

Social Disparities in Health and Health Care

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Work and Mental Health in Social Context

 Springer

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Preface

The origins of this book go back to a moment in the student union at The University of Akron when we were talking to each other about our respective research on stress and on political economy. At some point we realized that the two areas might be related as a reflection of the consequences of social organization. Sociological stress research in those days was mostly about individual exposure and vulnerability to stressors while research on the political economy was mostly about macrostructures and processes remote from individuals. In an “aha” moment it seemed obvious that both research areas could benefit from the insights of the other area by bringing individuals and social structures together. Sociology, after all, is about individuals and collectivities.

Over the past 20 years we have published a series of papers and book chapters, and presented a set of talks that have elaborated our insight. Now this book provides a chance to summarize and synthesize that research program.

Our thinking about this subject has matured for several reasons. Each time we tackled a different aspect of the problem, we learned more about the larger context of our research. The research literature in both areas has also developed in ways that helped us understand what we were doing.

The book represents the conceptual construction of a comprehensive *sociological* explanation for job stress that is primarily oriented to describing the effects of social and economic structures on stressful job conditions. As a starting point, we use the sociological theory and research on the economic outcomes of work (i.e., wages and benefits) to suggest a way to think about the noneconomic outcomes of work (i.e., stress and well-being). We hope to make contributions to three research literatures: the sociology of work and organizations, the sociology of mental health, and stratification and health. Sociologists of work and organization may read this volume to understand that the outcome variables of their research can (should?) include noneconomic outcomes of work. Sociologists who study mental health may read this volume to understand that the stress process is conditioned by social organizations/institutional factors that are not ordinarily included in stress models. Those who study stratification and health (and particularly the fundamental causes of illness argument) may read this volume to understand the “black box” that lurks

between social status and health. We think our argument develops new ways to think about the origins of health disparities within an entirely sociological frame of reference.

Part of our original “aha” moment was the realization that a data set existed in the public domain that we could use to test our assumptions about the effects of the political economy on job stress. That data set was the 1972–1973 to 1977 Quality of Employment Panel Survey. These panel data were part of the second and third waves of a massive study of American workers by the U.S. Department of Labor. The data included workers’ descriptions of their employment and job characteristics, their orientations and attitudes toward their jobs and related subjects, and worker experiences and sociodemographic characteristics. The uniqueness of this panel was that the timing of the interviews in 1972–1973 and 1977 bracketed the 1974–1975 recession, the worst economic downturn at that time since the Great Depression of the 1930s. We realized that these data presented us with a natural experiment in which we could compare the pre- and poststimulus conditions on the same respondents, the recession being the stimulus. We could look at the effects of this recession on labor market disruptions and changes that these workers went through. But, more importantly we could also look at how the recession changed the structures of jobs, and thus workers’ exposure to job stress, even if workers suffered no labor market disruptions, such as unemployment. At the time of our initial research, the effects of recessions on job restructuring were a subject about which there was much conjecture but little empirical research. Looking back on our initial research, it is ironic – a sad irony – that we have written this book in the context of another – and a worse – recession; so bad in fact that it has been given the title the “Great Recession.” Following the course of the “Great Recession” while writing on the effects of macroeconomic processes on workers’ stress has greatly informed what we have to say throughout the book, and although the unfolding of current events has led us to rethink some of our earlier assumptions, overall they have largely confirmed our earlier work.

One of the basic assumptions that has informed our work all along is that there are very few jobs that are stressful by the nature of their tasks. Those few would include police, firefighters, combat troops, coal miners, because their jobs are inherently dangerous. But most jobs are not inherently dangerous, nor are most jobs inherently stressful. Most jobs can be restructured or redesigned to make them less stressful. So, why then do some jobs have high levels of stress, and why do other jobs have much less stress? Is it the job or occupational “status?” Much research argues as much, that less stress is one of the rewards for having a high status job, just like job earnings. But, if status determines stress levels, we have to ask the follow-up question: what determines “status?” While it can be argued that a job or occupation’s status is related to its centrality or importance to the work organization, we also argue that status is a product of what Richard Edwards has called the “contested terrain” of the workplace, the conflict between workers, managers, and owners over the labor process: what work is to be done, how work is to be done, when work is to be done, and by whom? To the victors in these “contested terrains” go the spoils—power, control, privilege and status, and the least stressful jobs! In this sense we follow the general understanding put forward in Gerhard Lenski’s book *Power and Privilege* (1966).

We have also been influenced strongly by the work done by structural labor market theorists, both sociologists and economists, and by their explanations for the unequal distributions of the economic rewards of work. We argue that these same explanations, the same theoretical and methodological models, account for the unequal distributions of intrinsic work characteristics, including the “psychosocial” structures of work – the job stressors. Like the economic rewards of a job or occupation, its intrinsic rewards are part of how we measure its status, and are not outcomes or rewards determined by its status. Hence, we link economic inequality with health inequality

As with any lengthy work task, the writing of this book could not have been accomplished without a vast and strong social support system. Members of our system include Drs. Steven Sauter and Larry Murphy from the National Institute for Occupational Safety and Health whose support for our research has helped make this project possible. We also want to include thanks to various graduate research assistants who have spent untold hours analyzing data and running down obscure references. These individuals include Nicole Rosen, Kyle Zellman, Suzanne Slusser, Dana William, and especially Corina Graif. We also thank Cindy Steinel for her invaluable assistance with all matters computer. Quite literally, without her assistance and trouble-shooting this book would not have been written on time. While these individuals provided vital instrumental support, there are four individuals to whom we owe our deepest thanks for their emotional support, especially in the times of our greatest stress during this writing and the times we made our stress their stress: our families, Betty Groner, Ben Tausig, Mary Jo Roach, and Danielle Fenwick. To all of these individuals we give our deepest thanks and love.

Job stress has been recognized as an epidemic in the workplace that costs lots of money and leads to lots of illness, absenteeism, and lost productivity. The problem begs understanding and we hope we have something to add to the conversation.

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Chapter 1

Job Stress and Where It Comes from

Introduction

In a survey conducted by the American Psychological Association in early 2011, 36% of workers said they felt tense or “stressed out” during their workday (20% said their stress levels were very high) and almost one-half said that low pay affected their stress level at work. These workers cited the lack of opportunities for advancement, heavy workload, high expectations, and long hours as significant sources of stress. Less than two-thirds of workers were satisfied with the amount of control and involvement they had at work and with the work-life balance practices of their employer. Thirty-three percent of workers felt that job insecurity was a cause of their work stress (APA 2011). In a National Institute of Occupational Health and Safety study, 10% of workers reported their jobs were very or extremely stressful and 25% viewed their jobs as the number one stressor in their lives (NIOSH 1999). Job-related stress has been linked to poor health behaviors such as smoking and alcohol consumption, gastrointestinal disorder, cancer, musculoskeletal disorders (NIOSH 2009), cardiovascular disease-related mortality (Landsbergis et al. 1999; Kivimaki et al. 2002), and of course to psychological disorder, including depression and burnout (NIOSH 2004). The total health and productivity cost to American business of worker stress in terms of absenteeism, healthcare costs, worker’s compensation costs, and turnover is enormous (NIOSH 2009; Sauter et al. 1990).

Given the size of the “problem,” it is no surprise that there is a large academic research literature about the causes and consequences of job stress as well as a large popular literature on how to “beat” job stress. The research is dominated by psychological and social psychological studies of how workers interact with their work environments and why this interaction sometimes leads to stress. For psychologists, when something about the job and something about the individual worker do not quite fit together stress occurs. Psychologists do not see work as inherently stressful, although they sometimes suggest that jobs should be redesigned to reduce their stressfulness.

But this cannot be the whole story. Workers don’t create the jobs that cause them stress. Not all jobs carry the same risk of evoking stress and not all workers are

exposed to stressful jobs. Workers do not initiate layoffs or economic downturns that generate job insecurity. Workers deal with work–family stressors in part because of a shift in gender role definitions that increased women’s ability to participate in the labor force and in part because dual-incomes are now essential to economic well-being. The organizations in which people work – and hence the structures of their jobs – have also changed in response to global competition. In short, we need to understand the social and economic context in which stressful jobs arise. We need to develop a sociological model of job stress.

Sociologists already study work but they tend to focus on macroscopic issues related to economic institutions (Simpson 1989) or on economic outcomes such as wages and benefits that are due to the functioning of the labor market. Kalleberg and Berg (1987), for example, note that sociologists give considerable attention to the explanation of how work structures generate economic inequalities among individuals. But this sociological research, while it focuses on worker outcomes, does not effectively address the noneconomic outcomes of work such as job stress and psychological well-being.

The purpose of this book then is to outline a broad “sociology of job stress” that will utilize existing sociological theory and research to explain this noneconomic outcome of work. We think that sociologists can address important questions about job stress in part by using roughly the same set of sociological tools used to explain wage and benefit outcomes and organizational structure. This will allow us to consider questions about how and why individuals and groups of workers are differentially allocated to jobs with stressful characteristics. We can ask questions such as why are some occupations more stressful than others. Why do workers with different social status characteristics occupy jobs with different levels of exposure to stressors? How has the entry of women into the labor force affected exposure to occupational stress? How does globalization affect worker exposure to stressful conditions? How does part-time, contingent, or shift work affect job stress? How do new forms of work organization affect stress-related health outcomes for workers?

To answer these kinds of questions, stress-related work outcomes must be understood in the context of other social institutions, macro-economic processes, social stratification and organizations, as well as individual job conditions. In some sense, we are returning to the origins of sociology and the study of work ala Marx, Durkheim, and Weber. These early sociologists viewed work as a social institution and the psychological reactions of workers to work as an outcome of structured social and economic relations (i.e., as alienation or anomie). Ironically, the current robust sociological research on work is largely focused on economic outcomes to the neglect of issues related to alienation or anomie. And, while we do not equate job stress with alienation or anomie, we plan to explain the origins of job stress in the larger economic and social contexts that Marx, Durkheim, and Weber considered.

The sociology of job stress is also the sociology of health disparities and we will argue that workers face different risks of exposure to stressful work situations and hence, ill health based on their positions in social structures of inequality such as race, gender, citizenship, and education. Moreover, we will suggest that the health disparities we observe are the routine consequences of the social and economic

structures that match workers and jobs. We believe that it is important for us to understand that health disparities arise from social structures and not merely serendipity or bad luck or as the result of a mismatch between personality and work characteristics.

To develop our account of job stress, we will describe a multilevel model that incorporates several academic research traditions. Where possible, we will also provide empirical support for the relationships we posit. We will begin with a discussion of the occupational psychology literature from which we will extract an understanding of job stress and the job conditions that are associated with job stress. We will also note that crucial questions remain unanswered in this research: how did those stressful job conditions come to be established and why does exposure to stressful job conditions vary by social status or occupation? To answer these latter questions we will examine sociological research on organizations, labor markets, and institutions to show how these are related to one another and to the stressfulness of work. And, we will tie all of these together using the perspectives associated with the fundamental causes of disease explanation and the sociological study of the stress process.

In the remainder of this chapter, we provide an overview of the components of our model. In subsequent chapters, we address these components in greater detail and describe the empirical support for our central arguments. Finally, we assemble our full model and discuss its many implications for the study of the social determinants of health, the sociological study of the stress process, and the study of labor market processes.

The Evolution of Job Stress Research

Starting roughly in 1960, there has been considerable research on the relationship between job conditions and stress. These studies implicate unpleasant physical work conditions, physical demands, shift work, lack of control over work, simple jobs, unsupportive work groups, poor supervision, large, “flat” organizations, low wages, and the absence of promotions as factors related to job stress (Kasl 1978). Perhaps the seminal work in industrial psychology that we will use to mark the beginning of the contemporary study of job stress is *Mental Health of the Industrial Worker* (Kornhauser 1965). Indeed, Zickar (2003) suggests that this volume also marks the beginning of the sub-discipline of industrial-organizational psychology. Although the study has sociological implications because it is based on a sample of industrial workers and a comparison of the mental health of higher- and lower-skilled workers, the key insight from this study is that *characteristics of jobs* contribute to the mental health of workers. Specifically, Kornhauser (1965: 263) identified, “the opportunity the work offers ... to use the worker’s abilities...” as the most influential job attribute related to mental health. He also identified income-related stress and perceptions about the “pace, intensity, and repetitiveness of work operations; supervision and other human relations on the job; and opportunities for advancement...” as crucial to worker mental health.

During the 1970s, the Social Environment and Mental Health research program at the Institute for Social Research at the University of Michigan developed a theory to explain job stress that is known as the Person–Environment Fit (P-E fit) model of job stress (Caplan et al. 1975; Katz and Kahn 1978; Van Harrison 1978). This model suggests that job stress arises from the interaction of job conditions such as those noted by Kornhauser with personality characteristics of workers. Objective characteristics of jobs and the psychological disposition of the worker produce subjective assessments of worker stress. In this formulation, the same job may or may not be stressful to different workers depending on workers' subjective interpretations of job conditions.

In 1979, Robert Karasek proposed a model of job stress that incorporated nascent research on stressful life events and distress (Holmes and Rahe 1967). He proposed that job strain could be explained by the interaction of job demands (stressors) and job “decision latitude.” Jobs that demand a great deal but provide the worker with little control over how those demands are met create job strain. This so-called demand–control model (sometimes elaborated as the demand–control–support model) is now the principal lens through which research on job stress is conceptualized. Karasek's argument is notable for us because it predicts job strain solely on the basis of characteristics of the job (a structural construct) and not the subjective reactions of workers. While demand and control are generally measured by the subjective reports of individual workers, this theoretical explanation does not exclude the idea that job characteristics can be objectively determined. Indeed, Karasek (1979) and Karasek and Theörell (1990) attempted to link high job strain to particular occupations (suggesting that the occupations have objective stressful characteristics). Yet, the vast majority of studies that use this model predict *individual* worker distress/strain and do not account for the systematic structural factors that affect the distribution of jobs with stressful characteristics. Indeed, Caplan et al. (1975: 9) had already concluded that, “taken together, the bare facts of occupational differences and of social class gradients in strain and in disease are useful indicators of the location of health problems requiring solution and are sometimes suggestive of hypotheses, but are barren with respect to conclusive evidence about causes and hints about cures.” This conclusion is derived within the logical and theoretical boundaries of occupational psychology. Hence the working orientation in this research tradition is that, while job conditions are good predictors of job stress, the relationship between job conditions and job stress is psychological and individual. Job conditions are largely understood to be “subjective” and, therefore, a product of psychological processing of objective conditions. In summarizing the state of job stress research, Kasl (1978) quotes Gardner and Taylor (1975: 140), “stress is an individual phenomenon, is subjective in nature and can occur in anyone who feels that he or she is under pressure.”

Needless to say we disagree with the conclusion of Caplan et al. (1975). When we assume (as sociologists do) that job conditions have an objective content that is determined by the employer and other factors, we can, in fact, ask questions about the “causes” of job stress that do not depend on subjective reactions. Further, we can observe the distribution of stressful job conditions across occupations and workers

so that we can ask questions about occupational differences and social class gradients in strain and illness related to work conditions.

There is empirical research on job stress that supports this latter perspective and that informs our model. In addition to the “micro” analysis of the relationship between individual workers and their specific job conditions described above, research has also been conducted at the “macro” level of populations, at the macro–micro level, and at the “meso” level of organizations that links macrosocial, macroeconomic, and organizational conditions to individual psychological outcomes.

