research has primarily focused on characteristics of the individual and the immediate support systems (e.g., family). The family is the primary support of a child, yet support can also be provided during critical developmental periods by other systems, such as churches, neighborhoods, and communities. Unfortunately, less empirical research has been, or can be, conducted on many of the systemic variables that can enhance the resilient development of children facing adversities. One of these adversities is children's exposure to violence.

Violence has become one of the nation's most serious public health problems (Koop & Lundberg, 1992), and the explosion of violence in public schools has reached epidemic proportions (Price & Everett, 1997), thus requiring many children to develop and possess skills to cope with this challenge. National surveys indicate that there have been significant increases in the level of violence in schools (Pietrzak, Petersen, & Speaker, 1998). Discipline issues for students in the 1940s, such as talking, chewing gum, making noise, running in the hall, cutting in line, and improper clothing, seem benign when compared to the actions that cause disciplinary action in schools today (Osofsky & Osofsky, 2001).

What do we know about the early indicators of aggressive behavior? Poking and pushing other children in the elementary school years, negative and defiant behavior (Spivack & Cianci, 1987), and self-centered verbal responses to others such as interrupting and blurt-ing out thoughts (Dodge, Pettit, McClaskey, & Brown, 1986) have been identified as some of the early warning signs of later aggressive and impulsive behavior. Such children are also more likely to be neglected by their peers and to be the victims of bullying by other children (Coie, Dodge, & Kupersmidt, 1990).

It has been estimated that 25 to 30% of school-age children exhibit general behavior problems (Cowen et al., 1975). Roughly 20% of children and adolescents experience mental health problems during the course of a year, yet only 20 to 25% of them receive appropriate treatment (U.S. Department of Health and Human Services, 1999). Community studies have shown that between 4 to 17% of children in the general population meet criteria for serious emotional disturbance (Costello, Messer, Bird, Cohen, & Reinherz, 1998), and about 10% of the school-age population qualify for a DSM-III-R diagnosis (Angold, Costello, Farmer, Burns, & Erkanli, 1999). These surveys document the high incidence of problem behaviors in school-age children, with a high level of unmet need for these problems. The tragic events at Columbine High School, or any of the other school tragedies, have underscored the profound need for violence-prevention programs in schools. There are many fine books, chapters, and articles written about the multitude of school-based programs designed to prevent social and emotional problems in children and adolescents (Comer, 1980; Cowen et al., 1996; Farrington, 2002; Reiss & Roth, 1993). Indeed, programs such as school-based mental health clinics, drug and alcohol prevention programs, school-community partnerships, and school-based family support services (to name but a few) all target the social and emotional well-being of children. Many of these could be said to broadly foster resilience; however, they are beyond the scope of this chapter.

Although public schools have access to the majority of our nation's children, their role in addressing the issue of violence is unclear. As state and federal agencies increase academic pressures on students and teachers, such as through high-stakes testing, the role of schools in addressing issues of violence becomes less clear. Despite these academic pressures, recent violence prevention research has demonstrated that engaging in violence

prevention activities increases standardized academic achievement scores (Twemlow, Fonagy, Sacco, Gies, Evans, & Ewbank, 2001) and reduces various problems that impact academic development, ranging from suspensions to time out of class visiting the school nurse (e.g., Farrington, 2002; Hausman, Pierce, & Briggs, 1996; Krug, Dahlberg, Brener, Ryan, & Powell, 1997).

If violence is viewed as the problem of an individual child, then implementing interventions for that single child would be easy; however, this would not explain the societal increase in juvenile violent behaviors. Conversely, if violence is viewed from an ecological perspective that considers the individual in the context of multiple systems (Bronfenbrenner, 1977), then schools and communities can play a unique and important role in the prevention and intervention of the development of violent and aggressive behaviors. Recent research has stressed the importance of implementing programs with an ecological orientation that support the individual's development of alternatives to violence in the context of the larger school environment (Dusenbury et al., 1997; Weissberg, Caplan, & Harwood, 1991).

Concern about youth violence has led to the development and implementation of a number of violence prevention programs in schools throughout the country. Most programs focus on adolescents, but an increasing number of interventions have been aimed at younger children. We believe the focus on younger children is especially important in a prevention framework. Many of the undesirable behaviors related to later aggression, and the attitudes which accompany such behaviors, are evident long before adolescence.

Aggressive children demonstrate deficits in social skills knowledge and are more likely to respond impulsively when confronted with social problems (Dodge et al., 1986). Intervention programs are effective in increasing social skills knowledge, improving social behavior, and in preventing declines in social behavior (e.g., Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002; Durlak & Wells, 1997; Leff, Power, Manz, Costigan, & Nabors, 2001). Intervention programs that focus on teaching interpersonal problem solving are especially effective with younger children, particularly those younger than 8 (Durlak & Wells, 1997). Based upon the current evidence for successful school-based interventions, researchers at the Collaborative for Academic, Social and Emotional Learning (CASEL) advocate for school-based prevention programming at all ages from preschool through high school (Greenberg et al., 2003).

MECHANISMS FOR PREVENTION PROGRAMS

There are two primary mechanisms for the prevention of violence in schools. The first is to promote resiliency through the enhancement of protective factors, such as the promotion of prosocial behaviors, social competency, and other resilience-related factors. The second mechanism is through risk reduction, decreasing violence-related behaviors and antecedents of those behaviors. Within each mechanism, there are both internal and external levels. At the internal level are student-centered programs, which include individually based interventions such as teaching the expression of feelings, conflict resolution, or anger management. At the external level are environment or school-centered programs, which include interventions such as changes in sanctions for students' disruptive behavior, implementation of peer mediation programs, or programs that address teachers' classroom organization.

A comprehensive metaanalysis of primary prevention programs conducted by Durlak and Wells (1997) indicated that, overall, school-centered programs show small yet meaningful

effect sizes (mean ES = .35), while student-centered programs show small to large effect sizes (mean ES = .25 to .93), depending on the age of student and the mode of intervention. These authors found that programs targeting younger children (ages 2–7) tend to show the greatest effect sizes, whether the approach is primarily affective education (mean ES = .70) or interpersonal problem solving (mean ES = .93). Student-centered programs targeting children over the age of 7 tend to show small effect sizes (mean ES = .24–.36), similar to those seen in school-centered programs. Programs that focus on self-control or social competency, utilizing cognitive-behavioral or behavioral instructional methods, also show small yet significant positive results in metaanalysis (Wilson, Gottfredson, & Najaka, 2001).

Many school-wide violence prevention programs strive to enhance protective factors, as well as reduce risk, although some programs focus on just one or the other. Most programs are geared toward the internal level, using as their primary mechanism the direct teaching of both cognitive and affective skills to students. It is easier to enhance social competencies than decrease violence-related behaviors (e.g., Hudley & Graham, 1993; Slaby & Guerra, 1988; Taub, 2002). This makes sense, as a new prosocial skill will need to be learned before it can be used in place of an antisocial, violent, or aggressive behavior.

REVIEW OF PROGRAMS

A great number of programs have been implemented in schools targeting the reduction of violent student behaviors. Many of these programs reflect secondary prevention, targeting those children who have displayed problem behaviors. Given our focus on prevention and resilience, we describe programs designed for school-wide implementation. Here we list some of the programs with the strongest current research base. In order to assist those working in school settings, we also provide the most current information regarding the materials, costs, and training needed to implement these programs. Programs are presented in alphabetical order.

Good Behavior Game

The Good Behavior Game (GBG) is an approach to the management of classroom behavior that rewards children for displaying appropriate on-task behaviors during instructional times. The class is divided into two teams and a point is given to a team for any inappropriate behavior displayed by one of its members. The team with the fewest number of points at the game's conclusion each day wins a group reward. If both teams keep their points below a preset level, then both teams share in the reward (Barrish, Saunders, & Wold, 1969). The most effective components of the game are division of the class into teams, consequences for a team winning a game can be changed to rewards for winning a game (Harris & Sherman, 1973). Approximately 20 independent replications of the GBG across different grade levels, different types of students, different settings, and some with long-term follow-up show strong, consistent impact on impulsive, disruptive behaviors of children and teens as well as reductions in substance use or serious antisocial behaviors (Embry, 2002).

Materials

There is no cost, and no specific materials are needed to implement the GBG. Teachers can implement this program in their classroom with little to no outside support or assistance.

A manual on the GBG developed by the Baltimore Prevention Program is available at <http://www.bpp.jhu.edu/publish/Manuals/gbg.pdf>.

Olweus Bullying Prevention

Recommended in the Blueprints for Violence Prevention series (Olweus, Limber, & Mihalic, 1999) as a model program, the Olweus Bullying Prevention program has been shown to lead to a substantial reduction in boys' and girls' reports of bullying and victimization. Initial evaluation in 42 schools over a 2-year period found that the frequency of bully/victim problems decreased by 50 to 70% (Olweus, 1997). Additional evaluation efforts have shown a significant reduction in students' reports of general antisocial behavior such as vandalism, fighting, theft, and truancy, and significant improvements in the "social climate" of the class, as reflected in students' reports of improved order and discipline, more positive social relationships, and a more positive attitude toward schoolwork and school. (Olweus et al., 1999). This program utilizes both student-level and school-level approaches, which include environmental changes in school climate and in the opportunity and reward structures for bullying behavior and sanctions for rule violations in school.

Materials

Costs for this program include a coordinator for the program, plus \$200 per school to purchase the questionnaire and computer program to assess bullying at the school, and approximately \$65 per teacher to cover costs of classroom materials. The establishment of a Bullying Prevention Coordinating Committee is a prerequisite for implementation. Teacher and staff training time investment is a half to full day, plus ongoing weekly teacher meetings for one school year. Committee members also must complete 1 and a half days of additional training with a certified trainer. For additional program information, visit http://virtual.clemson.edu/groups/ncrj/pdfs/bullying_fact_sheet2.pdf, and go to <http://www.colorado.edu/cspv/blueprints/model/BPPmaterials.html> for ordering information.

Promoting Alternative Thinking Strategies

The Promoting Alternative Thinking Strategies (PATHS) curriculum is a student-level program focusing on promoting emotional and social competencies and reducing aggression and behavior problems through a classroom-based intervention. The approach is a combination of cognitive-behavioral and affective education (Greenberg, Kusché, & Mihalic, 1998). This program has been held up as a model program by the Substance Abuse and Mental Health Services Administration (SAMHSA), a "best practices" program by the Centers for Disease Control and Prevention, and is listed as a "promising program" by the U.S. Department of Education and the surgeon general's report on youth violence, and included in the Blueprints for Violence Prevention services (Greenberg et al., 1998). An evaluation of the PATHS curriculum found the program positively impacted students' emotional understanding and interpersonal problem-solving skills (Greenberg & Kusché, 1996). A review by Leff and colleagues (2001) found the PATHS program to be a "possibly efficacious" program, based in part upon findings of evaluations of the PATHS program used in conjunction with another program (Families and Schools Together—FAST). Leff et al. (2001) reported the combined programs showed positive effects on aggression and hyperactive-disruptive behaviors for elementary-age children.