At the macroscopic level, a series of studies by Brenner (1973, 1976, 1984, 1987) for example, has linked the psychological well-being of the population to changes in the performance of the economy. When economic times are bad, the overall physical and mental health of the population declines and these declines are not solely due to the proportion of the population that loses jobs or to their families. Employed individuals may also experience decreases in their physical and mental health. Indeed studies by Catalano and Dooley (1977), Catalano et al. (1985), Fenwick and Tausig (1994) and, Tausig and Fenwick (1999) have linked individual (micro) outcomes to macrosocial and macroeconomic change. These studies show that when times are tough (e.g., during economic downturns), those who remain employed may face restructured jobs that are associated with greater job insecurity and stress. These observations have been corroborated by case studies of specific organizations particularly when those organizations are in the process of closing (Perrucci et al. 1988). There is also a growing research literature at the “meso” level of organizations that uses a multilevel approach to explore the relationship between the organization and the structure of jobs within it (Bolin et al. 2008).

None of these perspectives for studying aspects of job stress is without theoretical or empirical problems. The “micro” focus of industrial/occupational psychology is on individual workers and their adjustment to specific work conditions. As a result, regularities that might be observed based on aggregating observations at the occupational or demographic level (e.g., by gender or race) are neglected. The worker is “front and center” in this approach and we are encouraged to view the problem as individualistic with an individualistic solution. The broad macroscopic perspective used by Brenner as well as the macro–micro approaches used by Catalano and Dooley and by Fenwick and Tausig while linking individuals and aggregate structures must be sensitive to the possibility of inaccurate inference (the ecological fallacy) of cause and effect. An aggregate social-economic phenomenon such as an economic recession affects a broad set of conditions and it is not always obvious (or accurate) to attribute an individual reaction (job stress) to the broad change in conditions at the aggregate level. Studies at the macroscopic level also necessarily reduce the real life experience of job stress to an abstraction. Workers are active participants in their lives and not simply mechanical entities reacting to external conditions. Indeed, every so often researchers urge that the worker be “brought back in” to analyses (Simpson 1989; Kalleberg 1989; Barley and Kunda 2001) precisely because analysis at the aggregate level ignores the effects of individual agency. Studies at the “meso” level of organizations often lack a theoretical

account and they are also subject to the ecological fallacy noted above. There are also research design and analytic concerns that cross-level explanations must take into account so that we can properly interpret the results of such studies.

The keys to dealing with these issues are adequate theory and appropriate data. The linkages between analytic levels such as the labor market, organization structure, and individual job conditions must be carefully specified and then appropriate data and statistical analysis needs to be applied to test the theory. Our multilevel model is intended to provide a theoretical account of the linkages between analytic levels and to guide the analysis of data to test the parts of the model.

A Note on the Meaning of Job Stress

Before we proceed to outline our theoretical synthesis, we want to be clear about the meaning of job stress as we intend it to be understood in our model. This clarification is required both because job stress has been defined in several ways in the job stress research literature and because we need to connect our use of job stress to the more general literature on stress in the research literature dealing with the sociology of mental health.

According to Cooper et al. (2001) the construct of job-related stress is used in at least three ways that correspond with the disciplinary interests of those who study the phenomenon. Stress may be regarded as a particular form of stimulus or outside phenomena that causes a bodily (or psychological) reaction in an individual. Stress can also be defined as the response to stimuli that takes a general form (i.e., the General Adaptation Syndrome of Selye (1956)). Stress can also be defined as transactional in that it arises through the process of individuals' active appraisal and cognitive processing of environmental demands. Each of these conceptualizations of stress is associated with a different model of the way in which stress originates and the way in which it affects outcomes such as physical or mental health.

While no definition of stress can escape all disciplinary limits, we will define stress in a fourth way as an objective characteristic of job conditions that may result in distress and/or illness. This definition is consistent with current theorizing among sociologists (Horwitz 2007). Job stress is defined as a property of specific social arrangements (i.e., job conditions). Further, the positive and negative consequences that flow from interaction with a stressful social environment (job conditions) are regarded as "normal" responses. This reinforces the notion that job stress arises as normal consequences of work in particular occupations and that, considered in the aggregate, job stress has an objective character that itself originates in structural arrangements such as social stratification, labor markets, occupations, and organizations. The outcome of exposure to job stress can be defined in terms of generalized "distress" or in terms of diagnosed mental disorder. While there is some significant discussion in the sociology of mental health literature about appropriate outcomes in stress research, we think that either distress or disorder can be used as an outcome that is related to job stress. To repeat, job stress is an objective characteristic of job

conditions (structures). In turn, job stress may be associated with forms of distress that are either nonspecific or correspond to diagnosable disorders.

The Sociology of Job Stress

The sociological perspective assumes that job conditions have an objective component (in some cases stressful) that follows from the influence of the economy, social inequality, other social institutions, labor markets, occupations, and organizations. The objective components of jobs allow us to characterize both the job demands and extent of job control (among other characteristics) of occupations in aggregate terms so that we can compare characteristics of occupations and observe differences in stress and distress in objective context. In this sociological view, job stress is a structural (and objective) rather than an individual (and subjective) phenomenon and its occurrence is partly predictable from the structured context of the work experience. Moreover, this conceptualization implies that job stress is distributed differently across aggregate categories such as occupation but also by race, gender, and education. In short, this more contextualized and aggregate-level view of job stress makes it less likely that our explanations will be "...barren...about causes...and cures" (Caplan et al. 1975: 9).

If this brief summary describes the contours of the way that job stress will be studied and the openings we see for building a more complete explanation for the causes and consequences of job stress, then we must now introduce a discussion of the separate theoretical and empirical traditions that we will weave together to represent a sociology of job stress. In this way, we will be able to link and extend both the research traditions of occupational psychology and economic, organizational, and status attainment sociology to consider the noneconomic (health) outcomes of work that are related to job stress.

Job Conditions

Both the psychological perspective on job stress and the sociological perspective that we are developing share a focus on job conditions as the proximal cause of psychological/physiological distress and disorder. And, indeed, this is the point of contact between the research findings within each tradition. As we have already indicated, psychologists emphasize the subjective interpretative process that individuals undergo to connect job conditions with distress. The point of departure between the two approaches is that psychologists assume that job conditions are subjectively perceived and we assume that they are systematically and objectively structured. Hence, we emphasize the objective, structural processes that create the job conditions that are related to distress.

Figure 1.1 depicts our multilevel conceptual model of the origins and consequences of job stress. With psychologists we argue that there are "good," psychologically healthy job structures and bad ones. Good jobs utilize the skills and abilities of their

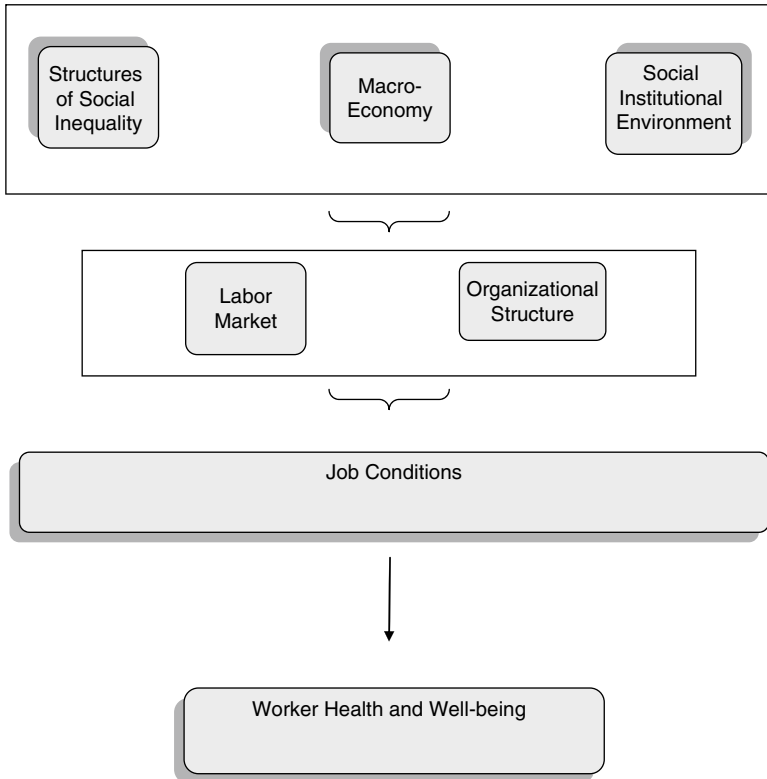


Fig. 1.1 The social context of job stress

occupants. They may or may not demand high levels of work but good jobs provide the occupant with the ability to make her/his own decisions about how to organize the work and control the work schedule (Fenwick and Tausig 2001; Karasek and Theörell 1990; Kohn and Schooler 1983). Good jobs include “direction, control and planning” and they also include co-worker and supervisor support (Link et al. 1993; Karasek et al. 1982). Bad jobs do not contain these characteristics. They are described as having high levels of job demands, low job control, and low social support. Such jobs increase the probability that a worker will experience job stress and subsequent distress.

The demand–control model (Karasek 1979), which argues that a demanding job that does not allow high decision latitude creates strain (stress in our argument), is reflected in the figure at the level of job conditions. As we pointed out previously, this model can be interpreted both in the context of a psychological model in which the perception of these job conditions by the worker predicts strain and in the context of a sociological model in which these job conditions are structural features that originate in social processes. For this reason, we use the logic of the demand–control

(or demand–control–support) model as the explanation for the proximal effects of job conditions on strain/stress and mental health while our interest is in the origin of and changes in these job conditions (and their effects on health).

Organizations

Organizations define the jobs that are needed to reach organizational goals and they define the characteristics of those jobs. The influence of the organization on job conditions represents the “meso” level of analysis. When one reads a job want-ad, the ad is likely to contain a description of the job duties and it may sometimes explain where the job fits in a reporting hierarchy. It will specify personal qualifications for successful applicants including education, field of expertise, and experience. Occasionally, the ad will describe some characteristics of the organization itself. For the most part, this way of looking at organizations corresponds to the notion of the organization as a bureaucracy. It highlights the control and coordination functions of the organization that are reflected in job descriptions that contain expectations for the amount of work required (job demands) and the way that work is to be performed (decision latitude).

Control is the vertical dimension of organizational structure that defines the organization’s goals or objectives; coordination is the horizontal dimension of organizational structure that determines the means for reaching the goals and objectives. And, while all organizations face the problems of control and coordination, they vary greatly in how they deal with these problems. Control can be accomplished along lines of centralization/decentralization of authority, whether exercised personally, through rules, or through integrated technology (Edwards 1979). Coordination can be accomplished through degrees of role and task standardization and specialization. Moreover, the ways in which organizations address control and coordination problems are highly interrelated. As Marklund et al. (2008: 651) argue: “The way in which the division of labor, authority, and control are organized decides how tasks are split into several jobs.”

The particular ways that an organization deals with the problems of coordination and control will be reflected in workers’ individual job characteristics (Marsden et al. 1996). Workers experience organizational control as formal and informal job rules and expectations specifying what and how many tasks they are to accomplish: “job demands.”

And, they experience coordination as job rules describing how they should go about accomplishing those tasks: “decision latitude.” Indeed, some recent research has suggested that the study of job stress needs to account for the role that organizational factors play in creating stressful job conditions (Soderfeldt et al. 1997; Van Yperen and Snijders 2001; Harenstam et al. 2004; Harenstam 2008; Bolin et al. 2008; Marklund et al. 2008).

As Richard Edwards noted in *Contested Terrain* (1979), solutions to organizations’ coordination and especially control problems have changed with the development

of capitalist firms and economies: from entrepreneurial (personalized) control in smaller firms in the nineteenth century to “technical” (machine-paced) and “bureaucratic” (rule-based) control in the larger firms of the twentieth century. Impersonal and formalized control is consistent with Weber’s (1947) classic formulation of the “bureaucratic” organization, the archetypical organizational form of the modern world.

Organizations are also open systems that are affected by other organizations and processes in their environment (Scott 1987). The organizational environment represents the “macro” context related to the explanation of job conditions. Depending on the relevant environments and the organization’s relationships to those environments, the structure of the organization and the jobs it defines can vary considerably. As well, organizations, their purposes, methods, and products must have some external validity (legitimacy) in order to function. This criterion imposes some regularity on organizations that translates into “standard” job conditions. Organizational environments include the labor market, macroeconomic conditions and changes, institutional environments including the legal environment and public policy, and the conditions of social inequality. Each of these environments can be expected to have an effect on job structure and content, as well.

The Labor Market

One external environment of organizations is the labor market and we argue that the labor market can have direct effects on both organizational structure and on job conditions within organizations. The labor market is the social institution that matches job-seekers with jobs. Although some economists regard the labor market as an impartial mechanism for matching the human capital of workers (education, experience, age) with appropriate jobs, empirical research suggests that the labor market is not completely impartial and that jobs are allocated in a more complicated manner than human capital explanations describe (Kalleberg and Sørensen 1979). Hence, we use a segmented or dual labor market perspective as developed by sociologists to understand how workers are connected to their jobs.

Briefly, segmented labor market theories assert that jobs can be divided into good and bad ones and workers compete for jobs within one of these job types (e.g., primary or secondary labor markets). As the job stress literature has clearly established that some jobs are “good” and others are “bad” for one’s psychological well-being, we use the idea of labor market dualism and its link to good/bad jobs in economic terms to suggest that labor market segmentation also affects good/bad jobs in psychological (noneconomic) terms (Kalleberg and Sørensen 1979). As a result, we argue that part of the explanation for the stressful nature of a particular job is the labor market process that links the worker to that job.

A number of social status (race, gender, class, immigration status), occupational and industrial factors and conditions of employment (standard vs. nonstandard) sort workers into the primary or secondary labor market, which subsequently affects worker wages, benefits, and job security (Kalleberg et al. 2000; Hudson 2007;

McNamee and Vanneman 1987; Boston 1990; Reskin 1993). There is also considerable evidence that job conditions vary by race/ethnicity and gender (Tomaskovic-Devey 1993; Glass 1990) and that labor market dualism accounts, in part, for these observed differences (Wolf and Fligstein 1979; Baron and Bielby 1982). Nonstandard, contingent employment has also been linked to job conditions (Tilly 1996). Temporary and contingent jobs are, by definition, less secure and they are related to a variety of “bad” job conditions in a psychological sense, such as lack of autonomy and skill variety (Virtanen et al. 2005; Lewchuk et al. 2003).

Labor market structures reflect not only social status but also occupational characteristics. These characteristics include expectations for the amount of control over personal skills and the variety of tasks to which they are applied. For example, professional and some semi-professional occupations entail norms of self-regulation, or “professional control,” that are carried into specific jobs in the form of higher levels of job autonomy, or decision latitude (Edwards 1979; Wolf and Fligstein 1979; Baron and Bielby 1982; Freidson 1984). While organizations can attempt to constrain these expectations, they do so at their peril in competitive labor markets. To put this in another way, workers enter organizations and specific jobs with various types and amounts of not only human capital but also cultural, social, and symbolic capitals (e.g., certifications, credentials). Not only do these capitals differentiate workers into different occupational labor markets but they also strongly influence the specific job conditions that employers can set and, thus, the likelihood that job conditions will be stressful.

Labor markets also change for a variety of short and longer-term reasons. Economic cycles expand or reduce the size of the labor market and change the relevance of worker characteristics for sorting workers into primary and secondary labor markets. So, for example, an expanding economy and legal strictures against discrimination have reduced (but not eliminated) the salience of gender and race as factors that affect allocation to primary or secondary market positions (Hudson 2007). At the same time, global competition in product markets, the need for employer flexibility, and the immigration status of workers have increased the salience of nonstandard work arrangements as employment options that are often associated with stressful job conditions (Kalleberg et al. 2000).

Macroeconomic Change

The plight of workers in the context of industrial economies has been of concern and interest at least since Engels analyzed the condition of the working class in England in 1844 (Engels 1958 [1845]). Marxist studies of labor under capitalism show a relationship between this mode of economic production and both societal and individual alienation, and they suggest a direct link between economic organization and well-being (Marx 1972; Meszaros 1970).

More contemporary research by Brenner (1973, 1976, 1984, 1987), Marshall and Funch (1979), and especially Catalano, Dooley, and their associates (Catalano and

Dooley 1977, 1979; Catalano et al. 1985, 1986; Dooley and Catalano 1984; Dooley et al. 1988), shows that a direct relationship does indeed exist between aggregate indicators of the state of the economy (generally unemployment rates) and aggregate indicators of stress-related poor health (psychiatric hospital admissions, cardiovascular illness rates, mortality). Changes in unemployment rates (mainly, increases) increase risk of exposure to negative work and financial-related events and reduce social tolerance for deviant behavior. Greater exposure to stressors and reduced tolerance, in turn, lead to higher aggregate rates of morbidity or mortality (Catalano 1989).

There is also evidence that macroeconomic conditions directly affect job conditions. Catalano et al. (1986) found that workers' perceptions of employment security (even though they continue to be employed) are affected by unemployment rates and that perceived employment insecurity is related to increased help-seeking. Brenner (1987) suggested that when macro-economic conditions force a firm to reduce its labor force, remaining employees will experience fear of employment loss and destruction of careers, as well as increased work stress. Starrin et al. (1989) suggest that fear of unemployment causes employed workers to work harder and that, at least in certain industries, as unemployment rates increase, owners of capital will find it efficient to extract more labor by requiring overtime work from a smaller number of workers instead of obtaining cheaper labor from the growing pool of the unemployed. As job demands and job insecurity are increased, these authors suggest, worker distress increases.

Fenwick and Tausig (1994) tested a model based on this argument. They suggested that when the survival of a firm is threatened by economic conditions, it will restructure existing jobs in order to maintain levels of production and profit (in addition to or as a substitute for labor force reductions). Such restructuring may include speed-ups or work overload (increased job demands) and more monitoring and supervision (reduced decision latitude). In short, economic downturns will lead to restructured jobs that are more likely to produce job stress. Therefore, the macro-economy also plays a role in the structuring of jobs.

But macroeconomic effects are also conditioned by other social institutions. In particular, state policies can mitigate or exacerbate the effects of economic cycles on both firms and workers. Such policies include collective bargaining rights, fair employment standards, minimum wage and unemployment insurance, as well as free trade policies and tax exemption for corporations doing business abroad. State policies are examples of an institutional environment that provides a context of what are acceptable employment practices and job conditions.

Institutional Environments

The contemporary sociological understanding of organizations assigns a prominent role to organizational and institutional environments in the shaping of organizations (Scott 2008). Organizations are neither unchanging nor insensitive to these environments

and by implication, the organization of work (i.e., organizational structure and jobs) will also vary as a result of institutional and organizational environmental change. When we study the role of organizational structure on job conditions, we generally evoke an array of organizational properties such as size, hierarchy, departmentalization, and formalization to represent organizational structure. These structural components reflect an underlying notion that organizations can be described in terms of a classic definition of bureaucratic organization (Weber 1947). We expect to be able to compare organizations on the basis of these features, which we assume to be common. From an institutional perspective, there is a reason why broadly different organizations can be compared on these common dimensions. According to institutional theory, the common structural dimensions that we use to describe organizations stem from the legitimating function that adopting these features provides the organization. Institutional theory offers one answer to the question of why organizations can so closely resemble one another. The answer is that social processes related to common environmental conditions help shape common structures across organizations in the same environment (Scott 2008). As such, we need to take these processes into account in developing our sociology of job stress model.

The state, its policies, and changes in those policies regarding employment and work are but one instance of how institutional environments can affect and change job stress. There are two institutional environmental changes that are particularly relevant for understanding where job stress comes from: the emergence of the so-called “new forms of work” and the broad entry of women into the labor force. The new forms of work directly impinge on organizational structure and job conditions while indirectly affecting labor market outcomes. The increase in the female labor force directly affects both labor markets (and then job conditions) and organizational structure and job conditions.

New Forms of Work

“New forms of work” is a label used to describe a new employment relationship (employer to employee) ... “where pressures from product and labor markets are brought inside the organization and used to mediate the relationship between workers and management” (Cappelli et al. 1997: 4). This new form of work and the employment relationship it entails emerged in the 1990s and increasingly define job structures and content (Osterman 1994; Vallas 2003).

Indeed, some organizational theorists suggest that traditional concepts of bureaucratic control no longer describe the organizational context of job conditions (National Research Council 1999). Many, though not all, work organizations have adopted structures with flatter hierarchies of authority and decentralized decision-making to make organizations more flexible and competitive in response to changing macro structural conditions – an organizational form called high performance work organizations (HPWOs) (Cappelli et al. 1997). HPWOs are characterized by an emphasis on teamwork, specialized job training, and performance-based pay. These organizational conditions have implications for sources of worker stress

(Landsbergis et al. 1999; Berg and Kalleberg 2002). While organizations can retain technical and bureaucratic control structures for some aspects of organizational function, other parts may adopt HPWO-type characteristics (Yang 2003; Vallas 2003). The HPWO form is intended to increase productivity by encouraging innovation (functional flexibility) in the production process (leading to increased decision latitude but making access to organizational resources crucial) and/or by allowing the adjustment of the work force (numerical flexibility) to shifting market conditions by releasing or hiring workers as needed (increasing job insecurity) (Smith 1997; Cornfield et al. 2001; Myles 1990). Hence, in addition to effects on demands and decision latitude, the sources of psychological stress in the workplace might also shift from work-specific conditions such as decision latitude and job demands to job-contextual conditions such as job insecurity and access to organizationally rationed resources such as information, equipment, and co-worker and supervisor support (Cappelli et al. 1997; Cappelli and Rogovsky 1993). The very limited empirical examination of this general hypothesis finds inconclusive results or that job demands increase while decision latitude remains low (Brenner et al. 2004; Berg and Kalleberg 2002; Landsbergis et al. 1999). Although job redesign efforts are sometimes described as attempts to “humanize” the workplace, implementation by particular organizations is closely tied to productivity concerns, changeable markets, and threats to profits (Karasek 1990; Rinehart 1986; Hurrell and Murphy 1996).

Women in the Labor Force

The second broad institutional change that must be understood in order to more fully explain the origins of job stress is the rapid increase in female labor force participation. The entry of women into the labor force represents the confluence of a number of social, political, and economic conditions. The role of adult female workers has undergone considerable redefinition over the past 50 years. Legislation prohibits certain forms of gender discrimination in employment, while the stagnation of male wages over the past quarter century has forced more and more families to rely on at least two income earners for their economic survival.

Women’s broad entry into the labor market has partially broken down the segmentation of the labor market based on gender (Hudson 2007). Although “female” jobs remain in the labor market (Reskin 2000), women are increasingly obtaining jobs with higher pay, more authority etc. in jobs that were previously regarded as “men’s” jobs. This trend has implications for the structure of jobs that women hold. Whereas women’s work was characterized in the past by jobs with high demands and low decision latitude (Tomaskovic-Devey 1993), the increased placement of women in “better” jobs and their increasing human capital (i.e., education) has affected the nature of the labor market directly and job conditions for women indirectly by allowing women to compete for jobs in the primary segment of the labor market. At the same time, part-time and “contingent” jobs are more likely to be occupied by women and these jobs generally do not include much decision latitude.

Hence, we do not intend to suggest that all gender-related inequities in the labor market or organizations have been resolved.

The entry of women into the labor market has also had direct effects on organizational structures and job conditions. Some organizations are now described as “family-friendly”. Davis and Kalleberg (2006) suggest that family-friendly employment practices reflect environmental and institutional pressures to provide such practices as a condition of the ability to attract and retain workers for whom work–family conflicts are relevant. In particular, family-friendly practices include flexibility in scheduling work and we know that to be related to job conditions that produce stress (Fenwick and Tausig 2001).

Social Inequality

Although we highlight the changed institutional environment for women in the labor force (and similar things might be said about the racial/ethnic status and the conditions of work for racial and ethnic minorities), we also need to consider the role that social inequality plays in producing job stress. We argue that inequality based on gender, race/ethnicity, immigration status, and socio-economic status (SES) (e.g., education) has direct effects on labor market participation (i.e., access to jobs with particular qualities) and indirect effects on organizational practices and job conditions. These pathways illustrate how social inequality “causes” health disparities as they arise in the context of the day-to-day activities of individuals who differ by social status characteristics. That is, we argue that the fundamental cause of work-related distress can be linked to social status (Link and Phelan 1995). And, it is central to that argument that health disparities do not arise because of “life style” differences or risk behaviors per se but from the systematic differences in the distribution of social resources that can be used to avoid risk and to deal with risk that is related to social status. Thus, the explanation for health disparities observed by social status categories is linked to the systematic differences in exposure and vulnerability to stressors that is related to social status. In our context, we argue that systematic variations in the way that workers are exposed to job stress (and the consequences of job stress) are partly related to social status and can be used to explain health disparities based on social status (Marmot and Theorell 1988).

While the “fundamental causes” theory argues that social status represents a distal but potent predictor of health status, it does not directly suggest the mechanisms whereby social status differences affect health. In part, this is because Link and Phelan (1995) argue that even if specific causal mechanisms are “disrupted,” the relationship between social status and health will stay the same as different mechanisms and pathways that are dependent on social status arise to maintain the inverse relationship between social status and health. But we think this is true in some ways and untrue in others. Most specifically, we argue that the health consequences of social status are felt through the day-to-day interactions of individuals as they are embedded in social institutions such as the workplace. In this sense, the mechanism

that accounts for health disparities based on social status remains constant. The nature of work and the prevalence of stressful job conditions are both a direct consequence of social inequality and a cause of health disparities.

Allocation to primary or secondary labor markets (and good jobs or bad jobs) is partly a function of social status. As we have already indicated, racial/ethnic minorities, noncitizens, women, and those with low education are more often constrained to seek jobs in the secondary market and these jobs in turn are more likely to have stressful characteristics. Tomaskovic-Devey (1993) reports that black employees are more closely supervised, have less complex tasks, less managerial authority, and less supervisory responsibility than whites. Similarly, he reports that women's jobs involve less complex tasks, less managerial authority, and less supervisory responsibility compared to men's. Moreover, these characteristic job conditions have been linked to labor market processes. Glass (1990) found that women predominate in occupations with unfair promotion policies and less job flexibility (schedule control). Wolf and Fligstein (1979) and Baron and Bielby (1982) have shown that the segmentation of the labor market based on gender affects levels of job authority, control over work pacing, and skill and task variety. Marmot and Theorell (1988) argue that the relationship between social class and cardiovascular disease is partially determined by differences in psychosocial work conditions such as skill discretion, authority over decisions, and social support at work that are unequally distributed across social classes.

We couple the argument that health disparities emerge because of the social patterning of stress exposure (Turner et al. 1995) with the argument that "the various structural arrangements in which individuals are embedded determine the stressors they encounter" (Pearlin 1989: 167) in a concrete social context, work. We posit a specific mechanism that links social inequality to labor market participation (a structural arrangement) that in turn leads to jobs with stressful characteristics (another structural arrangement) and subsequent distress or disorder. We therefore argue further that the proper study of the relationship between social inequality and stress/distress should include the specification of specific structural arrangements such as work that become the proximal source of exposure to stressors.

The Full Model

Our full model (Fig. 1.1) then represents both a "sociology of job stress" explanation and an explanation for health disparities that arise in the social context of work. In our outline of organizational and institutional factors that collectively explain where job stress comes from, we make use of theory and research findings from organizational psychology, organizational, economic, and industrial sociology, institutional sociology, and the sociological study of stress to make it clear that social structures are the key to understanding where job stress comes from.

In subsequent chapters, we will elaborate the outline described in this introduction and consider empirical support for the arguments we present.

Data Considerations

We do not intend, nor is it realistically possible for us, to evaluate our model in one grand empirical analysis. The careful reader will have noted that our argument entails multiple levels of aggregation (occupations, organizations, stratification, institutions, macroeconomic, global) and yet it may also be applied to explain individual differences in job stress exposure and health outcomes. By and large, data on job stress is collected at the individual level and can be aggregated by occupation or social demographic characteristics. When, however, we add an aggregate contextual variable such as organization, we face three problems, the paucity or absence of data that links that contextual variable to individual outcomes, the logical ability to affirm the relationship observed (i.e., the danger of ecological fallacy), and the paucity or absence of longitudinal data.

We will build our empirical case by inference from the few data sets that allow us to consider some of the contextual effects we expect. For example, Fenwick and Tausig (1994) and Tausig and Fenwick (1999) linked U.S. unemployment data with a longitudinal data set (the Quality of Employment 1972–1977 panel) and the resultant data set was used to evaluate the effects of macroeconomic conditions and change on individual (and aggregate) job conditions and health outcomes (Tausig and Fenwick 1999). Similarly, the 2002 General Social Survey of individuals can be linked with the 2003 National Organization Survey to permit analysis of how the organizational context affects individual (or aggregate) job conditions and health outcomes. In other cases, we will not be able to evaluate all hypothesized relationships with existing data.

Analytically, the assessment of contextual effects is difficult. Contextual effects occur when a feature of the larger analytic entity (e.g., the organization) affects all observations in the smaller analytic entity (e.g., employees of a single organization). While there are statistical methods that can be applied to these sorts of data situations, those methods do not explain the exact mechanism whereby the context has an effect on individual observations within the context (this is where theory helps but the phenomenological mechanisms are generally not measured). Moreover, in our model there are several contextual levels such as the organization, the labor market, and the macro-economy so that it is not practical to assess the complete model in one analysis.

The contextual nature of our argument also raises the concern that we might commit an ecological fallacy when we interpret our results. For example, when we argue that jobs are restructured during a recession to become more demanding with less decision latitude, and we observe an association between increases in unemployment rates and these job conditions, we cannot be certain that individual workers have actually experienced an increase in their job demands and a decrease in decision latitude nor that any observed change in job conditions is actually caused by the increase in unemployment rates at the aggregate level of the U.S. economy. The risk of misinterpreting results is endemic to contextual analysis and cannot be definitively resolved. Again, good theory that provides plausible interpretations of

observed relationships is essential for supporting our preferred explanation for the analytic outcomes observed.

Our model is also causal and as such requires longitudinal panel data and consistent measurement of variables over time. In fact, there is no data set that contains the variety of data that we would require to test all the elements of our model. Moreover, we know of only one panel data set (the Quality of Employment Survey 1972–1977) so that the causal elements of our model can only be plausibly inferred by relying on theory.

Our proposed model of the sociology of job stress is intended to expand the way that job stress is studied and understood. While the model needs empirical support (it has implications for job and organizational restructuring as well as for addressing health disparities), much will probably remain inferential for some time.

Organization of the Book

The subsequent chapters of this book are organized to provide an in-depth review of the relevant theory and research related to each conceptual component of our model and the final chapter considers the complete model and its implications for the understanding of job stress and its health consequences as well as contributions to the study of labor markets and job economic outcomes.