Materials

A kit for kindergarten through sixth grade costs between \$600–700. Materials are estimated at between \$15–45 per student per year. The lower figure would apply to a school that chooses to deliver the program through current staff who are trained in PATHS, and the higher cost would apply to a school that hires a PATHS coordinator to deliver the program. Ordering and additional program information can be obtained through the Channing Bete Company at <http://www.channingbete.com/positiveyouth/pages/PATHS/PATHS.html>.

PeaceBuilders

This is a universal, elementary-school-based violence prevention program that attempts to alter the climate of a school by teaching students and staff simple rules and activities aimed at improving child social competence and reducing aggressive behavior. PeaceBuilders activities are built into the school environment and the daily interactions among students, teachers, and administrative staff, all of whom are taught a common language and provided models of positive behavior, environmental cues to signal such behavior, opportunities to rehearse positive behavior, and rewards for practicing it (Embry et al., 1996). A study in eight schools with comparison sites found significant gains in teacher-reported social competence for students in kindergarten through second grades, in child self-reported “peace-building” behavior in kindergarten through fifth grades, and reductions in aggressive behavior in grades three through five (Flannery et al., 2003).

Materials

Costs of materials are \$8 per elementary student, and include student and teacher materials. There are also training expenses of \$1,500 and up, depending on the type of training. This fee includes a “train the trainer” training for up to four staff people. Training and materials packages can be tailored to the needs of a school or district. Materials are available through www.PeaceBuilders.com.

Peacemakers Project

This program, geared toward students in grades four through eight, has both primary prevention and secondary prevention components. The primary prevention component is delivered by teachers in classrooms and consists of a psychoeducational curriculum and procedures for infusing program content into the school environment. The secondary prevention component targets students who have preexisting disciplinary problems and is delivered by school counselors. A large-scale study with a comparison group in an urban public school system was conducted on this curriculum and was found to have significant, positive program effects on six of the seven variables assessed (Shapiro, Burgoon, Welker, & Clough, 2002). These positive effects included increased knowledge of psychosocial skills, decreased self-reported aggression, and teacher-reported aggression. In comparison to controls, a 41% decrease in aggression-related disciplinary incidents and a 67% reduction in suspensions for violent behavior was found in the intervention schools (Shapiro et al., 2002).

Materials

Total program implementation costs are estimated to be about \$11 per student. Leader’s guides cost \$169 and student handbooks cost \$9. Information about training and purchase of materials

can be found through Applewood Centers at <http://www.applewoodcenters.org/Frames/peacemakers.htm>. No special training is needed for the counselor's component (for counselors experienced in working with children with behavior issues), and 6 hours of teacher training are recommended for the classroom components.

Resolving Conflict Creatively Program

The Resolving Conflict Creatively Program (RCCP) includes a K–12 classroom curriculum and a student-led mediation program. As such, the program has both student-level and environment-level components. The RCCP focuses on teaching conflict resolution and intergroup relations through constructive problem solving, perspective taking, cost–benefit analysis, decision making, and negotiation (DeJong, 1994). There are also training components for teachers, administrators, and parents (Lantieri, DeJong, & Dutrey, 1996). An evaluation of the RCCP in 11 elementary schools found preservation of competence-related processes and slower growth in aggression-related processes when compared with students taught few or no RCCP lessons (Aber, Jones, Brown, Chaudry, & Samples, 1998).

Materials

Trainings for implementation of RCCP are individualized and personalized, but typically cost \$1,200 per day per trainer. Training lasts 3 to 5 days, and one trainer can train 30 people. Most materials are included in the training, except for the teacher program books, which cost \$30 each, and trainer manuals (recommended for each teacher), which cost \$12 each. These materials are not available without the RCCP training. “Train the trainer” trainings are available. Additional information on implementation, training, and materials can be obtained through www.esrnational.org.

Responding in Peaceful and Positive Ways

The Responding in Peaceful and Positive Ways (RIPP) program is a sixth-grade universal violence prevention program that combines the use of a student-level, social-cognitive, problem-solving model where specific skills for violence prevention are taught throughout the school year in the classroom. RIPP also employs a school-wide peer mediation program. The program is grounded in social/cognitive learning theory and targets the influence of intrapersonal attributes, behaviors, and environmental factors, following Perry and Jessor's (1985) health promotion model to reduce risk factors associated with violence by promoting nonviolent alternatives. An evaluation of the curriculum in randomized classrooms found that RIPP participants had fewer disciplinary violations for violent offenses and in-school suspensions, more frequent use of peer mediation, and reductions in fight-related injuries than students in the control group. The reduction in suspensions was maintained at 12-month follow-up for boys but not for girls. The program's impact on violent behavior was more evident among those with high pretest levels of problem behavior (Farrell, Meyer, & White, 2001). An extension of the RIPP curriculum into seventh-grade classrooms found students who participated in RIPP-7 had fewer disciplinary code violations for violent offenses during the following school year (Farrell, Meyer, Sullivan, & Kung, 2003). The developers have extended the program through eighth grade, although outcome data on the effects of this part of the curriculum are not yet available.

Materials

Implementation of the RIPP curriculum requires hiring and training a full-time violence prevention facilitator for each school. This person is responsible for teaching the curriculum and coordinating the peer mediation program. An 8-day intensive training is a prerequisite for implementation and costs \$600 per participant. A \$45 RIPP manual is also needed. Additional information can be found at <http://www.has.vcu.edu/RIPP/>.

Second Step

The Second Step program, based on the work of Shure and Spivack (1978), attempts to improve children's social competence by developing student skills in the areas of perspective taking, social problem solving, impulse control, and anger management (Beland, 1992). This is a school-wide program for kindergarten through eighth grade with several controlled research studies to show effectiveness in the elementary grades. The *Second Step* curriculum was selected as a Model Program by the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) for inclusion in their National Registry of Effective Prevention Programs. Preliminary research in urban and suburban areas indicated that after participation in Second Step, children's perspective taking and social problem-solving abilities improved significantly when compared with controls (Sylvester & Frey, 1994). This research, however, did not assess changes in children's behavior after the intervention. In another study, a large-scale, randomized controlled trial of the Second Step was conducted in six urban schools. The researchers found modest reductions in levels of observed aggressive behavior and increases in neutral and prosocial behavior, especially in the playground and cafeteria settings, among second and third graders (Grossman et al., 1997). Another evaluation of this program with rural third through sixth graders found significant improvements in independent behavioral observations of engaging appropriately with peers, and on teacher ratings of social competencies and antisocial behaviors at the intervention school when compared with students at a comparison site (Taub, 2002). Second Step was discussed as a promising "universal" (school-wide) school-based violence prevention program in a 2001 review of programs (Leff et al., 2001).

Materials

Program kits, which can be obtained from the Committee for Children, cost roughly \$140 per grade (less if multiple grades are purchased together) and can be used for up to two classrooms per kit. A 3-day training is also needed to implement the program, which costs \$499 and is offered in various cities throughout the United States. Staff who attend this "train the trainer" training can then come back and train other staff in the program. The additional time investment to train teachers to implement the program is 7 hours.

CONCLUSIONS

There are many good programs available for universal implementation in schools to help children develop social and emotional competences, thereby increasing resiliency and reducing violent and socially inappropriate behavior in children. We suspect that one of the factors associated with the positive findings of the reviewed programs is the teaching of a shared language and skills for positive and healthy interpersonal interactions within entire school communities. A shared language allows all parties—students, teachers, and

staff—to communicate positively and effectively, enhance social interactions, reduce interpersonal conflict, and foster resilience.

As the review of programs exemplifies, schools also have a number of choices of programs that are affordable once the commitment to implementation and training is made. Many of these programs can very well be time-efficient and cost-effective in the long run as well, especially if they result in a reduction of teacher and staff time for responding to students' behavior and more time for classroom instruction, and if they lead to increased student time spent in the classroom instead of in the principal's office, in detention, or on suspension.

It is important to note that primary prevention programs are more effective when targeting younger children (Durlak & Wells, 1997). Children in preschool through the early elementary grades are likely to benefit most from interventions that increase students' awareness and expression of feelings, as well as interventions that enhance cognitively based social problem-solving skills. Such interventions will most likely enhance resilience and decrease aggression and violence. Although there is not a great deal of longitudinal data available, we would also hope that comprehensive interventions in the early school years would help to establish a repertoire of healthy interpersonal interactions that will serve as a strong base for years to come.

Although there is a general need for more research in this area, there is also an incumbent need for further research of these prevention programs with children of various ethnically and linguistically diverse backgrounds. One of the authors has had the anecdotal experience of using the Second Step program (Committee for Children, 1992) in an elementary classroom where nearly half of the children were of Asian descent. The cultural norm of restricting the expression of affect (Sue & Sue, 1999) impacted the role play and modeling activities that are central to the program. These sorts of experiences highlight the need to identify the context and ecological variables in which prevention and intervention strategies are effective.

We also look forward to long-term longitudinal studies to help elucidate some of the lasting effects of universal, primary violence prevention programs delivered to school-age children. In order for these studies to be adequately conducted, federal and state agencies will need to support research and program evaluations with a commitment to examining long-term, rather than short-term, outcomes. This support will also require effective collaboration between the education, mental health, and public health domains to address the multiple aspects of development. It is hoped that these studies will include, but not be limited to, some of the following issues: Does participation in earlier grades impact disciplinary infractions in later grades? Does participation in such programs reduce later involvement in juvenile justice or mental health? Does delivery to younger children (preschool) have differential effects? Do teacher variables contribute to the implementation of these programs? We trust that our colleagues are and will investigate these and other questions related to the effects of school-wide violence prevention programs.

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22

Enhancing the Process of Resilience through Effective Thinking

Myrna B. Shure and Bonnie Aberson

No one doubts that clinicians, parents, teachers, and other caregivers are in a unique position to affect social adjustment and interpersonal competence in children. There is, however, reason to wonder whether we have a thorough grasp of the subtleties of this process. We know that some families, for instance, can adjust in reasonably adaptive ways to what appear to be circumstances very similar to those in families who cannot. Even among the very poor, many of whom experience insurmountable pressures of daily living, some can cope better than others and can have children who emerge as stellar examples of healthy human functioning.