Chapter 2 provides a descriptive history of research that connects characteristics of jobs, including job demands, decision latitude/control, and authority to stress and stress-related outcomes. This line of research dominates the way we understand job stress but it is largely conceived as a psychological process. Hence, we also introduce information from our own and other studies that indicate that exposure to stressful job characteristics vary by objective characteristics of jobs and occupations. This observation is used to build the case for a more sociological approach to explain the origins of job stress.

Chapter 3 argues that organizations directly define job conditions and so are the most proximal sources of stressful job characteristics. While the structure and content of jobs within an organization are partly a function of macro-economic and institutional environments, organizations define and structure jobs based on the need to coordinate and control production. This process, however, is not as straightforward as it might seem. Organizations are not perfectly free to structure themselves as they wish. There is also a need to develop jobs that attract the required sorts of workers who are participating in labor markets. Competitive labor markets affect the way that organizations can structure jobs and, again, the extent to which jobs contain stressful characteristics.

Hence, Chapter 4 explains the relationships between occupations and segmented labor markets and how such labor markets are directly and indirectly related to job stress. Labor markets are segmented based on status characteristics such as race, gender, and education that, in turn, place workers into different types of occupations and jobs with differing stressful characteristics. Social status disparities in health outcomes are directly observable through the consequences of segmented labor markets.

Chapter 5 discusses how macroeconomic conditions affect the stressfulness of work. Recessions, for example, force work organizations to change the way jobs are structured and they often do so in ways that make those restructured jobs more stressful. Economic conditions also affect workers' sense of job security and their level of anxiety about changing jobs. And, of course, recessions lead to layoffs and limit labor market options that, in turn, affect the health of workers. We also need to consider the historical changes in the occupational and industrial distribution of jobs and the content of those jobs. Realignment of occupations is partly a function of global economic processes and partly a function of technological change.

Chapter 6 argues that part of the reason that we can make general statements about the stressful content of jobs across organizations is that most organizations reflect common elements of organization structure that are derived from institutional norms. At the same time, there can be changes in these institutional models that ultimately affect job conditions. At least two shifts in institutional assumptions have occurred in the recent past and these have affected job conditions (and job-related stressors). The first of these is a change in the "labor contract" that has resulted in new forms of work (the changing nature of work). Second, the large-scale entry of women into the labor market has affected the organization and scheduling of work. Organizations have had to consider more flexible scheduling that entails production and job structure changes and, of course, work–family conflict is now a component of job-related stress.

Finally, Chapter 7 weaves the previous discussions into a single (somewhat complex) model. We hope that the whole is greater than the sum of its parts. In the following chapters, it will be impossible not to hint at the way all of the pieces of the model fit together, but in this chapter we explicitly treat the elements of the model together. And, as the model is really intended to explain job conditions, we show finally how it can be used to understand the relationship between job conditions and mental health and health disparities.

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Chapter 2

Job Structures, Job Stress, and Mental Health

In this chapter, we discuss the substantial volume of research that connects the characteristics of jobs to stress and to stress-related health outcomes. Most of this research is conducted at the individual level and focuses on the adverse psychological consequences of the interaction of the individual worker with characteristics of her/his job. While this has been a productive line of work, we also note a number of limitations in both the theoretical and methodological nature of such work that leads us to ask questions that might best be answered by a structural/sociological perspective. Explanations for job stress that are limited to the individual level cannot explain how and why specific job conditions are created. They cannot explain how and why stressful job conditions change and they cannot account for the unequal distribution of “good” and “bad” job structures among different sorts of workers.

Job Structures and Stress

Since at least the advent of the Industrial Era, the relationship between work conditions and health has been well-recognized (Engels 1958 [1845]; DHEW 1973). Most, if not all, modern economies include government agencies such as the U.S. Office of Safety and Health (OSHA) and regulations that address worker exposure to hazards that cause physical illness and injury. Less attention has been paid to eliminating or minimizing exposure to hazards that cause psychological distress or disorder (Ministry of Labour 1987; NORA 2002).

This does not mean, however, that we know nothing about such hazards. Indeed, the psychological consequence of work arrangements is a central problematic of the field of industrial-organizational psychology. If, as we mentioned in Chapter 1, the beginning of the field of industrial-organizational psychology may be dated to the publication of Kornhauser’s 1965 study (Zickar 2003), then researchers have been evaluating this relationship for almost 50 years. In that seminal study, Kornhauser associated characteristics of workers’ jobs with their mental health and, in doing so, shaped the research agenda to-date.

Job Structures as Stressors

Kornhauser (1965) identified both intrinsic and extrinsic job conditions (stressors) that he found to be related to the mental health of workers. These include the opportunity the worker has to use her/his abilities and skills; the pace, intensity, and repetitiveness of work; supervision; co-worker relationships; income and financial stress; and opportunities for advancement. And, indeed, these are still the job characteristics (albeit in modified and redefined form) studied in the attempt to understand work stress. While Kornhauser (1965: 261) mentioned, as well, that “the outstanding finding is that mental health varies consistently with the level of jobs...” by which he meant occupations, the research literature stemming from his initial study has largely focused on the way that individuals (and hence, not aggregates of workers in occupations) react to job conditions.

The early research on the relationship between work conditions and mental health was based on two underlying theoretical explanations that stress-related consequences of work were a response to demands made in the environment (stressors) and that the interaction of environmental conditions with the person determines perceptions of the stressfulness of those demands (Cooper et al. 2001).

Selye (1956) developed an explanation of the relationship between exposure to environmental demands and stress-related illness. He suggested the existence of a general adaptation syndrome characterized by a nonspecific response of the body to external stressors. When exposed to a threatening “stressor,” the body engages biological defenses intended to reestablish a physiological equilibrium. However, if the noxious stimulus persists or reaches a high level of intensity, the body’s ability to restore equilibrium is not sufficient and the result is a biological breakdown (exhaustion), characterized by malaise, loss of appetite, and loss of motivation. In the context of work, it may then be suggested that work-related stress outcomes stem from the demands that jobs make on the worker as organism. In turn, if these job-related stressors persist, they will overwhelm bodily defense mechanisms and the worker will experience some stress-related illness. Work conditions such as the opportunity the worker has to use her/his abilities and skills; the pace, intensity, and repetitiveness of work; supervision; co-worker relationships; income and financial stress; and opportunities for advancement are thus seen as biological stressors that affect physical and mental health.

Lewin (1951) suggested that neither the objective nature of environmental stressors nor the objective characteristics of the person alone can account for the individual’s precise reaction to environmental stressors, but rather that the interaction of the stressor and the person needs to be considered. Applied to the work context, Lewin would suggest that the worker’s motives, values, needs, moods, goals, anxieties, and ideals interact with objective conditions of work to explain individual reactions to work conditions. Lewin believed that changes of an individual’s “life space” depend on that individual’s internalization of external stimuli (from the physical and social world) into the “life space.”

Theoretical Models of the Stressor–Stress Relationship (P–E Fit)

The confluence of these two theoretical perspectives, Selye's general adaptation syndrome and Lewin's field theory, resulted in the development of the Person–Environment (P–E) Fit explanation of job stress (Caplan et al. 1975; Van Harrison 1978; French et al. 1982). The P–E fit model argues that the individual experiences strain when the relationship between the worker and her/his work environment is not in equilibrium. The individual worker (person) brings both a set of objective abilities and a subjective set of motives and values to the work setting. The work setting (environment) includes objective demands on the abilities of the worker and it also supplies subjective motives to the worker. The objective characteristics of the worker and the job are also meaningful at the subjective level as personality characteristics and as perceptions of work demands. When there is a “fit” between the objective/subjective work environment and the objective/subjective person, the worker will not experience work-related strain, and hence, no work-related mental health problems. In contrast, where the fit is bad, strain/stress will occur and will lead to mental health-related outcomes such as job dissatisfaction, anxiety, depression, somatic complaints, high cholesterol, smoking, and coffee consumption (French et al. 1982).

The P–E fit explanation for worker stress suggests that there is no true set of objective job characteristics to which all workers in a given occupation or job title react. Rather, the interaction between the person and the work content is an idiosyncratic response that determines the psychological consequence of work for that individual. Thus, this theoretical orientation can explain why not everyone in a given occupation or job title has the same psychological reaction to the work demanded. Every worker uniquely perceives the fit between his/her motives, values, etc. and job “demands.” By and large, then, this theoretical explanation for work stress de-emphasizes the importance of specific job conditions because any “objective” job condition may be implicated in the subjective reaction of the worker to her/his job.

Nevertheless, regularities in the psychological reactions of workers based on occupation have been observed and these are explained by P–E fit theorists to be a function of selection processes that sort workers into specific occupations and job titles (Caplan et al. 1975). Caplan et al. argue that persons of common temperament (personality) tend to end up in common work situations but that stress reactions to those common work situations are still individual.

Both the theoretical basis for the P–E fit model and the methodologies used to assess its predictions have been subject to criticism (Edwards and Cooper 1990). Edwards and Cooper (1990) note that there are actually several conflicting versions of the P–E fit construct and several conflicting forms of P–E fit. They also note difficulties with the measurement of the person and environment constructs. Kasl (1978) noted that there is little empirical research using the P–E fit model and that the operationalization of the fit construct is poor. Critical reviews of the empirical studies using the P–E fit model show that the perception of misfit between work

conditions and individual preferences adds only a modest amount to the explanation of job-related stress compared to the use of objective job conditions alone (Kasl 1978; Baker 1985). Despite these criticisms, the P–E fit explanation continues to be developed by some researchers – at least at the theoretical level (Jansen and Kristof-Brown 2006). Baker (1985) points out that the idiosyncratic nature of the perception of job-related stress makes it difficult to predict what work conditions are generally related to stress. From a public health perspective, the emphasis on individual outcomes is not as useful as an approach that identifies objective (environmental) work conditions that can be associated with distress. “From a public health perspective, the key issue in the study of stress at work is whether the etiologic dynamics of stress are to be found within the workplace or within the worker” (Baker 1985:367).

Theoretical Models of the Stressor–Stress Relationship (Demand–Control)

A model focused on the workplace was suggested by Karasek (1979) and it has been widely used to study job stress. The so-called Job Demand–Control model argues that strain develops from the interaction of the demands of work and the job decision latitude (control) available to meet the demands of work. The model was developed, not in opposition to the P–E fit model but, in part, to improve it. Karasek (1979) presents the model as a way of resolving and integrating findings from two distinct research traditions that attempt to explain work-related stress: the stressful life event perspective developed by Holmes and Rahe (1967) that is consistent with Selye’s (1956) biological stress argument, and studies that emphasize job decision latitude as a predictor of distress (Kornhauser 1965). And, although some researchers view the P–E fit and job demand–control model as compatible on some levels (Baker 1985; Cooper et al. 2001), the job demand–control argument focuses on “objective” characteristics of work as they affect worker well-being. In this way, it moves the explanation for job-related distress away from the individualistic explanation that is the focus of the P–E fit model and it allows us to view conditions in the workplace as causes of stress in the same way that studies of the physical hazards in the workplace can be related to physical health problems.

The job demand–control model argues that stress arises from a particular combination of job conditions. Stress (strain in Karasek’s argument) arises only when jobs are associated with high levels of work demands *and* low levels of worker discretion for deciding how to meet those demands. Moreover, Karasek et al. (1988) and Karasek and Theorell (1990) argue that occupations can be characterized by their average levels of demand and decision latitude so that some occupations can be defined as more “stressful” than others. Jobs that are characterized as having high levels of demand and low control are inherently stressful and so the worker’s subjective interpretation of job conditions is less central to the work-stress connection.

Job demands and decision latitude are, however, typically measured by self-report and there is evidence that self-reports of job conditions can be “biased” by the respondent’s psychological state (Karasek and Theörell 1990; Frese and Zapf 1988). The association between job conditions and psychological distress is particularly likely to be overestimated due to self-report bias (Van Der Doef and Maes 1999). At the same time, Karasek and Theörell (1990) also report that studies have found good convergent validity between independent ratings of job conditions and self-report of job conditions. There is stronger evidence for the relative objectivity of scores for the typical measure of decision latitude than for the typical measure of job demands. However, they suggest that when self-report scores are aggregated by occupation, the resulting “mean” scores are in general agreement with what is known about that occupation (Karasek et al. 1988; Karasek and Theörell 1990). Indeed, a number of studies have created objective scores for both demand and decision latitude by averaging self-reported individual survey responses by job title (Alfredsson et al. 1985; Karasek et al. 1988; Mensch and Kandel 1988).

It might be helpful to look at the most frequently used measurements of job demand and decision latitude. Karasek (1979) developed indicators of decision latitude and job demand using the 1972 Quality of Employment Survey (Quinn et al. 1973). Items in each indicator are summed. Decision latitude is measured with eight items that account for skill discretion and decision authority as components of decision latitude. The items are as follows: My job requires that I keep learning new things; My job requires a high level of skills; My job requires that I do the same things over and over (reversed). My job requires that I be creative; I have the freedom to decide what I do on the job; It is basically my own responsibility to decide how my job gets done; I have a lot of say about what happens on my job; and I am given a lot of freedom to decide how I do my own work.

The items measuring job demands are as follows: My job requires that I work very fast; My job requires that I work very hard;. I have too much work to do everything well. I have enough time to get the job done (reversed);. I am not asked to do excessive amounts of work (reversed);. I never seem to have enough time to get everything done on my job; and I am free from conflicting demands that other people make of me (reversed).

Scores on the decision latitude and job demands scales can each be dichotomized into high and low values and, when cross-tabulated, yield four job types: low-strain jobs with high decision latitude and low job demands; active jobs with high decision latitude and high job demands; passive jobs with low decision latitude and low job demands and; high strain jobs with low decision latitude and high job demands. This classification scheme can be used to evaluate the level of job strain in a single job or in aggregates based on occupation, gender, depression scores, or coronary heart disease (CHD) incidence (Karasek and Theörell 1990). The four-cell classification represents the “interaction” of decision latitude and job demands that is the basis for Karasek’s (1979) explanation of job strain and is the basis for most research on the relationship between job structures and stress.

There is actually some debate about the proper way to model the “interaction” that Karasek (1979) originally proposed and the type of data needed to properly test

the effect (de Lange et al. 2003; Kasl 1989; Karasek 1989). The proper modeling of the expected effect of decision latitude and job demands on psychological well-being is not completely clear because different investigators have used differing conceptualizations of the demand and control constructs, different measures of those constructs, different samples of workers, cross-sectional or longitudinal designs, and different statistical models to evaluate the relationships (Frese and Zapf 1988). And, while Karasek (1989: 143) acknowledges that confirming a multiplicative interaction effect would strengthen the plausibility of his argument, he also argues that, “the presence of a multiplicative interaction term is *not* (emphasis in original) the primary issue. The primary ‘interaction’ claimed for the model is that two separate sets of outcomes are jointly predicted by two different combinations of psychological demands and decision latitude—an interaction of significant practical importance.”

The job demand–control formulation has been used in a great variety of studies since its original development. A variant known as the demand–control (–support) model in which the greatest job strain occurs when demands are high, decision latitude is low, and social support on the job is also low has also been described (Johnson and Hall 1988). Several investigators have conducted reviews and summaries of studies using the demand–control model (Ganster 1989; Schnall and Landsbergis 1994; Van Der Doef and Maes 1999; de Lange et al. 2003). These reviews find that empirical studies provide less support for an “interaction” effect than for separate main effects for job demands and decision latitude (Johnson et al. 1996; Bosma et al. 1998). That is, job conditions individually are associated with distress. There is little evidence, for example, that decision latitude mediates or moderates the relationship between job demands and distress (Ganster 1989; de Lange et al. 2003). Each job condition contributes independently to job-related distress but a multiplicative interaction term (demand $\times$ control) does not appear to consistently operate. And, relatively speaking, Sauter et al. (1989: xvii) conclude that “...control is the salient factor in occupational health research.”

In our view, the value of the demand–control model is in its emphasis on characteristics of the workplace and their effects on worker well-being. That strain develops as a consequence of specific interactions of work characteristics and/or because of the independent effects of particular job conditions is less important than the general notion that “objective” structural characteristics of the workplace can be associated with the psychological well-being of workers.

We think that job demands and decision latitude represent the job-specific embodiment of organizational efforts to coordinate and control the work organization and so we think that these dimensions of work are of substantial theoretical interest even if they are also considered to be independent causes of work stress. In this sense, it is not essential that we focus on the importance of the interaction between demands and control proposed by Karasek. Indeed, we think it is also sensible to consider some additional work-related conditions that can be linked theoretically to macroeconomic, labor market, occupational, and institutional factors that affect job conditions. As our general model suggests, job conditions should be

understood as an outcome of these sorts of influences and to the extent that job conditions can be linked to distress, we will better understand how these structural factors impact well-being.

Other Dimensions of Work Authority

The notion of job control as skill discretion and decision authority (Karasek 1979) does not encompass all of the ways that control can be conceptualized. The construct of control that is embodied in Karasek's argument is one of job autonomy. Thus, it is focused on the narrow idea that control over the way one's specific job is enacted is the meaningful dimension of work related to psychological well-being. There are at least two lines of research that examine control using a different conception of control; control as authority over others and "collective" control that is a function of participatory decision-making.

Kohn et al. (1990) extend the conceptualization of job control to include the dimension of authority. They explicitly test a model that predicts that workers' levels of occupational self direction – and thus psychological functioning – are related to their level of control, or authority, over the work of others, as measured by neo-Marxist class categories (Wright and Perrone 1977; Kalleberg and Griffin 1980; Robinson and Kelley 1979). And, although they found that it is primarily control over one's own work, rather than the work of others, that predicts positive psychological functioning, they also found that class position strongly predicts control over one's own work. In all three countries they studied (USA, Japan, and Poland), they found that managers were the most self directed in their work, followed by employers, then first-line supervisors. Self-employed workers and manual production workers ranked the lowest in each country.

Other research has found direct effects of job authority on various measures of psychological functioning. Kalleberg and Griffin (1980) found that job "fulfillment" (job is "challenging," "interesting," and provides opportunities for personal "growth" and "skill development") is significantly related to Marxist class categories. "Owners" expressed the highest level of fulfillment, followed by "managers" (supervising others was part of their jobs). "Workers" (neither owners nor supervising others) had the lowest level of fulfillment, even controlling for other aspects of their jobs, such as substantive complexity, training, and experience. They related these results to Marx's theory of alienation that lack of control over the labor process reduces the opportunity for personal fulfillment among members of the subordinate class.

Link et al. (1993) also found direct effects of authority positions on stress-related outcomes. Specifically, they examined the effects of control over the work of others on measures of depression and psychological distress. Rather than class categories, their measure of job authority was based on the direction, control, and planning (DCP) measures derived from Dictionary of Occupational Titles (DOT) ratings of occupations. Occupations have direction, control, and planning characteristics when the "worker is in a position to negotiate, organize, direct, supervise, formulate practices,

or make final decisions” (over the activities of others) (Link et al. 1993:1353, quoted from the U.S. Department of Labor (USDOL) 1972: 297). And, while they found that occupations with DCP were also occupations with high levels of substantive complexity (and thus occupational self direction), authority (DCP) over others per se reduced symptoms of depression and distress independently of control over one’s own work. They argued that control over the work of others provides additional resources to attain personal goals and expanded the ability to get things done, thus enhancing personal efficacy and control. Their explanation also drew on experimental studies which found those assigned “boss” rather than “worker” roles increased their confidence each time they gave orders during specific joint tasks, and enhanced their performance on subsequent tasks. Conversely, those who took orders (“workers”) expressed less self confidence in their abilities (Langer and Rodin 1976; Langer and Benevento 1978). Overall, these results are also consistent with Goffman’s theory of the rituals of order giving and taking (Collins 1975) in that order giving enhances self esteem, while order taking reduces it. However, because DOT measures of direction, control, and planning are measured only at the level of occupation, not at the individual level, Link et al. (1993) could not test within-occupation differences in the effects of authority on depression and distress.

Other Dimensions of Work Participation in Decision-Making

Participatory, or collective, decision-making can be conceptualized as a third distinct dimension of job control. While mostly absent in recent research on job stress, consideration of the social, political, and psychological consequences of participatory decision-making has a long history. From such diverse viewpoints as Marxist (Marx 1964), classic democratic theory (Pateman 1972; Barber 1984), and humanistic psychology (Argyris 1957; Maslow 1954), participatory control over work has been seen as increasing workers’ self-esteem and sense of personal efficacy, as well as fostering personal development and fulfillment (i.e., self actualization), tolerance, and confidence. By extension, the development of these qualities should reduce workers’ experiences with stress related outcomes.

However, research into the effects of participatory decision-making, primarily in the form of case studies done by organizational researchers, presents a more complex view. These studies do provide evidence that participatory decision-making tends to increase the sense of fulfillment and empowerment among workers – at least initially. However, such feelings tend to decline over time, while the experiences of stress increase. In particular, greater participation is seen as leading to increased job demands and role ambiguity and conflict. Results were similar cross-nationally, in the USA, Norway, and the former Yugoslavia (summarized in Rothschild and Whitt 1986). However, most of these results were drawn from participatory workplaces that were also employee owned and/or managed, such as worker collectives. Thus, increased stress may be as much or more a result of the form of collective ownership than of participatory decision-making. Moreover, most current practices of participatory decision-making in the USA, such as TQM

or Quality Circles, do not involve employee ownership. The effects of these types of participation on workers' stress are still based more on anecdotal than systematic evidence.

Interest in the effects of participatory decision-making on worker well-being is salient because of the recent (and on-going) debate about how to characterize the impact of new forms of work that include worker participation on self-managing teams that directly control the content and organization of jobs (Smith 1997). High performance work practices include organizing work in teams and increasing employee decision-making and problem-solving in contrast to the bureaucratic, top-down, formalized work role form of organization that characterizes the typical Weberian bureaucracy.

Indeed, the rhetorical intent behind the idea of high performance work is that organizations can create a condition of flexibility for the organization both in the internal work processes that define organizational outputs and in response to rapidly changing conditions in the organizational environment including global competition and technology change. In theory, giving workers (or teams of workers) control over the way work is defined and managed maximizes this flexibility. So-called "Post-Fordists" argue that high performance organizations do indeed create empowered workers who, in our context would report higher levels of control and hence, less job-related distress but critics suggest that the reorganization of the firm results in less true flexibility and the imposition of "concertive" control that actually reduces worker decision latitude (Barker 1993).

Landsbergis et al. (1999) reviewed 38 studies that assessed the relationship between the adoption of "lean" production systems, quality circles, total quality management (TQM), and other forms of new work- and stress-related health outcomes. They concluded that most lean production systems did not increase decision latitude and that new production systems actually increased work pace and demands (see also Brenner et al. 2004). New forms of work did not reduce job-related strain related to physical symptoms of stress such as fatigue, tension, musculoskeletal disorders, or job satisfaction. But workers who participated in the *implementation* of new work systems did not experience increased strain.

Berg and Kalleberg (2002) analyzed data from a stratified random sample 4,374 employees at 40 manufacturing facilities. They assessed the effects of high performance work characteristics such as organizing work in teams, employee decision-making, and increased vertical and horizontal communication on job stress. They concluded that in most cases high performance work practices had no effect or negative effects on job stressors and no effect on job stress. However, they also noted that effects varied by industry so that conclusions from their analysis must be considered preliminary.

Vallas (2003) suggests that the ability of organizations to adopt new work models and to successfully implement these is problematic and that the results can disappoint both workers and managers. In some contexts, adopting new work practices does not transcend traditional work practices and so job conditions are largely unchanged as well. This observation suggests that the ability to assess the effects of new forms of work on job-related stress is very difficult. Changes in work conditions

occur unequally within organizations, their successful implementation is difficult to ascertain, and it is difficult to distinguish the effects of new job conditions themselves from other causes of change or change per se.

Other Dimensions of Work-Job Insecurity

There is strong evidence that employees who regard their current employment as unstable (i.e., insecure) are more likely to experience physical health problems and psychological distress (Burgard et al. 2009; Ferrie et al. 2002; Sverke et al. 2002; McDonough 2000; De Witte 1999). Job insecurity is generally defined as the subjectively perceived likelihood of involuntary job loss (Sverke et al. 2002) and so it is most often studied as an individual psychological state that can arise independently of either work structure or objective labor market or other organizational or macroeconomic conditions.

Unemployment itself has been understood to have significant negative emotional consequences for workers who lose their jobs (Jahoda 1982; Kessler et al. 1987; Andersen 2009). Indeed, research also suggests that when the overall unemployment rate increases during economic downturns, the rate of psychological disorder for the population-as-a-whole also rises (Brenner 1973, 1976; Catalano and Dooley 1979). These latter studies are of interest because they link macroeconomic conditions, particularly unemployment rates, to individual outcomes. Explaining the relationship between macroeconomic conditions and individual disorder is, however, complicated both theoretically and analytically (Kessler et al. 1987; Dooley et al. 1988; Fenwick and Tausig 1994). There are a number of plausible explanations for the relationship, including of course, that higher unemployment rates are associated with a greater likelihood of experiencing personal unemployment. Among other explanations is the hypothesis that during periods of decreased demand for labor (i.e., recessions), workers will feel more vulnerable to layoffs even when they remain employed and, thus, levels of perceived job insecurity (as well as distress) will rise (Catalano et al. 1986). The significance of this explanation is that workers need not directly experience unemployment to experience distress (Brenner and Mooney 1983; Fenwick and Tausig 1994). Empirically, changes in levels of job insecurity associated with general increases in unemployment have not been shown to be directly related to distress (Tausig and Fenwick 1999). However, there is now evidence that overall job security has declined for other, more systematic reasons and that this decline is associated with distress (Fullerton and Wallace 2007; Burgard et al. 2009).

Job insecurity, as an individual perception of the likelihood of job loss, can be conceptualized as a general job condition in the same way that job demands and decision latitude have been. Although it is also defined as a perception, the nature of work and the context of work have changed in such a way that job security is now a highly relevant characteristic of a job in the same way that job demands and decision latitude are. It is no longer a simple reflection of personal anxiety nor is it a reaction to personal unemployment experiences or expectations (e.g., plant closings (Iversen and Sabroe 1988)). Rather, it is a salient characteristic of new forms of work and their attendant absence of employment security (Fullerton and Wallace 2007) as well as of

the ways in which organizations attempt to maintain flexibility in a competitive context (i.e., by using temporary workers and layoffs).

When we refer to the general term “new forms of work,” organizational sociologists distinguish between two general forms of flexible work organization: functional and numerical (Wood 1989; Smith 1997). Functional flexibility refers to job and organizational redesign focused on creating high performance work organizations of various kinds while numerical flexibility refers to organizational use of layoffs and contingent jobs as ways to improve organizational competitiveness and adaptability to market conditions. As we have seen, functional flexibility in the form of high performance organizations affects worker well-being (if at all) through its impact on job demands and, especially, decision latitude or participatory decision-making. Numerical flexibility may affect well-being by placing workers in nonpermanent employment situations or making them vulnerable to layoffs. Each of these conditions is likely to create perceived insecurity. In addition, of course, the overall health of the economy and the labor market also affect levels of perceived job security.

The globalization of the economy, deregulation of US businesses, technological changes, and the world-wide surplus of labor have created a general and enduring “precarity” of employment (Kalleberg 2009). Numerical flexibility in the forms of nonstandard and contingent work that organizations seek because it allows them to adapt to changing market conditions has transformed the context of work in such a way that the old implied work contract – that as long as you did your job, you could keep your job – is no longer descriptive of the employer–employee work relationship. The growth of precarious work has decreased employee attachment to their employers, increased long-term unemployment, and increased perceived job insecurity (Kalleberg 2009). Precarious work leads to insecure workers and to greater distress (Benach et al. 2000; Quinlan et al. 2001; Kivimäki et al. 2003; Burgard et al. 2009). This is to say that job insecurity has become a ubiquitous and highly relevant condition of work. Cappelli et al. (1997) suggest that new forms of work have removed the “insulation” from the market that used to shield workers from the vagaries of the labor market (e.g., through the existence of internal labor markets, and a social contract defining employer–employee obligations). The direct exposure to the precarious market that results from new forms of work makes job insecurity a significant characteristic of the job and not solely an individual perception.

Other Dimensions of Work Social Support

As we explained earlier, the demand–control model reflects the now well-developed social stress process model (Pearlin 1989) in which job conditions are conceptualized as stressors that have the potential to produce distress. The stress process model suggests that social support can affect stress-related outcomes in several ways including as an additive factor, as a buffer, or as a moderator of stressors. In the context of work, therefore, a variant of the demand–control model has been developed to account for the possibility that social relations at work might affect the extent of stress/strain due to the demand–control relationship. Johnson and Hall (1988) first proposed adding work-related social support (co-worker support) to

the demand–control model. They found that low social support added to the strain associated with high job demands and low decision latitude and increased the likelihood of observing evidence of cardiovascular disease (CVD) among workers. The absence of social support increased the prevalence ratio of CVD in all demand–control categories. Karasek and Theörell (1990:69) recognized the importance of social support as well and so they argued that social support must be included in their theory as a third dimension. The proposed model is alternatively called the demand–control (support) model or the demand–control-iso-strain model. This latter term refers to the support construct when it is operationalized as the presence or absence of co-workers, i.e., as a measure of isolation (lack of support).

The quick acceptance by Karasek and Theörell (1990) of social support as a third dimension of the psychosocial work environment has resulted in the routine inclusion of some indicator of co-worker and/or supervisor support in most studies that use the demand–control logic. Researchers have largely borrowed what they understand about the role of social support as it is related to distress and disorder from the broader “social support” literature. Hence, the key question addressed in most studies is whether the effects of low social support are additive (simple main effects related to stress-related outcome variables) or moderating (interactive with measures of job stress). A number of meta-analytic reviews of the demand–control literature suggest weak but somewhat consistent support for both additive and moderating effects (Viswesvaran et al. 1999; Van Der Doef and Maes 1999; de Lange et al. 2003; Stansfeld and Candy 2006).

It is, of course, sensible to think that supportive relationships at work will have beneficial effects on workers. It is also sensible that social support indicators should be added to an explanatory model (demand–control) that is partly based on the stress process model as that model has a social support component. However, the literature on social support in the workplace can be criticized from many perspectives. Researchers have not consistently conceptualized social support nor have they measured it well. Social support models are rarely evaluated using longitudinal designs that would determine causal pathways and finally it is not clear that social support is a formally structured dimension of work the way that decision latitude or job demands are. That is, although work always contains a social dimension, informal (especially) communications are not understood as a systematically determined job condition. The exception to this general statement might be attempts to use participative or team decision-making structures to assist workers in reducing stress (Heaney et al. 1995) but few studies of participative decision-making explicitly conceptualize social support as an outcome.