This chapter will describe an interpersonal cognitive problem-solving approach that George Spivack developed with the first author (Shure), an approach that can provide a protection against stress—protection that can provide a significant mediator of resiliency that helps people cope with insurmountable pressures, frustrations, and even failures in life. First, socially adjusted and interpersonally competent children and those in regular classrooms displaying varying degrees of high-risk behaviors such as impulsivity and inhibition will be discussed. Examples of how the problem-solving approach has helped both adjusted and high-risk children develop resilience in typical, everyday conflict situations will be illustrated. Examples of how clinicians can put into practice the efforts of controlled, empirical research of the first author will then be described through vignettes reported by the second author (Aberson) in her work with children diagnosed with clinical and neurological disorders.

Traditionally, educators and clinicians believed that if emotional tension could be relieved, it would be easier for children to think “straight.” It seemed to us just as reasonable

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to believe that if one could think “straight,” it would be easier to relieve emotional tension. Let’s look at Zachary,¹ a 4-year-old who wanted a wagon that Richard was playing with. When Richard refused his request, Zachary did not create a new problem by becoming disorganized in the face of stress. His ability to think of other options created the opportunity for him to demonstrate flexibility, and this led him to another tactic. “If you let me have the wagon, I’ll give it right back.” Richard did not answer. Zachary then asked him, “Why can’t I have it?” Richard replied, “Because I need it. I’m pulling the rocks.” Zachary paused, then quietly offered, “I’ll pull them with you.” “Okay,” said Richard. And the two children played with the wagon together.

Zachary’s teacher may not have agreed with the way this problem was solved. She might have thought Richard should have let Zachary have the wagon when he first asked for it because Richard already had had his turn. But Zachary was satisfied with pulling together. Instead of ending up in dissatisfaction and frustration, both children responded warmly toward each other and felt good about their own decision. Zachary was able to think about his original desire, the wagon, and when faced with resistance could then think of alternative ways to solve the problem (ask for it; promise a quick return; suggest playing together). He was able to understand the other child’s feelings and incorporate them into a solution that ended up successful. Like other good problem solvers, Zachary may have *thought* about hitting or pushing Richard or just pulling the wagon away, and he may also have been able to anticipate the consequences of such acts. But most importantly, his ability to think of other options prevented Zachary from experiencing frustration and failure. He could bounce back. He didn’t have to give up too soon. Perhaps this was possible because Zachary had available to him more than one way to solve his problem. Let’s look at Sara, who asked her sister to let her play with her doll, and like Zachary, was told she couldn’t have it. Could she think of other ways to get her sister to let her play with her doll? If not, she might become frustrated with her sister and react aggressively, or perhaps avoid the problem entirely by withdrawing. Sara might have hit her sister, not as an impulsive reaction to frustration, but after *deciding* that hitting is one way to get it. If this were the case, the new question is whether she also thought about the potential consequences of her hitting and whether that might have influenced her decision to hit. She might have foreseen that her sister could hit her back and not let it concern her. She might go ahead and hit her anyway. Perhaps she could not think of anything else to do. When Sara’s sister told her she could play with her doll after she was finished with it, Sara thought of something different to do while she waited, an important coping strategy in itself. Sara was able to wait without getting impatient, flying off the handle, hitting her sister, or giving up.

What do Zachary and Sara have that children who are not so successful in negotiating for what they want but do not have? These two children have the ability to think of more than one way to solve a typical interpersonal problem, to mesh their needs with the needs of the other child, and to consider what might happen next if they were to carry out a particular solution.

PROBLEM SOLVING AND RESILIENCY

Arend, Gove, and Sroufe (1979) found that 5-year-olds who can think of more options to interpersonal problems are more likely to display ego resiliency, defined as “the ability to respond flexibly, persistently, and resourcefully, especially in problem situations” (p. 951).

¹ All names are pseudonyms.

The authors continue: "Individuals presumably have a typical or preferred level or threshold of control. Being ego-resilient implies the ability to modulate this preferred level of control in situational appropriate ways." The ego-brittle individual, on the other hand "implies inflexibility—an inability to respond to changing requirements of the situation—and a tendency to become disorganized in the face of novelty or stress." This individual will be "impulsive (or constrained) even in situations when such behavior is clearly inappropriate." Perhaps having more than one way to solve problems that involve other people available in one's repertoire of thought provides the very flexibility and resourcefulness that creates an ego-resilient individual. In addition to being flexible and able to bounce back in the face of failure, Brooks and Goldstein (2001) observe that resilient children "have learned to set realistic goals and expectations for themselves. They have developed the ability to solve problems and make decisions and thus are more likely to view mistakes, hardships, and obstacles as challenges to confront rather than as stressors to avoid. They have developed effective interpersonal skills with peers and adults alike" (p. 5).

Children who are empathic and good problem solvers have developed effective interpersonal skills, as they have more friends and are less frustrated when things don't go their way. And, as Brooks and Goldstein note, parents can help by being empathic, communicating effectively, teaching our children to solve problems and make decisions, and disciplining in a way that promotes self-discipline and self-worth. Children who can plan their own actions that have positive, not negative, consequences are better able to take control of their lives, instead of letting life take control of them.

PROBLEM-SOLVING SKILLS THAT FOSTER RESILIENCY

In youngsters as young as 4 and 5 years of age, George Spivack and Myrna Shure measured the ability to think of *alternative solutions* to two types of problems: (a) wanting a toy another child has and (b) how to keep mother from being angry after having broken something of value to her. Using the Preschool Interpersonal Problem Solving (PIPS) test (Shure & Spivack, 1974), it was possible to distinguish good from poor problem solvers as early as preschool. To obtain a chance to play with a toy another child has, poor problem solvers thought of "Ask," "Grab it," "Hit him," or "Tell the teacher." Good problem solvers could think of these solutions too, but added solutions as, "Take turns," "Say, 'I'll give it right back,'" "Tell him he'll be his friend," and more creative ones such as, "Put her name on it and she'll think it's hers," and "Say, 'you'll have more fun if you play with me than if you just play by yourself.'" Although good problem solvers could, like poor ones, think of "Take it," they were also more likely to offer, "Wait 'til he's finished," and surprisingly, "Wait 'til he's not looking and then take it." Poor problem solvers might have thought of "Say 'I'm sorry'" for breaking the flower pot, "I won't do it again," and perhaps some form of "fix it," while good problem solvers could add, "Paint it her favorite color," "Put her favorite flower in it," "Pretend he's asleep and mommy can't spank him," and "Bring her mommy a drink and she'll feel better."

Shure, Spivack, and Jaeger (1971) found that good problem solvers were, compared to poor ones, less physically and emotionally aggressive, less likely to fly off the handle when things didn't go their way, better able to wait their turn and share things, more aware of, if not genuinely concerned for, peers in distress, and more sought after by their classmates. They were also less likely to display inhibited behaviors in the classroom, such as timidity, fear of jumping into play with others, and ability to stand up for their rights. The efficacy of

interpersonal cognitive problem solving (ICPS) for adjustment in youngsters from pre-school through adolescence has been confirmed by others who have found poor ICPS skills to be associated naturally with high-risk impulsive and inhibited behaviors as well as display of fewer positive prosocial behaviors in both lower- and middle-income groups (for a thorough review of these studies, see Spivack & Shure, 1982). Importantly, the very behaviors with which poor ICPS skills are associated are also, as longitudinal research has found, early predictors of later, more serious outcomes such as violence, substance abuse, unsafe sex, and some forms of psychopathology, including depression, perhaps even suicide (Parker & Asher, 1987; Roff, 1984; Rubin, 1985).

Shure and Spivack learned something interesting from the solutions given by socially adjusted and behaviorally competent children as well as those who were not. It might, at first, appear that the solution "Wait 'til he's not looking and then take it," is an aggressive one, based on the content, "take it." Or, it might appear to be a solution that an inhibited child would give because, as one might conjecture, "The child doesn't have to confront anyone, and there's no conflict." It turned out that neither was the case; that it was the socially adjusted children (those displaying neither aggressive or inhibited behaviors) who were most likely to give that solution. After having thought about why this was the case, Shure and Spivack came upon two possibilities. First, socially adjusted youngsters were likely to give more, different, relevant solutions to the presented interpersonal problems, and "Wait 'til he's not looking and then take it" was only one of several solutions offered. Therefore, a child who gave this solution was not stuck on one or two ways to solve the problem. Second, the cognitive components of this solution includes a non-impulsive thought, "Wait . . ." and thinking of the best time to do something, "when he's not looking." However rudimentary, this could be the precursor to a more sophisticated problem-solving skill found related to behavioral adjustment in the preteen years, a skill called *means-ends thinking*—planning sequenced steps toward a goal (e.g., making friends), anticipating potential obstacles that could interfere with carrying out that plan (the kids don't like him), and recognizing time and timing, that is, recognizing a good time to act and/or appreciating that goals are not always reached immediately (Spivack & Shure, 1982).

Given that perhaps the process of solving a problem, rather than the content per se, can guide behavior, Shure, Spivack, and Jaeger (1971) tested children for other skills that could both distinguish good from poor problem solvers and skills that would relate to measures of social adjustment and interpersonal competence. As measured by the What Happens Next Game (WHNG) (Shure & Spivack, 1990), the ability to anticipate what might happen next if an act were carried out, or *consequential thinking* emerged as a significant mediator of behavior as well. For example, when asked, "What might happen next if a child grabbed a toy from another (Shure, 2003), poor problem solvers more likely gave responses such as, "He'll grab it back," "He'll hit him," or, "He'll tell the teacher." Good problem solvers could also think of these, but added responses such as, "It might break," "He'll lose a friend," or, as one very creative boy said, "He'll eat marshmallows in front of him and then when he wants one, he'll say no 'cause you took my truck." When asked what might happen if, for example, a child takes something from an adult without first asking, poor problem solvers were not only more likely to think of fewer consequences, but much less empathic ones. Over and over, impulsive and inhibited youngsters were more likely to give consequences directed toward themselves, such as, "He'll get whooped," "He'll have to go to his room," or, "Mom will take away his toys." Adjusted youngsters who could also think of those possibilities were also more likely to think of empathic possibilities.

Responding to a fictitious child having taken an umbrella without her mom knowing it, one adjusted child said, "When it rains, she won't have an umbrella, and she'll get wet, and she'll catch a cold."

Having identified alternative-solution and consequential-thinking skills as associated with social adjustment and interpersonal competence in 4- to 6-year-olds, and sequenced planning, or means-ends thinking as an additional, more complex skill beginning about age 8, Spivack and Shure then asked why better problem solvers are more socially adjusted and interpersonally competent among both their peers and with adults as rated by teachers as well as peers and independent observers (Shure, 1993). Having dubbed solution, consequential, and means-ends thinking as ICPS skills, Spivack postulated:

A key and common element in any theory of social adjustment or psychopathology is the quality of social relationships and capacity to cope with interpersonal problems. Experiencing interpersonal problems is viewed as a natural consequence of being human, since satisfactory social relationships are central to human development.