Theoretical Models of the Stressor–Stress Relationship (Job Demands–Resources)

The above review of the variety of job conditions that have been shown to be associated with job stress suggests that the demand–control model may be restated in more general terms. Demerouti et al. (2001) and Bakker and Demerouti (2007) have

proposed a variation of the demand–control model that is functionally compatible with descriptions of the sociological stress process (Pearlin 1989) and which conceives of different dimensions of work as generally classifiable as either demands or resources.

The Job Demands–Resources (JD–R) model was originally developed to explain the job outcome of burnout (Demerouti et al. 2001) but it has since been generalized to explain job stress per se (Bakker and Demerouti 2007). While the demand–control model focuses on the intersection of job demands and decision latitude, the JD–R model is intended to include other job conditions that expand the meaning of job demands and to create a broader category of resources beyond simple decision latitude. The additional work conditions include, but are not limited to, physical demands, shift work, emotional demands, social support from co-workers, supervisor support, performance feedback, participation in decision-making, and job insecurity.

The model also explicitly characterizes the relationship between demands and resources as they are related to job stress. We have already discussed the problems researchers have uncovered with the way that Karasek (1979) described the “interaction” of job demands and decision latitude. Although the JD–R model argues that both demands and resources can have independent effects on job stress and motivational outcomes, the model also explicitly argues for a buffering model in which the impact of job demands is buffered by resources. This model corresponds precisely to a contemporaneous interaction effect model that is well-used in the sociological stress literature (Lin et al. 1986). Demands are the conceptual equivalent of stressors and resources are the conceptual equivalents of social and personal resources as defined in stress models. Job resources interact with job demands to affect the psychological impact of demands on workers.

The model has also been used by Schieman et al. (2009) to explain work–nonwork interference as an outcome of the stress process. This research also contextualizes the work experience in terms of age, gender, race, and education so that we can also consider the model to be compatible with the fundamental causes of illness model proposed by Link and Phelan (1995) that underlies the model we are attempting to develop. From this perspective, age, gender, race, and education put workers at risk via the way that these social statuses affect job demands and provide workers with resources to minimize risk and permit the reduction of distress caused by risk (demand) exposure.

The JD–R model clearly has the advantage that it provides a more general conceptualization of how work conditions affect worker well-being. Bakker and Demerouti (2007) argue that the JD–R model better represents the complex reality of work and permits us to study the way that many different forms of demands and resources function to affect worker well-being. In essence, the JD–R model is a restatement of the demand–control model and so the two models are compatible. We, however, will continue to center our explanation on contextualizing the job conditions of job demands and decision latitude because there is considerably more research in this tradition and because these constructs fit so well with the organizational parallels of coordination and control. We do not mean to exclude other dimensions of work as they may be related to distress. Indeed, we also argue that job insecurity and access to organizational resources may be critical dimensions of

work structure that are importantly related to new forms of work and organization. In that sense, we are adopting the JD–R perspective but limiting the complexity of job conditions that we will consider as we attempt to develop our general sociological model of job stress.

Stress-Related Health Outcomes

To this point, we have intentionally paid less attention to work-related stress outcomes than to the types of job conditions that are associated with stress. The literature clearly shows that job conditions affect psychological well-being whether in combination (i.e., high job demands and low decision latitude, e.g.) or independently (e.g., job control). Because work is a major adult activity, because not all jobs carry the same risk of causing distress, because the potential exists to “redesign” jobs to make them less stressful, and because distress affects both the worker and the firm, it is helpful to understand exactly what sorts of health outcomes are associated with job stress.

Indeed, there are a variety of outcomes that have been evaluated. These range from stress-related physiological outcomes such as CHD to diagnostically specific forms of mental disorder (both mild and moderate), to self reports of general health or psychological well-being, to indirect indicators of psychological status such as absenteeism due to using “mental health” sick days or job turnover. In some instances, meta-analyses of studies using common outcome measures have been conducted and, while these generally confirm that a relationship between job conditions and specified health outcomes exists, methodological and sampling concerns often prevent the estimation of reliable risk-of-onset estimates.

Physical Health

A considerable number of studies use CHD or CVD diagnoses to measure work-related stress outcomes. Stressful work is “...hypothesized to result in biological arousal, mediated by increases in catecholamines and blood pressure, contributing ultimately to the development of CVD” (Schnall and Landsbergis 1994:382). This is precisely the model of biological stress we described earlier that is attributed to Selye (1956). Some more elaborate models suggest that work stress also has indirect effects on CVD outcomes by increasing behavior-related risk factors such as smoking and drinking and by increasing the prevalence of “preclinical disease processes” (Kivimaki et al. 2006). In these studies, work stress is often defined in terms of the demand–control model but some studies find control alone to be the important risk factor. Review and meta-analytic studies of the various studies that have used the demand–control model (or variants) to predict CVD indicate that this relationship is consistent and significant (Schnall and Landsbergis 1994; Kivimaki et al. 2006).

A considerably smaller number of studies have examined the relationship between work stressors and the types of health-related outcomes that affect job performance, for example, workplace injury (Wilkins and Beaudet 1998). While CVD and CHD are defined, in part, as stress-related health outcomes, workplace injury, musculoskeletal injuries, and other work-limiting conditions such as migraine headaches are ordinarily not conceptualized as psychologically-related health issues. The significance of these findings lies in their wide prevalence among workers and the direct interest of regulatory agencies in reducing workplace injury (NORA 2002). As we also see, absenteeism due to injury that might be related to job stress is of considerable interest to work organizations and government agencies.

Mental Health

Mental health outcomes are the predominant types of outcomes studied in the work stress literature of course, but, for the most part, these outcomes are not diagnostically specific nor are they assessed in formal diagnostic terms. Virtually all work stress studies rely on self-reported measures to assess psychological well-being rather than using clinical assessments of disorder – which is how psychiatric diagnoses are generally made (Tennant 2001). There are “paper and pencil” measures of psychiatric symptoms that can be used diagnostically and there are also symptom scales that can be used to judge “possible” or “probable” disorder. A series of studies that used the Diagnostic Interview Survey, a diagnostically-specific semi-structured interview, found that high job demands and/or low decision latitude were related to alcohol abuse and dependence, drug dependence, and, in some instances, to hallucinations, delusions, and depressive or manic “episodes” (Muntaner et al. 1991, 1995; Crum et al. 2006). For the most part symptom scales have been employed to assess depressive symptoms rather than diagnosed disorder and, generally speaking statistically significant associations between job conditions and depressive symptom scales are found (Tennant 2001). Bonde (2008) reviewed 16 studies of work and depression that employed either clinical or structured symptom scales to assess depression. He concluded that job strain (ala the demand–control model) among men was consistently related to both major depressive episodes and to depressive symptoms. Stansfeld and Candy (2006), using meta-analytic methods, reviewed studies that employed measures of common mental disorder as outcomes. By common mental disorders Stansfeld and Candy refer to mild-to-moderate depressive and anxiety disorders including neurotic disorders, depressive disorders, anxiety disorders, and other mood disorders as well as more serious problems such as suicide. In their review of studies, these were assessed using validated, but not diagnostically specific scales including the General Health Questionnaire (GHQ) and the Center for Epidemiological Studies Depression scale (CES-D) or by clinical assessment. They concluded that there was robust evidence for the proposition that jobs with high demands and low decision latitude are prospective risk factors for common mental disorders.

General Indicators of Distress

Most studies of the relationship between job conditions and psychological well-being use general indicators of psychological status as outcomes rather than diagnostically-specific clinical indicators. These include scales of depression or anxiety symptoms (e.g., the GHQ or the CES-D) that are used to index mood (i.e., to count symptoms) rather than to diagnose disorder. Occasionally, single or multiple item indicators of general well-being or distress (e.g., How often do you find your work stressful?) are used. The use of these types of mental health indicators is consistent with the theory that guides the research, i.e., job structures produce psychological distress. These indicators are also entirely appropriate for the sociological study of mental health wherein the effects of social structures on psychological states appear in the day-to-day lives of individuals and not just as relatively severe “diagnosable” conditions that might require “treatment” (Horwitz 2002; Mirowsky and Ross 2002; Tausig et al. 2003). That is, the mental health consequences of occupying different positions in social structures will be observed, in part, as differences in psychological well-being or distress to the extent that position in social structures is related to work conditions.

Outcome measures of distress or well-being span a large number of different indicators and while this raises some methodological and analytic issues, the broad conclusion, over multiple indicators of psychological well-being, is that work conditions affect well-being.

Related Outcome Constructs

Finally, some studies use outcome indicators that may be conceptually related to psychological well-being but are themselves not generally understood to measure psychological outcomes. This type of outcome measure includes job satisfaction, burnout, and indirect measures such as absenteeism and job commitment.

Job satisfaction is probably the most frequently used outcome indicator that falls in this category (Van der Doef and Maes 1999). Job satisfaction is clearly a psychological state but it is conceptually composed of several elements. Job satisfaction is a function of job rewards, job values, and individual attributes as well as work conditions (Bokemeier and Lacy 1986; Kalleberg 1977). Hence, for example, a worker might be dissatisfied with his pay but not “distressed” by it. Job satisfaction can also be conceptualized as a summary indicator of job conditions or as a psychological outcome (Faragher et al. 2005). In the research literature on work and mental health, satisfaction is often used to index psychological well-being even though the construct has a broader definition that increases the risk of conceptual confounding with job conditions used to predict well-being. In studies that examine the relationship between job satisfaction and health, job satisfaction is considered to be a predictor of psychological well-being (Faragher et al. 2005).

Burnout is also sometimes used as an indicator of psychological well-being and is often considered to be an indicator of job-related well-being (Van der Doef and Maes 1999). The use of burnout as an outcome indicator is generally limited to studies of human services occupations as the construct was developed based on issues specific to human services organizations and includes the notion of negative, cynical attitudes and feelings about clients that does not apply to workers who do not interact with clients as part of their work (Evans et al. 2006). Demerouti et al. (2001), however, have argued that the construct can be applied to other types of occupations. Components of the burnout construct have been shown to be related to job satisfaction and to job demands and decision latitude. For example, Evans et al. (2006) found that job demands were related to the emotional exhaustion component of the burnout construct, decision latitude to the personal accomplishment component, and that neither demands nor latitude was related to the depersonalization component of burnout. Given such findings, it is unclear what we should expect about the relationship between job conditions and burnout when burnout is considered as an indicator of psychological well-being.

One of the motivations for studying job stress is the putative relationship between work satisfaction, well-being, and work productivity – a happy worker is a good worker. Karasek and Theörell (1990) emphasize the argument that job characteristics are related to productivity and, hence, job characteristics that produce job strain also decrease productivity. Although there are not many studies that use absenteeism and/or job turnover as dependent variables predicted by job conditions, there is evidence that stressful job conditions increase rates of absenteeism and job turnover (Sager 1994; Houtman et al. 1999). Absenteeism and turnover can be regarded as behavioral manifestation of job stress.

The Limits of Demand–Control Theory

We have implied that the demand–control explanation for job stress has limits, some empirical and some theoretical. Empirically, the vast majority of research studies using the demand–control model explore only the association between individual subjective perceptions of job conditions and stress-related health outcomes. This individual or “micro” level of analysis makes it difficult or impossible for us to ask important questions about the relationship of work to health. How does a given job come to have the characteristics it has? How and why might those job characteristics change? Why are “good” jobs and “bad” jobs unequally distributed by race, class, gender, immigration status, and occupation? Might this unequal distribution of job characteristics account for observed levels of health disparity? How do large-scale changes in economic conditions or technology affect the nature of jobs, and through jobs, the psychological well-being of workers?

The limitations of the demand–control model (particularly as it has been examined empirically) have not gone un-noticed by researchers, of course. Karasek and Theörell (1990) characterized occupations by their average levels of job demands

and decision latitude but they did not pursue the implication that job strain might have an objective as well as a subjective origin. It is also well-known that “women’s” jobs often lack high decision latitude making them more stressful and this implies that job structures reflect gendered relations in the broader social system (Tomaskovic-Devey 1993). Theoretically, little attention has been paid to how relevant contexts such as organizations, labor markets, or the general state of the economy might affect observed relationships between work organization and stress. Tausig and Fenwick (1999) have shown, however, that economic recessions increase job strain among employed workers because employers increase job demands and decrease decision latitude of jobs in order to deal with market uncertainty. Once we begin to think about the work–stress relationship in nonindividualistic terms and job conditions as having an objective component, the limits of the demand–control model can be addressed. In order to explain the relationship between job conditions and job-related health outcomes, we need to consider how job conditions are determined and how they change. And, in order to do that, we need to develop both a theoretical explanation that ties those determinants and forces of change to job conditions and to explore the empirical support for that explanation.

The elements for developing this explanation are recognized. In the research using the demand–control model, the relationship between job conditions, stress, and intervention/prevention has contributed to the insight that jobs exist in the context of organizations, for example see Israel et al. (1996). In addition, researchers have recognized that multilevel models of job stress that include aggregates at the levels of work groups and organizations are required to extend the empirical and theoretical range of the demand–control argument (Soderfeldt et al. (1997); Bliese and Jex (2002); Harenstam 2008). In 2002, the National Institute for Occupational Safety and Health (NIOSH) summarized such observations and extended them by explicitly identifying external contexts such as macro-economic structures and change, technological change, and changing worker demographics as well as the organizational context as factors that affect the organization of work and, in turn, work-related stress (NORA 2002).

Harenstam et al. (2004) and Bolin et al. (2008:651) have shown that multilevel models that include the work organization can be used to explain job conditions. They suggest that working conditions are related to organizations because, “The way in which the division of labor, authority, and control are organized decides how tasks are split into several jobs.” Further, Marklund et al. (2008) and Harenstam (2008) have each shown that organizational characteristics account not only for job conditions but also, through job conditions, for the health outcomes of workers.

Fenwick and Tausig (1994), Tausig and Fenwick (1999), Catalano and Dooley (1983), and Prechel (1994) have all shown empirically that changes in the macro-economy also lead to changes in work conditions, sometimes by first changing characteristics of organizations. Studies of the way that labor markets function indicate that job conditions in primary and secondary labor markets differ significantly, particularly in terms of wages and worker control (Kalleberg et al. 1981, 2000).

Beyond the Limits of an Individual-Based Explanation of Job Stress

The sociological study of work and occupations, occupational attainment, and organizations contains a well-developed theoretical account of the way that multiple social and economic contexts affect the economic outcomes of work such as wages. We will draw on this work to explain a noneconomic outcome of work, psychological well-being. Subsequent chapters will address these explanations in great detail.

Ironically, the sociological study of occupational attainment has been criticized from time to time for neglecting the very same issues of aggregation and context that we observed for the demand–control model. These critiques, however, clarify the required elements of a more complete theoretical account of the mental health consequences of work organization. Baron and Bielby (1980) criticized sociological research on individual attainment for its neglect of the contribution that work organizations make toward occupational and income attainment. They suggested that research on attainment needs to “bring the firm back in” to the explanation for attainment. Stolzenberg (1978) suggested that we need to “bring the boss back in” to the study of socioeconomic achievement. Kalleberg (1989) urges that we “bring the workers back in” to the sociology of work and, Barley and Kunda (2001) suggest that we “bring work back in” to the study of the work organization. In these several papers urging the inclusion of firms, bosses, workers, and work in explanations of status attainment, we find much of the theoretical justification we need to develop our theory.

Baron and Bielby (1980) argue that there are five levels of social organization that must be understood to account for the effect of work organization on individual socioeconomic achievement: economic, market, firm, job, and worker. They suggest that each of these levels of social organization or structures contribute to individual socioeconomic attainment. The goal is to explain economic inequality by describing how macro-level, “meso-level,” and micro-level social structures constrain individual economic attainment by systematically affecting the earnings of individual workers. This is precisely the argument that we make here concerning individual exposure to job-related stress and subsequent mental health outcomes (i.e., mental health attainment). We believe that the extrinsic rewards of employment such as wages and benefits are generally bound with the intrinsic rewards of employment such as job satisfaction and well-being.

Individual work-related psychological attainment is a function of macro-level, meso-level, and micro-level social structures in the same way that earnings and benefits are determined by these structures. Kalleberg (1994) and le Grand et al. (1994) noted that job conditions are largely determined at the organizational or firm level. This argument stems from the realization that the structural characteristics of the organization such as its size, centralization of authority, and formalization affect the way that individual tasks within the organization are constituted. Barley and Kunda (2001) argue that researchers must appreciate the high interdependence of work and organizational structures in their accounts of organizational change. Translated into the job stress domain of research, these arguments support the need

for us to understand how organizations shape the stress-related characteristics of jobs. Doing so improves our ability to answer questions about why individuals encounter stressful work conditions.

Stolzenberg (1978) and Baron and Bielby (1980) also focus their critique of the economic achievement literature on neglect by sociologists of the “firm” in explanations of attainment. They argue that the firm (a meso-level construct) is the key link between macro-structural processes and the individual worker. Macro-structural processes that affect jobs and workers are mediated by the firm which is partially structured by those macro-structural conditions. In turn, the firm determines job conditions and links workers to specific jobs. That is, the job conditions that an individual worker experiences are set by one’s employer. But the employer’s ability to structure work is itself constrained by the status of labor markets, occupations, the economic system, and institutional factors

Kalleberg (1989) further suggests that there are direct links between macro-structural conditions such as those that describe labor markets and individual jobs and workers. Some of the effects of macro-structural conditions are mediated by occupation, industry, and organizations, but some are direct. So, for example, when the economy experiences a downturn, worker insecurity increases independent of changes in job conditions (Tausig and Fenwick 1999).

The limits of the demand–control model for explaining job stress stem largely from the focus on individual reactions to specific job conditions. This is a sufficient level of analysis for explaining individual psychological outcomes but the model cannot explain where job conditions come from in the first place, how and why those conditions change, and why stressful job conditions are not distributed equally among all workers. Yet, there are models of work that provide accounts of these matters, even though those accounts are focused on the economic outcomes of work. If we then conceptualize psychological reactions to work as noneconomic outcomes of work, it makes sense to use the extensive literature on work and economic attainment to understand these other outcomes as well.

In the next chapter, we discuss the interplay between organization structures and job structures. Whether organizations are structured in ways that reflect Weberian bureaucracies or reflect more contemporary forms, their rules define a worker’s job tasks and the conditions under which those tasks must be completed. Organizational structure will, therefore, affect exposure to stressful work conditions.

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Chapter 3

Organizational Determinants of Job Stressors

Overview

As we have already seen, most job stress, far from being the result of idiosyncratic work structures or situations, is the routine outcome of certain job conditions, such as the absence of decision latitude or social support, or the presence of too many demands. These job conditions are not created randomly but are routinely produced and reproduced, and are distributed among workers in known ways, in much the same way that other job outcomes are distributed – earnings, for example. The probability of encountering stressful job conditions is not random. In the next four chapters, we consider why's and how's of the production, reproduction, and distribution of job stress. We start with the most proximate determinants of a worker's job conditions: the organizational structures and practices of the firms in which she/he works.

Organizations are the most proximate determinant of job conditions because they are the sites in which work is actually performed and rewarded (Kalleberg and Berg 1987: 17). Although organizations are dependent on labor markets for their “raw” human resources, they selectively recruit workers based on the fit between the workers' human, cultural, or social capital, such as education, experience, or occupational skills, and the needs of the organization. And, once employed, organizations transform workers' “generic” capital, including occupation, into specific sets of tasks, or “jobs” (Kalleberg and Berg 1987: 43). Thus, workers within the same occupation and with the same amounts of capital can have very different “jobs”: for example, a sociology professor in a PhD-granting department at a large research university versus a sociology professor in a BA-granting department at a small private liberal arts college.

In addition to specifying the actual job conditions of their workers, organizations are also the “meso” level entities that connect workers to macro level structures and processes, from the introduction of new technologies to legal and regulatory rules regarding employment and work conditions to financial, product, and especially labor markets. Organizations are the “demand” side of the “supply and demand” equilibrium that economists argue determines the labor market conditions

and experiences of workers. As their financial and product markets expand, organizations (employers) hire more workers, pay them more, and provide more benefits; but they also restructure jobs to meet their expanding markets. When these markets contract, as in recessions, organizations cut workers' hours and pay, lay off workers, eliminate some jobs, restructure other jobs, and may even close operations entirely. How organizations respond to market changes have enormous consequences not only for the economic well-being of their workers but for their psychological well-being as well (e.g., Catalano and Dooley 1977, 1979; Fenwick and Tausig 1994; Tausig and Fenwick 1999).

Yet, in spite of these widely acknowledged consequences of organizations for worker well-being, research has focused almost entirely on the organizational causes of disparities in economic well-being of workers – especially job earnings and occupational mobility. Neither organizational nor stratification research has developed models to explain how organizations generate disparities in health and psychological well-being. On the other hand, to the extent that job stress research has searched for the origins of job stressors it has found them primarily in the characteristics of specific occupations, such as the high demands and low decision latitude of air traffic controllers, and not in explanations for why the Federal Aviation Administration has organized air traffic control jobs in a specific way. Tellingly, Katz and Kahn commented in their second edition of *The Social Psychology of Organizations* (1978) that, with the exception of “accidents and physical illnesses ... distinctive to particular occupations” ... “[t]he well-being and illness of individuals are not ordinarily regarded as organizational outcomes, even in part” (p. 578).

Some progress has been made in “bringing in” organizations to stress research during the 30-plus years since Katz and Kahn's observation. But, as late as 1996, the National Institute for Occupational Safety and Health issued a call for greater research efforts by occupational health researchers into the area of the “organization of work,” pointing out significant gaps in our knowledge of how organizations “organize” work and how they mediate the effects of macro socioeconomic, political, and technological forces on individual workers (USDHHS 1996).

To help bridge these knowledge gaps, this chapter focuses on the questions of why and how organizations organize work in ways that create disparities in the levels of job stress among their employees. Subsequent chapters address the various ways organizations respond to and mediate the effects of macro structures and processes. Because of the relative paucity of research into the effects of organizational characteristics on job stress, we also review and extrapolate from relevant research from other areas: the research on formal/complex organizations, the sociology of work, industrial sociology, labor process, and dual/segmented labor markets.

We begin by reviewing the overall conceptualizations of organizational structure and practices. These include the “rational systems” perspective and the “organizational control” perspective, as well the supposed rise of post-Fordist, or postindustrial organizations. We then examine the role of “informal” work structures. As we proceed, we elaborate on the specific organizational structures and practices each perspective views as the most relevant for explaining job stressors. Finally, we turn our attention to understanding how organizations are themselves affected by their various “environments.”

Conceptualizing Organizational Structures and Practices

Why do organizations organize work in particular ways, and how do they do it? These have been the central questions for organizational researchers for over a century. To greatly oversimplify, there are three general answers. In the first answer, organizations are seen as goal-oriented “rational” systems; thus, tasks within the organization are organized in ways designed to allow the organization to achieve its goal in the most calculable and efficient way (Weber 1947; Scott 1987).

In the second answer, organizational activities are organized not so much by the criteria of rationality and efficiency, but rather are the outcomes of ongoing political struggles – “contested terrains” – among subgroups within the organization (Edwards 1979; see also Dahrendorf 1959). The organization’s strategies for controlling its participants’ activities and participants’ counter-strategies for resisting control are more important than specific organizational goals in determining how its activities, including “jobs,” are organized.

While the first two answers focus on the structures of past and present “industrial” organizations, the third answer focuses instead on emerging “postindustrial,” or “post-Fordist,” organizational structures. These structures are characterized by their “flexibility,” in jobs, careers, and in employment itself – the new forms of work. Traditional top-down bureaucratic hierarchies, characteristic of industrial economies, are becoming outdated, whether developed for their “rationality” or for their “control” over organizational members. In their place, the “postindustrial” economy relies on flatter, “posthierarchical” structures which encourage members’ creativity, innovation, and consent through active participation in organizational decision-making (Block 1990; Myles 1990; Barker 1993; Cappelli et al. 1997; Zuboff 1988).

Additionally, these perspectives focusing on “formal” organizational structures can be supplemented by understanding the “informal” structures and cultures created by workers that enable them to cope with these formal structures, sometimes contravening these structures, sometimes complementing them. These are the insights of the “human relations” perspective (Mayo 1933) and “industrial sociology” (e.g., Roy 1952; Burawoy 1979).

Organizations as “Rational” Systems

In the “rational” goal-oriented perspective, jobs will be structured according to standards of “technical,” “functional,” or “formal” rationality: “Specific goals provide unambiguous criteria for selecting among alternative activities” (Scott 1987: 32). Thus, mass producing affordable automobiles – quantity – will lead to the employment of semi-skilled workers who engage in highly repetitive tasks as their work is paced by the speed of the automated assembly line, while producing a few automobiles which have status appeal to the very wealthy – quality – will lead to the employment of highly skilled craft workers who will design and construct each auto by hand.

However, in what has been called the “classic” formulation of this argument, there is a trend toward convergence of organizational goals in the direction of quantity of production because of the rise of money economies, “rational” capitalism, and the “modern state,” all of which emphasize not only quantity but also standardization and predictability of outcomes in order to generate greater quantities. The result is a convergence of organizational structures to a single predominant form that will most assure standard and predictable outcomes – the bureaucracy (Weber 1947: 196–244). Structural features of an “ideal type” bureaucracy include a hierarchy of authority that becomes increasingly limited as one moves down the hierarchy (centralization), a division of labor composed of technically competent members who receive regular, but differential rewards based on their work performance (complexity), and written rules and procedures specifying how the work is to be done (formalization) and how it is rewarded (Hall 1999: 49; Scott 1987: 41). For its members, especially those at the bottom, bureaucratic structures impose a depersonalized and oppressive routine adverse to individual creativity and personal freedom (Weber 1947: 50).

If this classical view of bureaucratic organizations were correct, it would be easy to pinpoint which jobs in organizations would be most stressful: routinization and lack of discretion in performing the work would create greater job stress among employees at the lowest levels of the organizational hierarchy. However, Weber recognized that real world organizations only more or less approximate the structures of an “ideal type” bureaucracy. And ever since Weber, organizational researchers have attempted to explain the sources of variations in organizational structures. One major source of variation is the relative certainty or uncertainty of attaining the organization’s goal(s).

This is the insight of “contingency theory” (Lawrence and Lorsch 1967). The more the certainty that a particular set of activities will lead to the desired outcome, the more routine and standardized the activities and structures will become; but, the more the uncertainty that the prescribed actions will lead to the desired outcome, the more the flexibility that will be built in to actions and structures to account for contingencies that might occur. For the organization, uncertainty leads to increased horizontal complexity or differentiation, in turn often leading to greater decentralization of authority (Lawrence and Lorsch 1967).

One way in which organizations deal with contingencies is through professionalization of their core members (those most directly responsible for attaining organizational goals). The more uncertain the goal, or outcome, the more “unique” each job becomes. Uniqueness and uncertainty require well trained personnel who are expected and able to act autonomously. They are required to use their knowledge, judgment, and skills in order to address whatever contingencies are presented to them in each case (Vallas et al. 2009). Moreover, because their work is evaluated and supervised by others in their occupation, even in otherwise highly “bureaucratic” (e.g., formalized and hierarchical) organizations, they retain high degrees of job autonomy and skill discretion, job qualities that reduce stress.

Organizations also create specialized, and often professionalized, “staff” units whose sole responsibilities are to deal with contingencies arising even in the pursuit

of more routinely attainable goals. These staff units gather and process information on the various contingencies, and provide advice, service, and support to core, or “line” units, which are those directly concerned with achieving the organization’s goal(s) (Dalton 1959; Scott 1987). Because staff control information about these important organizational problems, “power” may flow from line administrators to staff. And, because staff personnel also tend to have higher levels of formal education than line workers (Hall 1999:116–7), we expect that staff will have relatively greater autonomy and skill discretion.

Similar to the “rational system” perspective on organizations, many industrial economists and sociologists writing in the two decades after World War II argued that there was an ongoing “convergence” in organizational structures driven by increasingly automated technology which increased organizations’ efficiency and productivity (Kerr et al. 1960; Bell 1973). However, rather than leading to ever more “deskilling” and “alienation” for workers, automated technology as exemplified by “continuous processing” systems would lead to the “upgrading” of skills (Blauner 1964).

In his seminal work, *Alienation and Freedom* (1964) Robert Blauner argued that since, in continuous processing systems like oil refineries and chemical plants, production is carried out “automatically” by machines, the essential task (job) for workers involves making sure the process is running smoothly. They do so by monitoring dials and gauges, recording and interpreting the data these display, inspecting the machinery, and intervening when the data indicate the process is not running smoothly (p. 7). These tasks require different skills than those required by machine tending and assembly line technologies; mental or analytical skills – reading and interpreting data – replace physical strength (p. 133). Workers also assume responsibility for the smooth operation of the entire production process, the quality of the product, and caring for the “extremely expensive automated equipment” (p. 133), which, paradoxically, also increases the need for traditional craft skills (p. 168). Rather than being paced by the machines, continuous processing workers have control over the pace of production, and thus “considerable freedom from pressure” (p. 141). The result is greater control over the work process and less routine and standardized tasks, and thus more meaningful work: less “alienation” and more “freedom.” Translated into the “demand-control” paradigm of job stress, automation would create jobs with more “decision latitude” – autonomy and skill variety – and fewer “job demands” – time pressure; and thus, less “job strain” (Karasek 1979).

According to this “logic of industrialism,” as increasingly automated technology spread throughout the economy, more and more jobs would require higher levels and greater variety in workers’ skill levels, creating new jobs with higher skill requirements while eliminating the more routine jobs performed by unskilled workers. With automation, workers would experience less close supervision while taking on more responsibility and exercising more discretion as to how to do their jobs. Work would also become more interrelated, complex, and challenging (for summaries of the argument, see: Blumberg 1980a, b; Spenner 1983: 824).

Workers would also be rewarded extrinsically for their higher skill levels as automation increased productivity and profitability for their employers. In turn, increased profits would be shared with workers in the form of higher pay, more

generous benefits, greater job security, and more opportunities for advancement: “embourgeoisement” (Blumberg 1980a, b). Evidence for “embourgeoisement” and “upgrading” was found in the compositional changes in the occupational structures of industrial societies – the declining percentage of workers classified as “unskilled” laborers, and increases in both more skilled blue collar occupations and professional and technical white collar jobs – as well as increases in educational requirements for jobs and overall increases in educational attainment (Bell 1973). Thus, workers would become both less “alienated” and more “affluent” (Blauner 1964; Jaffe and Froomkin 1968).