How well one can solve one's interpersonal problems depends on a complexity of interacting emotional and cognitive factors. However, to appreciate fully the efficiency with which a person navigates a problem, it is necessary to understand how well he or she recognizes and thinks through the interpersonal situation. It is this process, manifest in a set of ICPS skills, that defines the human problem-solving capacity of relevance to social adjustment. It is *how* one thinks that is crucial if one is to understand the likelihood of successful adjustment in the long run.

There seems to be a grouping of ICPS process skills that mediates the quality of social adjustment . . . skills not the same as the capacity to conceptualize and reason through impersonal, abstract problems, whatever common roots these capacities may share. ICPS skills are learned from experience in our culture, such learning beginning in the family and wherever the child interacts with others.

If a person does not manifest adequately one or more ICPS skills, this may be because 1) he or she did not learn this way of thinking sufficiently well to begin with, 2) effective ICPS thought has been learned but is not being exercised on a particular occasion because of interfering emotions and consequent non-ICPS thinking (e.g., irrational/defensive thinking), and/or 3) once-learned ICPS processes have deteriorated (e.g., with advanced age or neurological damage).

Any therapeutic or educational program that enhances the operation of ICPS skills or removes barriers to their exercise will enhance the social adjustment of those involved, or decrease chances of deterioration in social adjustment. (Spivack & Shure, 1982, pp. 324–325).

The next question was whether ICPS skills preceded healthy adjustment or vice versa. Are children who are socially adjusted and interpersonally competent because they have good problem-solving skills, or do children have good problem-solving skills because they are socially adjusted and interpersonally competent? It seems reasonable to assume that children who get along with others, are not aggressive, and not socially inhibited have more opportunity to relate to others and more opportunity to practice social cognitive skills. It seems equally logical that an individual who becomes preoccupied with the end-goal of a motivated act rather than how to obtain it, who is not adept at thinking through ways to solve a typical interpersonal problem, or does not consider consequences and the possibility of alternate routes to the goal is an individual who might make impulsive mistakes, become frustrated and aggressive, or evade the problem entirely by withdrawing. In any case, initial needs remain unsatisfied, and, if such behaviors occur repeatedly, intense unpleasant affect will be aroused, interpersonal relationships can suffer, and varying

degrees of maladaptive behavior and symptoms can ensue. On the other hand, an individual with means-ends thinking, a habit of thinking in terms of alternate possible solutions and an appreciation of consequences, should more effectively evaluate and choose from a variety of options when faced with a problem, turn to a different (more effective) solution in case of actual failure, experience less frustration, be successful in interpersonal affairs, and be less likely to exhibit psychological dysfunction. Although there is no doubt an interaction of both premises, it seems reasonable to assume that youngsters like Zachary and Sara are likely, with their ICPS competency, to experience less frustration and failure than youngsters who cannot bounce back if their first ideas should elude them.

An implicit assumption of Spivack's theoretical position is that the availability of ICPS thinking is an antecedent condition for interpersonal adjustment and psychological health. This notion of mediating impact of ICPS upon behavior was put to the test via intervention created to investigate a linkage between ICPS ability and behavioral adjustment by experimentally altering ICPS skills, and then observing changes in the child's display of behaviors naturally associated with ICPS skills. If ICPS ability were found to mediate such behaviors, Spivack and Shure would be able to identify those ICPS skills that play the most significant role in adjustment, which would form the basis for a new approach to prevention of high-risk behaviors in children.

FROM THEORY TO TRAINING PROGRAM

In the early 1970s, Shure and Spivack began systematic intervention to enhance ICPS skills with inner-city 4-year-olds. Based on Spivack's propositions, the approach was to teach children *how*, not what to think, in ways that would help them successfully resolve everyday interpersonal problems. Originally called Interpersonal Cognitive Problem Solving (ICPS), now called I Can Problem Solve (also ICPS), the training manuals for preschool and for kindergarten and the primary grades (Shure, 1992a,b) consist of sequenced games and dialogues, including prerequisite language skills, feeling word concepts, and the final alternative solution and consequential thinking skills to be learned.

ICPS Word Pairs

Words pairs such as *is/is not*, *same/different*, *before/after*, *might/maybe*, and *some/all* are first used in game form because when children learn to associate particular words with play, they are more likely to use them when it's time to settle disputes. In nonstressful situations, children first have fun thinking about what an object in the room is and is not (e.g., "This *is* a table, it is *not* a chair, a balloon, a ceiling), then to name something in the room that is the same, and something different, whether they pointed to the table before or after they pointed to the floor, and what they think Mom might point to next. Children can have fun talking about how Mom *is* the *same* as Dad, and how Mom is *not* the *same*, is *different* from Dad, what games they like to play that are different from games their sister likes to play, and whether it rained before or after they played outside. Children also like to play with the words now and later, and make up situations such as, "I am eating breakfast *now*." I will eat dinner *later*. The words *some* and *all* have been used in a phrase, to think, for example, that I like to play with my new truck *some* of the time, but *not* all of the time. I can let my brother play with my truck *some* of the time too." It's fun for children to make up their own ways of using these words, ways that later help them think about how to solve conflicts that come up

at home and at school. Applying these word pairs to real life, for example, a child can respond to the question, “Is your idea a good one or *not* a good one,” in light of what might happen next, and is the child able to think about what happened *before* a fight began with questions such as, “Did he hit you *before* or *after* you hit him?” The words *is* and *is not* are also incorporated into phrases that help the child think about good times and not good times to do things, such as when a child is interrupting someone. The child can be asked, “Is this a good time or *not* a good time to talk to me?” Children enjoy thinking about the question, “Can you think of a *different* way to tell your brother what you want,” and they’re more willing to wait until later when they recognize the word later from their play games.

The second phase of the ICPS training program helps children identify feelings, not only of others, but their own. Children learn that it is possible to learn that different people can feel different ways about the same thing—that feelings change, and there are ways to determine this by watching, listening, and asking. After learning games to put words to people’s feelings, children learn to think about what makes other people feel the way they do, and equally important, to think about what makes them feel the way they do. Children who do not care if, for example, a child hits them while grabbing a truck may have become immune to their own, albeit temporary, pain to get what they want. Children who do not care about their own feelings cannot care about the feelings of others, or be motivated to think of other ways to get what they want. Once feeling words are identified and children think about what makes people feel the way they do, they are ready for games and dialogues that teach solution and consequential thinking skills, in light of their own and other’s feelings—and that if one solution doesn’t work, or is thought to not be a good idea—it is possible to try a different way.

Beginning about age 8, children in the intermediate elementary grades (Shure, 1992c) are exposed to age-appropriate problem situations to think of feelings, solutions, and consequences, as well as more sophisticated skills of thinking: How a person can have more than one feeling about the same thing at the same time (mixed emotions), understanding that there is more than one explanation why people do what they do (“Maybe he didn’t wave because he’s mad at me,” or, “Maybe he just didn’t see me”), and ability to engage in the sequenced planning, or means-ends thinking, skill described above.

In addition to the ICPS programs for use in schools from preschool through grade six, ICPS has been developed for use by parents. With the *Raising a Thinking Child Workbook* (Shure, 2000), based on the program *Raising a Thinking Child* (Shure, 1996), and *Raising a Thinking Preteen* (Shure, 2001), the same ICPS approach was adapted for use at home.

Shure and Spivack learned that in addition to teaching prerequisite and problem-solving skills to children, application of newly acquired ICPS skills to real life can be key to actual behavior change. Using the concepts described, the trainer, whomever that may be, learns to help children associate how they think with what they do through a process Shure calls “ICPS dialoguing.” Replacing negative punishment, demands, or threats, such as often humiliating time-out or yelling, or even the more positive approaches of suggesting what to do (e.g., “Ask your brother for what you want”; “share your toys”), and explaining and reasoning (e.g., “If you hit your brother, you might hurt him”), ICPS trainers ask questions that guide children to *think* about what they do in light of how they and others might feel, what might happen next, and if needed, to think of a different way to solve the problem. Here is how one mother used the ICPS dialoguing approach with her preschool child, Sean, who complained, “Mommy, Tommy hit me.”

MOM: What’s the problem? What’s the matter?

SEAN: Tommy hit me.

- MOM: What happened *before* he hit you?
 SEAN: I hit him first.
 MOM: What for?
 SEAN: He won't let me have any clay.
 MOM: How do you think Tommy feels when you hit him?
 SEAN: Mad.
 MOM: And then what happened *after* you hit him?
 SEAN: He hit me.
 MOM: And how did that make *you* feel?
 SEAN: Mad.
 MOM: Can you think of a *different* way to get Sean to let you have some clay so you both won't be mad and he won't hit you?
 SEAN: I could tell him I'll help him make a dog.

Sean felt less threatened when asked "What happened *before* he hit you?" than he would have from the more threatening question, "Why did you hit him!?" Associating the word *before* with his ICPS word games, Sean felt safe to tell his mom what really happened. When this mother discovered that her child hit first, she didn't offer advice or lecture the pros and cons of hitting. Instead, she continued the ICPS dialogue by encouraging her child to think about his own and Tommy's feelings, and the original problem (wanting the clay). Then she helped him look for alternative ways to solve the problem and consider what might happen as a result of those solutions. Now active participants, not passive recipients, children who are engaged to think about what they do are much more likely to carry out their own ideas than those demanded, suggested, or even explained by an adult. By sending a covert message, "I care how you feel, I care what you think, and I want you to care too," children are also more likely to care about other people too.

EVIDENCE OF IMPACT OF ICPS WITH ADJUSTED AND HIGH-RISK CHILDREN

What did ICPS training do for the thinking and behavior of the children? When trained by teachers, not only did ICPS skills and behavior of youngsters trained as early as preschool and kindergarten improve more than comparable controls, but as measured 1 and 2 (Shure & Spivack, 1982), and up to 4 years later (Shure, 1993), the impact was maintained. In only 3 months time, and regardless of IQ, impulsive children became less impatient and less likely to explode when faced with frustration. Socially withdrawn youngsters became more outgoing, more able to express their feelings, and less fearful. Tanya, for example, who played onlooker day after day before training and shied away when her teacher tried to help her into a group, made a dramatic move during the 11th week of the program. She told a group in the doll corner, "If you need a fireman, I'm right here." One of the children who previously ignored her then happened to notice a pretend fire.

Not only did the behaviors of the trained group as a whole improve (also replicated by others, e.g., Allen, 1978; Feis & Simons, 1985; Weddle & Williams, 1993; Wowkenech, personal communication, August 26, 1978), but those who most improved in the trained problem-solving skills were the same children whose behavior most improved (Shure & Spivack, 1980), suggesting a direct link and support for Spivack's theory that the trained ICPS skills played a significant role in mediating behavior. Importantly, youngsters

showing behavioral adjustment and social competence in preschool were less likely than controls to begin showing behavioral aberrance in kindergarten, suggesting that ICPS serves as a primary prevention program as well as one that reduces already existing high-risk behaviors. In the Feis and Simon (1985) study, trained preschoolers in rural Michigan, compared to comparable controls, decreased negative behaviors, especially anxious/fearful and hyperactive/distractable behaviors as measured by the Behar and Stringfield (1974) teacher rating scale, outcomes also found by Aberson, Albury, Gutting, Mann, and Treshin (1986). Behavioral changes were associated with an improved ability to problem solve. Importantly, trained children also received fewer referrals to mental health services than controls. In the Wolkenech (1978) study, behavioral impact was not only greater for ICPS-trained 5-year-olds than for age-mates trained in modeling-reinforcement groups, but as soon as the training was over, ICPS-trained youngsters continued to try other ways to resolve a conflict, while modeling-reinforcement-trained youngsters were more likely to revert to their old (often ineffective) ways of handling conflict.

For fifth- and sixth-graders first trained in the ICPS approach, the content of particular problems and what adults say and do can differ, but the extent to which an adult encourages the child to think does not change as a child gets older or because he or she is a member of particular socioeconomic level. Although it did take somewhat longer to achieve the same behavioral impact as with younger children, the positive prosocial behaviors increased in the same 3-month time period in grade five, while the negative behaviors decreased after a second exposure, in grade six (Shure & Healey, 1993). Although it is possible that the delayed impact on negative behaviors can be a result of less intense training due to academic demands (three times weekly vs. daily for the younger children), it is also reasonable to assume that perhaps aberrant behaviors are simply more habitual in older than in younger children and therefore more resistant to change. Given that ICPS and behaviors in older children are still correlated phenomena, more intense or extensive ICPS intervention appears logical to pursue. The evidence suggests, however, that even though it may take somewhat longer to affect negative behaviors in older children, for those not trained earlier in life, grades five and six are not too late. Importantly, standardized achievement test scores improved among ICPS-trained children, especially social studies, reading, and math, suggesting that children whose behavior improved could better focus on the task-oriented demands of the classroom, and subsequently, do better in school. Returning to Brooks and Goldstein's (2001) analysis that resilience involves "hardships and obstacles as challenges to confront rather than as stressors to avoid," it is important to note that Elias et al. (1986) have shown that fifth-graders who learn problem-solving skills experience less stress during their transition from elementary to middle school. In addition to the logistics of transferring to a new school and coping with peer pressure, these stresses included adjusting to more stringent academic requirements. The youngsters in the Elias et al. study stayed on-task and performed better academically in school.

It may be important here to underscore the importance of the ICPS dialoguing in effecting behavior change. Weissberg and his colleagues at the University of Rochester developed social problem-solving programs for elementary school-age children and found that compared to their first attempts, Weissberg et al. (1981) attribute improved behavioral gains in both urban and suburban second- to fourth-graders to methodological research improvements (e.g., better-matched controls, less teacher rating bias), more motivated, responsible teachers, and more closely monitored training, supervision, and consultation efforts. They also attribute behavioral gains to a curriculum that might better have met the needs of urban as well as suburban teachers and students, which had been started earlier in

the year, and, very importantly, to newly emphasized dialoguing to help children apply newly acquired cognitive problem-solving skills to everyday interpersonal problems. In fact, Weissberg and Geston (1982) report that the incorporation of dialoguing into the curriculum may “be a key teaching approach to facilitating children’s independent problem solving efforts” (p. 59).

Are parents able to be effective ICPS mediators? Shure and Spivack (1979) found that inner-city, African American preschoolers trained by their mothers, like those trained by their teachers, significantly improved more than controls in solution and consequential thinking and in impulsive and inhibited behaviors as observed in school, suggesting that ICPS skills learned at home generalized to a different setting—the school. Mothers who improved in their own problem-solving skills and applied ICPS dialogues when handling real problems at home had children who most improved in the trained ICPS skills and behaviors. Importantly, it was the mothers who best learned to solve problems between a hypothetical mother and her child (e.g., her child has been saying “no” a lot lately) who were also most likely to apply the ICPS dialogues when real problems would arise, partly, we believe, because they learned to solve a problem one step at a time, to recognize and circumvent potential obstacles, to appreciate that problems cannot always be solved immediately (means-ends thinking), as well as to understand, and, at least at times, accept their child’s point of view. When first trained in kindergarten by their teachers, and in first grade by their mothers (Shure, 1993), children whose mothers best applied the ICPS dialogues were still maintaining their gains 3 years later, at the end of grade four.

FROM TRAINING ADJUSTED AND HIGH-RISK CHILDREN TO CLINICAL APPLICATIONS

So far we have addressed ways that ICPS can be used to help children solve the more typical, everyday problems, such as hitting siblings or classmates and sharing. Although fewer studies have been conducted with children with clinical diagnoses, Shure and Spivack (1972) found social problem-solving deficiencies in 8- to 12-year-old youngsters attending a school for the emotionally disturbed compared to age-mates in public schools, and Lochman and Dodge (1994) confirm that severely violent preadolescents and adolescents tend to be more deficient in a wide range of social cognitive processes, including social problem-solving skills, than their moderately aggressive or nonaggressive peers. Similarly, Dodge (1993) cites research within his cognitive model of information processing that suggests that both aggressive and depressed youngsters who view their interpersonal worlds with anger or hopelessness are deficient in social problem-solving skills, and “demonstrate deviant response accessing patterns that indicate a dearth of competent behavioral responses” (p. 569). Consistent with Dodge, depressed 9- to 11-year-olds were, compared to nondepressed peers, significantly more deficient in the measured ICPS skill of means-ends thinking (Sacco & Graves, 1984). Interestingly, Higgins and Thies (1981) found that even with a group of institutionalized emotionally disturbed boys, the more socially isolated were more deficient in measured ICPS skills than those who were less isolated.

Although training of depressed children specifically with ICPS has not, to date, been conducted, severely antisocial, often isolated children can benefit from ICPS training alone or when combined with other forms of cognitive-behavior therapy. Small and Schinke (1983) applied a problem-solving approach at a residential treatment center for 7- to 13-year-old emotionally troubled boys of normal intelligence, referred because of

hyperactivity, impulsivity, extreme acting-out, delinquency, learning difficulties, and minimal neurological dysfunction. Conducted in six 60-minute training sessions over 2 weeks, the impact of an adapted ICPS curriculum was compared to a combined ICPS/social skills training, where leaders modeled use of effective gestures, expressions, and verbal statements, and group members acted as protagonists, antagonists, coaches, and feedback sources during practice role play. When combined, the boys tried new styles of problem solving and interpersonal communication, gave one another social praise for displaying adaptive behavior and planned how to exercise their learning when faced with problems. Compared to a time-comparable discussion-only group, in which the boys merely discussed problems but did not learn ICPS or social skills, and a test-only condition, the ICPS-adapted group combined with the social skills training had the most impact on decreasing classroom teacher-rated behaviors as measured by the Devereux Elementary School Behavior (DESB) rating scale (Spivack & Swift, 1967), including classroom disturbance, impatience, disrespect-defiance, and external blame. With teachers blind to experimental conditions, it is notable that ICPS alone and social-skills training alone still had significantly more impact than groups with no problem-solving or social-skills training, offering hope that “troubled young people can learn to think and act responsibly in social situations” (p. 12).

In a study with 7- to 13-year-old male outpatients in a psychiatric clinic (Yu, Harris, Solovitz, & Franklin, 1985), children, mostly from the working-class, single-parent (divorced) families, received the Rochester Social Problem Solving curriculum (Weissberg, Gesten, Liebenstein, Doherty-Schmid, & Hutton, 1979)—a program that, like ICPS, teaches social problem-solving (called SPS) and thinking skills. Over a 20-week period, twice a week, children were trained in groups by clinic staff members, and, in addition, concurrent group parent sessions were held. Parents were informed about the concepts their children were learning and encouraged to implement the principles at home, and group discussions included a variety of parent issues. Compared to control groups, who received generally eclectic clinical services ranging from individual to family therapy, trained children improved in both SPS skills and parent-rated behaviors, including greater social competence and less externalizing symptomatology (e.g., delinquent or aggressive behaviors). Parents who attended the most sessions also had children who exhibited less internalizing (e.g., depressed or uncommunicative behaviors). Although not compared to training by the clinical staff alone, it is important to note that among diagnostically disturbed children, SPS group training with added parent training can have more impact than non-ICPS treatment, which consisted of a variety of therapeutic treatment variables assumed to be ameliorative of the manifest psychopathology.

In a sample of psychiatric inpatient 7- to 13-year-olds hospitalized for treatment of antisocial child behavior, Kazdin, Esveldt-Dawson, French, and Unis (1987) found that 20, 45-minute sessions, three to four times a week of a treatment modeled after ICPS had greater impact than nondirective relational therapy or no treatment at all. The cognitive problem-solving-trained youngsters showed “significantly greater decreases in externalizing and aggressive behaviors in overall behavior problems at home and at school, and to increases in prosocial behaviors and in overall adjustment” (p. 76), and the impact was seen at the 1-year follow-up. As measured by the Achenbach and Edelbrock (1983) rating scale, prosocial behaviors of problem-solving-trained children improved to the point of falling within the normative range; the majority did, however, remain outside the normative range for deviant behaviors. The finding, with respect to prosocial behaviors, is interesting in that with normal but high-risk children within the same general age range, studied by Shure and

Healey (1993) and described above, it was the prosocial behaviors that improved first as well. A later combination of problem solving with a behavioral parent-management component (in which the parent reinforced the child's behavior with privileges, activities, and prizes) did increase the number of deviant behaviors to fall within the normal range (Kazdin, Siegel, & Bass, 1992).

Although ICPS-like training for severely antisocial children did not transform most of the youngsters studied by Kazdin et al. into normally behaving youngsters, the decreases in externalizing and aggressive behaviors were significantly greater than those exposed to a therapy in which the children were guided to express feelings, shown empathy and unconditional positive warmth, but not trained to solve problems directly. This finding is important because ICPS intervention is based on the premise that empathy, recognition, and open discussion about feelings are prerequisites to behavior change. They generate a greater repertoire of solutions, but the solution and consequential thinking most directly mediate behavior. If, for example, a withdrawn child is aware that something she did made someone angry—a step ahead of not being sensitive to that outcome—her anxiety about that person's anger won't be relieved unless she knows what to do to allay that anger. Whether the population is within the normative or the clinical behavior range, knowing what to do is a result of the final problem-solving solution, consequential and sequenced planning skills of ICPS.

We now turn our attention to how the second author (Aberson) helped three children with multiple neurological and clinical disorders develop characteristics associated with resilience as a result of training in ICPS. Although all three demonstrated characteristics of attention deficit hyperactivity disorder (ADHD), Patricia also had comorbid conditions of anxiety and depression, and Jimmy, of impulsivity and oppositional defiance. The third child, Jorge, developed posttraumatic stress disorder (PTSD) following a serious accident one year after the initial treatment, and returned to Aberson for further help. These children (whose names have been changed to protect confidentiality) received training from their parents who participated in small-group family training or in family therapy.

Patricia's Story

A child of British origin, Patricia demonstrated characteristics of (ADHD) inattentive type when she was in kindergarten (as reported in Aberson, 1996; Aberson & Ardila, 2000). Her mother, a single parent, attended six weekly small-group parenting classes when Patricia was in second grade. By that time, ratings on the Behavior Assessment System for Children (BASC) (Reynolds & Kamphaus, 1992) by her teacher, her mother, and herself suggested that she was also experiencing symptoms of depression and anxiety in addition to attention problems. Patricia was not doing her work at home or at school, despite average intelligence and achievement levels. Her grades were below average. She had only one friend at school, who was able to bully her by telling her she would not be her friend if she did not do what she wanted. Her relationship with her mother, whose ratings on the Parenting Stress Inventory (Abidin, 1990) indicated significantly high levels of stress related to parenting Patricia, was usually confrontational and punitive with specific difficulties related to getting ready for school in the mornings and doing homework. These factors resulted in destruction of the parent-child relationship, despite the fact that Patricia was regressed in her behavior and very dependent on her mother.

Aberson, who was at that time a school psychologist assigned to Patricia's school, explained to Patricia that her mother would be learning some games to play with her and would be asking her questions to help her learn how to solve problems. Patricia agreed that this would be a good idea.

To help Patricia think about her dawdling in the morning, her mother learned to ask ICPS dialogue questions as, “How do you feel when you come to school on time?” (recognizing child’s feelings), “How do you think your teacher feels when you’re late?” (recognizing the other person’s feelings), “How do you feel when everybody’s yelling at each other in the morning?” and, in time, “What can you do to solve this problem?” Her mother aided Patricia in solving the problem by breaking the solution down into smaller steps, with questions as: (1) “What can you do the night before to make it easier to get ready in the morning?” (2) “Can you make a list of the different things that you have to do to get ready?” (3) “What would you do first, second, third?” (applying sequenced steps of means-ends thinking) as a way to help her get her tasks in order, and (4) “Can you think of a way to mark each task after doing it so you know it’s complete?” After 6 weeks of ICPS training, these steps were no longer necessary. Patricia’s mother reported that although at first ICPS dialoguing with her daughter involved lengthy conversations due to Patricia’s oppositional responses, eventually it did take hold and their relationship improved. Patricia was able to plan what she was going to wear to school the night before and also independently plan how she could get ready on time in the morning.

To help Patricia complete her work in school, as well as her homework, which she often refused to do, her mother shifted from arguing about it to asking questions such as “What do you want to do when you finish your homework?” (a way of empowering, instead of overpowering her child). Her teacher reported that her effort and work completion in school improved, and battles over homework gradually ended, with Patricia’s becoming able to do her homework independently with only occasional help from her mother.

Although Patricia continued to have difficulty making friends, her peer relationships did improve when playing with children at home. Instead of going to her mother and crying when she was having difficulty getting along with a playmate, she began to think of alternative ideas of what to do when she and her friend wanted to play with different things.

Because Patricia was struggling due to a mild learning problem in math and was less mature than her peers, she, together with her mother, decided that she should repeat the fifth grade, despite the fact that retention was not recommended by the school. Patricia was happy with this decision, which she played a part in making, and told her peers that she felt she needed more time before going to middle school. Now in the 10th grade, Patricia is earning As and Bs, even in math. She has friends and continues to enjoy a close relationship with her mother. Her resilience was demonstrated by the fact that she benefited from retention in fifth grade. Although this outcome is not consistent with research on the effect of retention (Dawson, Raforth, & Carey, 1990), her success might be attributed to the relationship of mutual respect between Patricia and her mother and use of the problem-solving approach in making this decision.

In Patricia’s case, the immediate benefit of the ICPS dialoguing was the improvement in her relationship with her mother, followed by improvement in school and eventually improved peer relationships. Four years after the parent-training sessions, Patricia was, as again measured by ratings from teachers, her mother, and by herself, free of symptoms of depression and anxiety, although mild attention problems remained. Never medicated from the start, she continues to be unmedicated and remains in a regular school program.

Jimmy’s Story

Jimmy, of Southeast Asian descent, was adopted as an infant. His parents learned ICPS in a parent-training group, followed by family therapy, when Jimmy was in the

second grade. At that time, Jimmy was impulsive, oppositional, and defiant in school and at home. Before ICPS, his physical education (PE) teacher told his parents that he was just a “mean kid.” When asked how he felt about being left out of PE, Jimmy answered, “Sad.” Using an ICPS vocabulary word, he was asked, “What happened *before* your teacher told you that you couldn’t play?” He responded that he was fooling around and would kick the ball into another kid. When asked what he could do so that wouldn’t happen, Jimmy answered that he could say to himself, “Don’t fool around, and make sure my hands and feet are quiet.” On the next report card Jimmy earned as A in conduct in PE. Before ICPS, Jimmy often did not bring home report cards because they resulted in punishment and lectures. Now Jimmy and his parents agreed to use a report card in a new way. The teachers rated Jimmy in four different areas, on a scale of 1 to 5, including doing his work in class, homework, getting along with peers, and following rules. His parents agreed to respond to the report by asking three questions, written on the bottom of the report card: first, “What makes you feel happy about this report?” second, “Does anything make you feel sad or frustrated?” “What?” and third, “What can you do tomorrow to make it better?” After only 2 weeks, Jimmy was earning the highest ratings in all four areas. He felt proud because he now knew that he had the power to make things better. After 10 sessions, Jimmy became a better student and had more friends.

Jimmy’s relationship with his parents has become closer, and having been helped to think about his own and other’s feelings, including how someone feels when he shouts at them, he was able to demonstrate empathy toward his younger, handicapped brother. On one occasion when his mother became frustrated with his brother shouted at him, Jimmy asked, “How do you think Steven feels when you speak to his like that?” Mom was surprised at how Jimmy had used an ICPS question she had previously learned to ask of him. When Jimmy was asked, “What did you learn from ICPS?” he answered, “I learned that the *same* solution will not work in every situation.” Because of increased academic demands three years later, in the fifth grade Jimmy and his mother decided that his test grades might improve with stimulant medication. Now in the middle school, Jimmy is on the honor roll.

Jorge’s Story

Jorge, a child diagnosed with the ADHD–combined type, was in second grade in a self-contained gifted program when his parents entered into family therapy. He was, at that time, taking stimulant medication. This family is middle-class Cuban American with a second male child, who at that time was in preschool. Jorge, although gifted, was experiencing conflict with his parents primarily with regard to doing homework and fighting with his younger brother. His parents used both punitive techniques and rewards in dealing with family problems. With neither of these having the desired effect, both parents and their children were becoming increasingly frustrated.

Jorge and his family became acquainted with ICPS when they attended a brief presentation at Jorge’s school. It was Jorge’s idea for the family to attend sessions to learn how to problem solve. After the family learned the objectives of the program and specific goals for the family were outlined, feeling games were introduced, and each member listened to the other nonjudgmentally. During that time, Jorge’s parents learned that he felt sad when they shouted at him. As a result, his parents held family meetings each week to play ICPS games and problem solve instead of shouting. Jorge also had a problem in school. He was unable to concentrate on his work because he kept talking with his friends. During the

problem-solving sessions, Jorge thought of ways he could solve this problem. He asked his teacher if he could sit alone in a quiet place when doing seat work and then return to his seat next to his friends. He also planned a homework schedule with his mother and took over the responsibility for doing his homework. He and his younger brother worked out a plan so that his younger brother, who acted out for Jorge's attention, would be able to wait for Jorge to finish his homework before playing with him. Jorge used the ICPS phrase, "This is *not a good time*. I will play with you when I finish my homework." Feeling that the family's stress level was significantly reduced, therapy was terminated after 10 weeks.

A year later, an unfortunate setback occurred. On a family trip, the SUV rolled over several times and Jorge, able to exit the car, witnessed his father's close call with death. This accident resulted in the entire family experiencing posttraumatic stress disorder as well as physical injuries to both parents. At first, the parents did not apply the techniques of ICPS, and Jorge's behavior and school performance deteriorated. With the combination of PTSD and ADHD, Jorge was very anxious and angry and afraid to be alone in his room. At times, he became belligerent toward his mother.

Because of the traumatic accident and its resultant stress, Jorge and his parents returned to therapy for support. Learning to adapt the vocabulary and principles of ICPS to the new situation, Jorge was guided to think of different things he could visualize or say to himself when he experienced panic. He was also taught slow, deep breathing as an additional tool for coping with panic. These new visualization and slow, deep-breathing skills, skills specific to an anxiety disorder, could now provide additional options from which to choose when Jorge was faced with this new type of problem.

Jorge's parents agreed to apply ICPS dialogues rather than shouting when they became frustrated with their son. His father, who struggled with a low frustration tolerance due to his injuries, thought of things different from shouting that he could do when he became frustrated or angry. In addition, Jorge's teacher was advised about these family changes and thought of ways she could help Jorge when he began to panic, such as allowing him to see the counselor. After a few months, the family had returned to close to their functioning before the accident. After 6 months Jorge's father returned to his former responsibilities at work as well. Now in sixth grade, Jorge earns good grades at school, continues to mature, and takes on more responsibility. Occasionally he, like many children with ADHD, doesn't study for a test or begins a project late, resulting in a low grade. Learning from his mistake, he studies or plans earlier the next time. He is no longer afraid to be alone. Jorge and his parents have learned how to share and solve problems together, paving the way for a close, positive relationship that has strengthened the family bonding in ways that hadn't existed before. On a recent occasion, Jorge observed with pride that other families don't listen to each other and problem solve the way his family does.

COMMENTS ON EFFICACY OF CLINICAL CASES

Each of the children described above displayed symptoms of ADHD, and two of them also experienced at least one initial comorbid disorder, not uncommon for children with ADHD (Hinshaw, 2000). Research suggests that there is significant comorbidity between attention deficit disorder with disorders of mood, anxiety, and conduct (Biederman, Newcorn, and Sprich, 1991). Despite existing literature that suggests that training based on the ICPS model has little or no impact on guiding interpersonal behaviors in real-life situations with children with ADHD (Abikoff, 1991), including parents may provide some clues for its

success. In discussing interventions with children with ADHD, Hinshaw (2000) reports several studies that demonstrate that cognitive-behavioral therapies, including problem solving, are typically conducted with the child, either individually or in small group formats. The premise of potentially greater impact by including parents can be supported by the one study reported by Abikoff that did have a positive impact. Kirby (1984) incorporated social problem solving as one component of a 7-week summer program with unmedicated ADHD youngsters' involved parents, and it was those parents who participated in the program who rated their children as most improved in self-control.

Abikoff and Gittelman (1985) also concluded that social problem-solving training yielded no significant impact on academic, behavioral, or cognitive measures in children with ADHD, nor did it facilitate withdrawal of medication. In this study, parents attended two training sessions and were instructed to encourage and praise a systematic and reflective approach to schoolwork. In addition, children were rewarded points in exchange for toys and games for "working hard and trying your best" to encourage the child's participation in the program. This would not be effective unless the child had the skills to do that. Jorge's way of "working hard" and "trying his best" was in *his* deciding to ask his teacher if he could sit away from the other children to avoid distractions while doing class work. The outcome of Jorge's making this decision was very different from what it would have been had the teacher made the decision for him. Unlike dispensing points in exchange for toys and games to try hard (external rewards), Jorge's newly acquired problem-solving skills nourished a genuine desire to succeed (internal rewards). Unlike Abikoff and Gittelman's subjects, for whom cognitive training did not help discontinue medication, intensive ICPS dialoguing by his parents may have contributed to Jorge's becoming medication free.

More than the fact that parents were intimately involved in the therapeutic process may be how they were involved. Referring to clinicians who employ cognitive-behavioral (CB) strategies, Braswell and Kendall (2001) point out, "the CB clinician must strive to be sensitive to the parents beliefs about the causes of the child's difficulties; otherwise, it may be difficult for the parents to fully endorse or enthusiastically participate in a treatment plan that is not consistent with the parents' understanding of the problem" (p. 257). In this regard, the effect of the children's neurological condition on their behavior was explained. Consistent with Braswell and Kendall's (1988) recommendation, difficulties at school and home were viewed as "problems to be solved rather than the inevitable outcome of a specific disease process or family circumstance" (p. 176). The parents were asked what solutions they had attempted in the past and then were asked if they were ready to try a new approach. The difference between the problem-solving approach and other methods of handling problems was explained, such as commands, demands, punishing, and also, how it differed from commonly used positive approaches such as suggesting what and what not to do and why. Beginning with a very simple problem, such as the child interrupts the parent, the parent practiced the different ways of talking with their child about this. They came to see that what they were doing was *one* way, not a bad way, but that ICPS is a *different* way. These parents were excited to try something new. The transfer of the relationship of mutual respect that developed between the therapist and the parents during the sessions to their relationship with their children may have played a key role in the success of the intervention.

To help parents understand their children's behavior, some cognitive-behavioral therapists help parents reframe what their children are doing. For example, a parent who views his or her child's shoving of others as innately destructive can be helped to reinterpret that behavior with statements as, "I notice he is most likely to shove other children when the classroom is very crowded and the children are expected to share a small number of supplies"

(Braswell & Kendall, 2001, p. 258). Although reframing can set the stage for the parent to understand their child's behavior in a new light and "encourage constructive efforts to cope with the problem at hand," ICPS training gives the parent tools to teach their children specific skills to do that.

In addition to the parents' understanding of their children's behavior and their beliefs being in accord with the intervention they are receiving, Whalen and Henker (1991) report that "consideration of children's preferences may be a practical means of enhancing clinical outcomes" (p. 135). They continue, "Soliciting and considering the child's view when selecting and evaluating therapies conveys a positive message about the child's competence and worth, recruits the child as a partner in the therapeutic enterprise, and provides the child opportunities to learn how to make, evaluate, and modify personally relevant decisions." In each of the case studies described above, the children were consulted regarding their family's participation in the program to which they agreed. In fact, it was Jorge himself who requested the family therapy using ICPS.

THE ISSUE OF GENERALIZATION

It may have been the therapist's approach to the parents with whom she worked that helped their children generalize their social cognitive skills from the setting in which they were learned, to another setting—an effect that Whalen and Henker (1991) report rarely occurs with children with ADHD. These authors propose two types of generalization one might look for when evaluating a program: (1) transfer of treatment-related gains in nontarget domains and nontreatment settings including academic and social skills and (2) positive ripples as improved likability, perceived self-efficacy, willingness to take risks or accept challenges, improved frustration tolerance, and attitudes toward studying and learning. Jimmy and Jorge were helped to transfer their attitudes toward studying and learning through a home-school report card developed by the therapist, which was responded to with ICPS dialoguing techniques rather than external (often negative) consequences. Patricia's teacher at the time of parent training was aware of the intervention and, although not trained in ICPS, was more sensitive to her feelings than before.

Braswell and Kendall (1988) note that "overlap between training tasks and generalization targets is necessary for obtaining optimal gains. Training in applying the new skills to a variety of tasks provides the child with opportunities to learn how the strategies can be adapted to an as yet unexperienced situation" (p. 203). Not only did these children learn how to think in ways they could successfully resolve problems in a variety of settings and for a variety of problems, but the generalization across settings and time may have occurred because of the continued parent-child dialoguing and enhanced feelings of empowerment of the parents as well as the children.

It might be proposed that the ripple effects of the treatment, namely, increased feelings of self-efficacy, resulted in increased motivation in school and increased frustration tolerance in these children. Additionally, the process of problem solving, that is, thinking of different solutions, evaluating their potential consequences, including how they and others feel or might feel, may have been internalized by the children rather than believing that one particular solution is best for any one particular problem that may arise in their lives. As noted by D'Zurilla and Nezu (2001), " 'Problem solving' refers to the process of *finding* solutions to specific problems, whereas 'solution implementation' refers to the process of *carrying out* those solutions to actual problematic situations" (p. 213). Not teaching specific

solutions to solve specific problems, plus the encouragement to implement solutions offered by the child that are predicted to have positive consequences (through ICPS dialoguing) may contribute to these children's ability to carry out their newly acquired ICPS skills in settings other than where they were first learned. In the arena of social behaviors and interpersonal competence, we saw earlier with nonclinical but high-risk children that parent-trained children were able to generalize their learned ICPS skills from the setting in which they were trained (the home) to a different setting (the school). Although socialization skills were never a problem for Jorge, improvement in the ability to solve interpersonal problems and empathize with others appears to have contributed to the improved socialization skills in Patricia and Jimmy.

THE COMORBID CONDITIONS

In all three cases, the comorbid diagnoses no longer exist and the children are compensating adequately with the symptoms of ADHD. Patricia is no longer experiencing depression or anxiety. In fact, she wants to try out for the school soccer team and enjoys attending school in England during the summer. She still has attention problems but is functioning well due to her compensating for the problem because of her high level of motivation and increased self-confidence. Jimmy has replaced impulsivity and oppositional/defiant behavior with the use of effective problem-solving strategies and over a 4-year period, continues to have positive peer relationships. Stimulant medication was introduced (in grade five), not for interpersonal behaviors, but for attention to schoolwork. And Jorge, who did not have a comorbid condition diagnosis until the automobile accident, which at that time was so severe the PTSD became primary, is no longer experiencing these symptoms and again, is compensating for symptoms of ADHD and is functioning well.

Although ICPS intervention does not cure ADHD's core symptoms of hyperactivity and the ability to stay focused, Braswell and Kendall (2001) conclude from the research they cite that cognitive problem-solving approaches can be suitable "for treatment of adjunctive issues (such as parent-child conflict), and for treatment of coexisting concerns (including aggressive behavior, anxiety, and depression)" (pp. 276-277), the very comorbid behaviors exhibited by Patricia and Jimmy. Although improvement can, at least in part, be due to improved executive functioning problems common to ADHD, such as planning and use of verbal mediation to self-regulate behavior, these three children learned the very skills that Whalen and Henker (1991) argue must be acquired before cognitive behavior therapy can be effective—"sufficient foresight and verbal dexterity to plan, guide, and evaluate their behaviors" (p. 131). ICPS may also provide the structure and mode of interaction in the family that increases the necessary structured environment that ADHD children need.

AMOUNT OF TRAINING

Despite the above advantages to advance impact of ICPS, one might question how behavioral changes can occur and remain after only 6 to 10 family-therapy or parent-training sessions. With regard to cognitive-behavioral therapy (CBT), Goldstein and Goldstein (1998) concluded that "When cognitive behavior therapy is dealing with conditions that are 'hard wired' or neurologically based as appears to be the case with ADHD, it may be the case that CBT applications have not been implemented with the intensity that

matches the true treatment needs of the clients” (as cited in Braswell & Kendall, 2001, p. 276). Despite the relatively few treatment sessions, the parents of children described in these case studies provided intensive treatment to their children on a daily basis through playing the ICPS games and dialoguing with their children about problems that came up at home and school. In addition, the lasting effect of the treatment was also fostered through supportive telephone communication every 3 or 4 months over several years with the therapist—a form of informal booster shots.

In addition to the intensity of training and the increased bonding between parent and child, the questions of ICPS dialoguing, the goal of which is to stimulate and enrich the ICPS skills of the child, help children take over tasks independently. Additionally, children become aware of the natural consequences of their behavior and how they and others feel when they don’t live up to their end of the responsibility or hurt others physically or emotionally. The repeated association of ICPS dialogue questions redirecting behaviors and in planning tasks with the fun games of ICPS may, as it did for Patricia, Jimmy, and Jorge, result in children’s being more attentive to their parents—and in more positive interactions with them.

QUALIFYING CONSIDERATIONS FOR ICPS IMPACT ON BEHAVIOR

There are many variations of cognitive-behavioral therapy (summarized in Braswell & Kendall, 1988, 2001) that may have a significant impact on how a child’s thinking affects his or her behavior. No claim is made that ICPS is the most efficacious way to go about doing that, but rather, it is presented as a different way. Although success with the three children described is clearly encouraging, it should also be noted that these children were not referred. In fact, their parents initiated the therapy, as noted, one of them at her child’s request, and were at least of average intelligence. Although Jorge and his parents did suffer a trauma, it was temporary. For parents who have their own chronic psychological disturbances to deal with, ICPS may not, indeed, be enough. In this regard, however, Baydar, Reid, and Webster-Stratton (2003) found that mothers of nonclinical Head Start children, with mental health risk factors of depression, anger, history of abuse as a child, and substance abuse were as engaged in, and benefited from, a program based on the problem-solving model at levels comparable to mothers not experiencing these risk factors. With their training adapted to meet the needs of the parents (e.g., transportation, child care), trained parents with mental health risk factors, compared to controls, significantly reduced harsh/negative and inconsistent/ineffective parenting and increased supportive positive parenting. The Baydar et al. research notwithstanding, with respect to the specific behaviors of the children described here, more systematic empirical research comparing ICPS with other CBT techniques, such as cognitive restructuring and/or attribution training, and in combination with behavioral ones (e.g., rewards) is needed, as well as comparing the impact of these when implemented by diagnostically disturbed and nonclinical samples of parents. It would also be useful to compare training of peers and teachers as well as parents, a combination that Braswell and Kendall (1988) suggest might maximize generalization. Before concluding, however, that even ICPS and ICPS-like interventions alone cannot succeed with children with ADHD, we believe the anecdotal evidence presented by the three case studies described and the decreased hyperactivity levels in nonclinical ICPS teacher-trained youngsters in the studies mentioned earlier provides sufficient justification for more systematic empirical research that actively engages parents

together with their children, research that may provide further understanding of what it takes to have an impact with this particular population of children at home and at school.

FINAL THOUGHTS

As Kumpfer and Alvarado (2003) have noted, “The probability of a youth acquiring developmental problems increases rapidly as risk factors such as family conflict, lack of parent-child bonding, disorganization, ineffective parenting, stressors, parental depression, and others increase in comparison with protective or resilience factors. Hence, family protective mechanisms and individual resilience processes should be addressed in addition to reducing family risk factors” (p. 458). The parent-child bonding that developed and endured into adolescence in cases documented over time by Aberson and Ardila (2000) provide the ongoing communication that helps children develop goals and confidence in confronting new challenges as well as peer pressure. These children have learned that no matter how difficult situations may be in other settings, the family will provide a sanctuary where everyone is heard and accepted and problems can be solved. It is the open and accepting communication fostered by ICPS that increases the bonding and feelings of empowerment that problems can, indeed, be solved. As one parent stated, “I learned that I as a parent can be part of the solution for my child rather than adding to the problem. Before using this approach I was trying to take power and felt powerless. Now we solve the problem together.” When the parents described in Aberson and Ardila are asked 2 or more years after training how often they dialogue with their children, they often believe, as one parent explicitly said, “I can’t tell you that. That’s just our way of life. But honestly, we don’t have to dialogue very much because our children solve problems for themselves.” Children who have lived in environments using the ICPS program develop the abilities associated with resilience as they learn to think for themselves and cope with the challenges of an unpredictable world.

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V

CONCLUSIONS

The Future of Children Today

Sam Goldstein and Robert B. Brooks

How do we go about predicting the future of children today? What statistics should be examined? What outcomes should be measured? What formulas computed? There are no definitive or precise answers. In this volume we have attempted to address these issues through the study and clinical application of resilience and resilience processes. We have sought to address which variables and through which processes within the child, immediate family, and extended community interact to offset the negative effects of adversity, thereby increasing the probability of our survival. Some of these processes may serve to protect the negative effects of specific stressors, while others simply act to enhance development. In the truest sense, the study of resilience as an outcome phenomenon gathers knowledge that hopefully can be used to shape and change the future for the better.

What is the future of children today? The National Center for Children in Poverty (2002) has suggested approximately one in six children in the United States lives in poverty. These statistics are higher in third world countries. Poverty is associated with multiple risk factors and long-term stressors that threaten development, ranging from exposure to violence, lack of appropriate medical, educational, and psychological care, and poor nutrition (Garbarino, 1995). As multiple authors in this volume have demonstrated, stress during all stages of children's development increases risk for a wide range of adverse outcomes, including those related to education, vocation, psychological, and emotional adjustment. These have a long-term effect well into the adult years (Shore, 1997). Further, the younger the child, the greater the risk and vulnerability (Fantuzzo, McWayne, & Bulotsky, 2003). Multiple barriers for change exist, including a continued lack of understanding of those forces or phenomena that protect vulnerable youth, as well as access to those services that have been deemed effective for those at risk (National Advisory Mental Health Councils Workgroup on Child and Adolescent Mental Health Intervention, Development and Deployment, 2001; National Institute of Health and Mental Health, 1998). A report by the surgeon general (U.S. Department of Health and Human Services, 1999) set forth

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priorities to reduce stigma and increase access to assessment and treatment services, to take advantage of resources available in the community, and to foster partnerships among professionals.

These reports and the data they summarize raise grave concerns about the future of children based upon assessment of their functioning today. Yet our knowledge of those factors that protect and insulate continues to grow. We know more about how to help vulnerable children, or for that matter all children, transition successfully into adult life than ever before. As the authors in this volume have attested, we have begun the work to further our understanding and create an applied science; a model that embraces the “whole-child perspective” focusing upon competence, context, and contributors to children’s physical and mental health. As Fantuzzo et al. (2003) note, “competencies of the whole child not disorders or deficiencies are core to this developmental perspective” (p. 17). As such, a model of resilience must focus on children by examining the tasks they must perform and master at each age as they prepare to transition into adulthood. As we better understand these tasks and the forces that nurture mastery we become better prepared to foster resilience in all children. Such a model at its core focuses upon assets and abilities rather than diagnoses and disabilities. In this model, the interaction of the child and the environment form the context in which development takes place. Such a model also focuses on adults in the child’s world who are capable of contributing to healthy development and resilience. Finally, such a model focuses on competencies of the child rather than deficiencies measured based upon an a priori list of abnormal behaviors.

To gaze into the future of our species is but to gaze into the eyes of children. Our future is determined by the success or failure of our efforts to prepare children to become happy, healthy, functional, and contributing members of society in their adult lives. But the task of raising children and preparing a generation to take our place has become increasingly more difficult. Perhaps it is the complexity of our culture that brings with it the increased risks and vulnerabilities that have fueled the statistics of adversity for youth—delinquency, mental health problems, academic difficulty. These reflect our increasing difficulty to instill in children the qualities necessary for health, happiness, and success. It is within this framework that the fields of medicine, mental health, and education jointly arrive at a crossroads. This path reflects a conscious effort to help all children develop and become proficient in ways of thinking, feeling, and behaving, which can and will insulate them from the many adversities they are likely to face in our world. The many accomplished and gifted authors contributing to this volume represent, as O’Dougherty Wright and Masten (Chapter 2 of this volume) point out, the third wave of resilience research, representing an effort to bring scientific theory and hypothesis into clinical practice. The breadth, depth, scope, and quality of the work in this volume offer great promise that, as Bell (2001) points out, resilience can be cultivated and strengthened in all youth.

As this volume attests, there is an increasing body of research focusing on understanding the means and manner by which some youth overcome adversities that are overwhelming to many others. For example, although estimates of the incidence of a range of psychiatric disorders in children of depressed mothers are high, a sizable proportion of children of depressed mothers eventually achieve acceptable levels of psychosocial functioning (Downey & Coyne, 1990). How do these children, despite exposure to significant adversity, manage to achieve positive adaptation? One approach to examining resilient outcomes in the face of adversity has been to measure protective factors that may interact with risks as well as “resource factors” that may have positive effects on both high and low risk groups (Conrad & Hammen, 1993). In a recent study, Brennan, Le Brocque, & Hammen

(2003) examined parent–child relationships in detail as predictors of resilient outcomes in children of depressed mothers. Depressed mothers have been found to display less optimal parenting qualities than nondepressed mothers (Goodman & Gotlib, 1999). Brennan et al. (2003) followed over 800 15-year-old teenagers and their parents drawn from a large longitudinal study. They demonstrated that positive parent–child relationship qualities acted as protective factors for adolescent children of mothers with a history of depression. High levels of perceived maternal warmth and acceptance and low levels of perceived maternal psychological control and emotional overinvolvement were associated with higher levels of resilient outcomes in these youth. These results are consistent with findings of others (NICHD Early Child Care Research Network, 1999). It is likely that these qualities too act as resource factors even for children of mothers who are not depressed. In fact, the parenting qualities these authors assessed had the same direction of effect for children of depressed and nondepressed mothers.

Can these findings be applied to create an applied science of resilience? In 1998, Olds, Pettit, Robinson, and Henderson demonstrated they could. This group identified risk factors for disruptive and aggressive behavior in children. They provided a program of prenatal and early childhood home visitation for groups of mothers who were then followed through their children's 15th birthday. Many of these were mothers 18 years old or younger at the start of the study. This program reduced three domains of risk for the development of problem behaviors in children. The effects of the program included a reduction in maternal substance abuse during pregnancy, a reduction in child maltreatment, and a reduction in family size, closely spaced pregnancies, and chronic welfare dependents. Thus, a comprehensive prenatal and early childhood visitation program was able to affect risks that likely contribute to adversity, increasing resilience among children and youth born into at-risk families.

As Fraser and Galinsky (1997) hypothesize, we will eventually collect and integrate sufficient research to create a resilience-based model of practice. Such a practice, these authors suggest, provides a framework for conceptualizing psychological, emotional, and behavioral conditions in childhood well beyond symptom and impairment descriptions. Such a model provides markers, correlates, and possible causes classified ecologically as broad environmental conditions, family school, and neighborhood conditions and individual psychosocial and biological conditions. Such a model appreciates that some risk factors contribute uniquely to particular problems and some protective factors can insulate certain problems but can also act in an affirmative way for even unaffected youth. With such a model, clinicians would choose the best course of “treatment” for each affected individual by taking advantage of protective factors, seeking to reduce risks, and, as needed, providing direct intervention to the affected child. As these authors point out, this perspective is “based on the idea that childhood problems are multi-determined. That is, they develop as the result of many causes whether at the level of the individual, the family or community or the broader environment” (p. 267). For such a model to be utilized effectively, certain thresholds of knowledge must be crossed by clinicians. These include:

- Basic knowledge of risk and protection,
- Specific knowledge of risk and protective factors for specific problems or disorders,
- Specific knowledge of risk and protective factors in a local community,
- Knowledge of interventive research so that effective change strategies can be used to reduce the influence of risk,
- Knowledge of interventive research so that effective change strategies can be used to strengthen protective mechanisms (Fraser & Galinsky, 1997).

An article by Weissberg, Kumpfer, and Seligman (2003), in a recent issue of the *American Psychologist* reflects the growing interest in applying resilience processes through a preventive model. Yet, there is much work to be done to systematically evaluate the myriad of variables within children, their families, and in the environment that may contribute to, mediate, and moderate adult outcome. Much additional research remains to be completed to understand how to best disseminate and promote this knowledge so that it becomes an integral part of raising children and fostering their mental health. It is hoped that the clinical application of resilience processes will lead to a primary prevention model, which, as Weissberg et al. (2003) note, “is a sound investment in society’s future” (p. 425).

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