Organizations as Structures of “Control”

In this perspective, organizational structures, including the structuring of jobs, rest not on goal-oriented rationality or “technical imperatives” but on the need to control the actions of organizational members so that certain tasks can be carried out or attempted (Tannenbaum 1968; Collins 1975: 290). Organizational goals vary from one organization to another and internally over time, and an organization often has multiple, conflicting, and uncertain goals. The one constant among all organizations at all times is the need to obtain and maintain members’ compliance with *whatever* goals the organization pursues, and more fundamentally compliance with the authority of the organization per se (Etzioni 1961). Structure is the form through which organizational authority is exercised, regardless of goals (Tannenbaum 1968). Structure is not technologically determined, but rather the use of a particular technology is itself determined by the control needs of the organization (Braverman 1974; Collins 1975: 289; Edwards 1979).

It should not be taken for granted, however, that an organization’s efforts at controlling its members will always be successful. Although made in the name of the organization, control efforts reflect more the particular interests of those individuals and groups running (authority/ownership) the organization. And to a large extent, their success at controlling members depends on their resources, material and symbolic. But organizational members are not passive recipients of control efforts, and they also have material and symbolic resources they can use to resist organizational control, and in some cases even overturn those running the organization. Depending then on the amount and application of each side’s resources, in the end organizational structure may come to reflect the outcome of intergroup conflicts within the organization rather than the original intent of those running the organization (Collins 1975; Dahrendorf 1959; Edwards 1979). Thus, an organization resembles not so much a “rational” or “functional” system as it does a “political” system, or “arena” (Collins 1975: 289). Clearly, the outcomes of this conflict will also be reflected in the structures of jobs.

In the late 1960s and 1970s, “labor process theory” produced an account of how this political process affected the quality of work. In *Labor and Monopoly Capital* (1974), Harry Braverman challenged the basic assumption made by Blauner (1964),

Bell (1973), Kerr et al. (1960), and others that the introduction of new, increasingly automated technologies led to upgrading workers' job skills. Rather, he argued that the opposite was true; under capitalism mechanized and automated technologies led to "deskilling," or the "degradation of labor." Indeed, that was the point of firms introducing new forms of technology. Capitalists used technology to squeeze ever more surplus labor out of workers. New technologies, such as the assembly line, allowed capitalists to simplify job tasks, so that they could be standardized and performed over and over quickly. Jobs that once required skilled craft labor were reorganized so that they could be done by workers with few or no skills. The results were not only greater productivity with lower labor costs but also greater managerial control over the production process (Braverman 1974).

Braverman argued that the process of "deskilling" began with the growth of small manufacturing firms into large industrial corporations at the turn of the twentieth century. With increasing demands for their products, but with a shortage of skilled labor, these corporations needed a strategy that would increase their productivity to meet market demands by taking advantage of the influx of unskilled immigrants from Southern and Eastern Europe. Such a strategy was provided by the work of Frederick Taylor and his theory of "scientific management" (Braverman 1974). Based on his minute observations of how workers went about their jobs in manufacturing shops, Taylor argued that higher productivity could be achieved if each job was broken down into its discrete tasks, and instead of having one worker perform several discrete tasks – thus wasting "time and motion" going from one task to the next – have each worker perform just one task – over and over. Repetition would increase the rate of production, while the simplification of jobs would reduce the skills and training required, making each worker interchangeable and replaceable (just like machine parts), thus reducing the cost of labor (Taylor 1947).

For Braverman (1974), the most significant element of job reorganization and simplification was the "separation of conception from execution" tasks of jobs. Historically, it was the integration of these mental with physical tasks that formed the basis for the unique skill sets and occupational power of craft occupations. And, it was this power that "scientific management" sought to undermine by separating mental and physical skills. "Conception" – product design and production planning – would become the province of management, and this conceptual knowledge would give management control over the production process. Workers were merely to "execute" the plans and designs of management by performing "limited and repetitious" tasks (Braverman 1974: 443–4). In much the same fashion, the introduction of office machinery such as the typewriter, deskilled office workers, replacing "administrative assistants" with "secretaries," "typists," and "stenographers" (Braverman 1974). And, this process has extended further into service industries and occupations, as argued in George Ritzer's "McDonaldization" thesis, even to include physicians (or "McDocs"), (Ritzer 1993; Ritzer and Walczak 1988).

A more elaborate, nuanced control theory of organizations is presented by Richard Edwards in *Contested Terrain: the Transformation of the Workplace in the Twentieth Century* (1979). Edwards starts with Braverman's – and Marx's – premise that capitalists attempt to exercise control over their workers through organizational

structures and technology in order to extract as much – maximum – labor effort, and therefore surplus labor and ultimately profit, as they can. On the other hand, since workers do not (generally) share in the profits they generate and do not (generally) control how they do their own jobs, they have no interest in providing more than the minimum amount of labor necessary to “avert boredom” and keep their jobs (p. 12). Thus, they will resist capitalist/management efforts to maximize labor effort. Resistance ranges from the “solitary and hidden” (e.g., “slacking” or “sabotage”) to setting limits to production by informal work groups (and ostracizing workers who produce more as “rate busters”) to halting production altogether through strikes (p. 14). “Systems of control” that have dominated capitalist production at any one time have been the results of contours in this “contested terrain”: management’s efforts to exert greater control over the labor process versus workers efforts to resist. The outcome of this contest will be experienced by workers as relative degrees of job demands and decision latitude.

Edwards argued that three such control systems developed over the course of labor history in the United States: “simple,” “technical,” and “bureaucratic” control. Simple control is the dominant form of control in small and medium-sized firms, particularly in retail and wholesale trade, light manufacturing, and business and personal services – the “peripheral” economic sector. Simple control is exercised directly by the entrepreneur/owner on the basis of his/her personal characteristics, or charisma.

Unlike personalized “simple” controls, “technical” and “bureaucratic” controls are formalized and embedded in the organizational structure of firms. As suggested by the term, “technical” control is embedded in the technology of production, such as the assembly line. Edwards argued that technical control deskilled manufacturing workers, “reducing workers to attendants of prepacked machinery,” which in turn reduced labor costs by “expanding the number of potential [unskilled] workers” (p. 20) who could perform the work. However, unlike Braverman, Edwards also argued that workers had resources and strategies to resist the imposition of this control – most notably by unionization.

“Bureaucratic” control is embedded in the firm’s social structure – particularly rules. Edwards argued that larger firms came to adopt these structural controls because they made the exercise of control less personal, and thus less visible to workers, while also giving the employers (capitalists) more control over the intermediate layers of supervisors (p. 20). Much like Weber’s concept of “legal-rational” authority, Edwards argued that control over workers would now be embedded in the “rule of law,” albeit the “firm’s law.” The direction of the work, the evaluation of workers’ performance, and their rewards or discipline would be governed by formal, written rules and procedures. Impersonal, objective criteria would replace the personal subjectivity of the “supervisor’s command” (Edwards 1979: 21).

First applied to white collar employees, “bureaucratic” control was increasingly applied to blue collar production employees in the three decades after World War II, especially in the largest firms in the most concentrated industrial markets. In these heavily unionized manufacturing industries, “bureaucratic” control came to be administered mutually by management and unions through collectively bargained

contracts and formalized grievance procedures. “Bureaucratic” control reversed the trend in technical control toward increased homogenization of industrial jobs. Rather, jobs became increasingly stratified, as each job was given a distinct title and description. Moreover, jobs were organized as “ladders” and promotion from one rung (job) to the next higher rung was governed by company rules as well (p. 21). Along with giving preference to existing employees over outsiders for promotions – the “firm internal labor market” – “bureaucratic” control provided new “positive” incentives for working harder (Edwards 1979: 142–52). Pay depended on one’s job rank on the job ladder, which in turn depended on job performance, while access to other benefits such as pensions depended on length of service to the firm – seniority. Thus, “jobs” were transformed into “careers,” and “workers” were transformed into “employees” in that one’s livelihood comes to depend less on one’s occupational training and skills and more on one’s service and loyalty to the company.

What are the implications of these arguments for the organizational causes of job stress? The answer depends on the effects of increasing bureaucratization, and especially formalization, on the characteristics of workers’ jobs. For Edwards, formalization of “bureaucratic” control removed the arbitrariness of close supervision and made performance expectations more predictable for both the employee and employer. But did formalization increase or reduce workers’ discretion in job performance? Edward’s answer is that it did both. On the one hand, bureaucratic control encouraged internalization of the firm’s goals and thus rewarded self-direction in work tasks – “getting the job done even where rules need to be bent or applied in new ways” (p. 150). On the other hand, he argues bureaucratic control is “totalitarian” in that it seeks to control the total behavior of the worker, on and off the job – creating the “good worker” (p. 149).

There is also empirical support for both expectations. Kohn (1971) and Kohn and Schooler (1978, 1982) found that formalization, and bureaucratization more generally, increases workers “self-directedness” and “intellectual flexibility.” While these orientations may be related to the higher levels of education among workers in more formalized and bureaucratic organizations, they also found that these workers had better overall intrinsic job qualities, such as more complex and challenging work (1978, 1982). Likewise, Marsden et al. (1996) found that formalization was positively related to workers’ job control as written rules replaced close supervision. On the other hand, Crozier (1964) found that formalization reduced workers’ discretion and initiative, as job tasks become increasingly routine and standardized (see also Hage and Aiken 1969; Dornbusch and Scott 1975; Hall 1968), much akin to Weber’s “iron cage.” Formalization has also been found to limit the availability of social support among co-workers (Hage and Aiken 1969).

Closely related to an organization’s control system, and thus level of formalization, is its size. According to Edwards, smaller organizations have continued to use arbitrary “simple” controls, while larger organizations use the formalized rules of “bureaucratic” control. With respect to the effects of size, especially number of employees, on workers’ job characteristics and job stress the research results are mixed. There is a general consensus that organizational size increases workers’ extrinsic rewards, such as pay, and benefits, as well as job security (Stolzenberg 1978;

Villemez and Bridges 1988; Kalleberg and Van Buren 1996). This is not only because larger organizations are more likely to have internal labor markets and job ladders but also – and perhaps more importantly – because larger firms tend to be the more successful firms with more resources to reward their employees (Hall 1999). However, there is just as great a consensus in the research that organizational size reduces the intrinsic qualities of jobs, increasing workers' sense of "powerlessness" and "isolation," and thus increasing job dissatisfaction. Overall, when asked, workers prefer to work in smaller organizations (Hodson 1984; DHEW 1973). These effects have also been associated with the greater bureaucratic control exercised in larger organizations, especially formalization, job differentiation, and hierarchical authority (Hall 1999).

Formalization prescribes both horizontal and vertical relationships within an organization. Under bureaucratic control, this is accomplished through the proliferation of job titles and associated job rules. Although Edwards emphasized the vertical dimension, that jobs become increasingly "stratified" in internal labor markets, jobs can also be differentiated horizontally. While this dimension is a part of the system of overall control, organizational researchers often designate horizontal control as "coordination" (Hall 1999) to distinguish it from vertical "control." Whether the horizontal dimension of formalization leads to deskilling or skill upgrading (and thus the potential of more or less job stress) depends on whether job rules create task differentiation among job titles, as in auto assembly lines, or among occupational and professional "specialties," as in universities (Hall 1999). Overall levels of formalization might be quite similar in these organizations but will be applied to different aspects of work. Differentiation by job titles leads to a high degree of formalization (rules) specifying how workers do their specific jobs, but there will be much less formalization regarding criteria for hiring. Differentiation by occupational specialties produces the opposite: a high degree of formalization regarding hiring (e.g., credentialing, certification) but much less formalization regarding how these workers go about performing their jobs (Freidson 1984). Thus, the possibilities for greater "decision latitude," and thus less job stress, are much greater in this latter, occupational, differentiation.

The rise of bureaucratic control means that organizations also use formal criteria such as occupational credentials and job titles as primary determinants of position in the organization's hierarchical network of "order giving" and "order taking" (Collins 1975; Dahrendorf 1959). Collins distinguishes among three basic authority "classes": those who give orders, but take few or no orders; those who both give and take orders; and those who only take orders (1975: 63). He goes on to argue that the situations in which these authority relationships are acted out account for the most crucial differences in individuals' work lives, and that one's position in this authority class structure has powerful effects on one's outlook and behavior (1975: 63–89). The more one gives orders, the more is the deference one receives from those taking orders, in turn producing a demeanor of self-assurance, pride, and a strong identification with one's position and the organization for whom one works and in whose name one gives orders (p. 73). Order-givers tend to have high self-esteem and a strong sense of "self efficacy," or "internal locus of control," since, after all, they are in control. On the other hand, the more one takes orders the more deference one has

to give, producing a demeanor of subservience, fatalism, passivity, conformity, alienation, and lack of trust. Order-takers have low self-esteem and an “external locus of control” (p. 74; see also Della Fave 1980; Goffman 1959). Finally, following Homan’s principles of exchange among equals, Collins argues that the more workers engage in egalitarian exchanges with co-workers the more friendly, informal, and accepting their demeanors. This exemplifies interactions among professionals (p. 74).

In line with Collins’ arguments, research by Link et al. (1993) found that workers in occupations with authority, as measured by the direction, control, and planning (DCP) over the work activities of others, had fewer symptoms of psychological distress and episodes of depression than workers in occupations lacking authority. DCP, which is an occupational-level measure (a dimension of the Dictionary of Occupational Codes, or DOT), mediated much of the inverse relationship between socio-economic status (SES) and depression. And, in turn, the effect of DCP was largely mediated by personality characteristics, internal versus external locus of control, sense of mastery, and (lack of) emotional passivity. They suggested two mechanisms through which DCP reduced distress and depression. First, occupations requiring control over the work of others also require control over one’s own work, “occupational self-direction,” which in turn has been found to increase feelings of personal (control) and reduce psychological distress and anxiety (Kohn and Schooler 1983). Second, control over the work of others entails having more resources available to get things done (e.g., meeting “job demands”), enhancing one’s confidence and sense of personal efficacy (Link et al. 1993: 1356–7; Kanter 1977).

Overall, organizational structures have become increasingly important, compared to occupational characteristics, in determining the structure and content of workers’ (or rather employees’) jobs, and thereby their livelihoods and well-being. This is a point of general consensus among most organizational scholars, including those who approach organization from “rational systems,” “logic of industrialism,” and “labor process” perspectives. And, although they disagree as to the origins and causes (e.g., formal rationality, technology, strategies of managerial control), these perspectives also agree that the structures that matter most for individual outcomes are bureaucratic structures: formalization, differentiation, hierarchy, and size.

This consensus, however, has been challenged by an increasing amount of scholarship that argues that the dominance of “rigid” bureaucratic structures and bureaucratic control was characteristic of a particular era and type of economy based on the production of industrial goods. This era is now ending, and in its place is an economy based on the provision of services, requiring more “flexible” organizational structures. It is to this perspective we now turn.

Organizations in the Post-Fordist Era: Flexible Work Systems

Adoption of bureaucratic control structures was an integral part of what has come to be called the “Fordist” era of economic production, which reached its zenith during the quarter century following the end of World War II: 1945–1973. This era was dominated by large industrial firms utilizing integrated technology systems, such as

assembly lines, to mass produce consumer goods. Because of the high fixed overhead costs (for the raw materials, machinery, and large factories) and inflexibility of production techniques involved in mass production, profits depended on continually expanding production and consumer markets to buy the products, rather than reducing labor or other production costs (Myles 1990; Piore and Sabel 1984). This could be accomplished to a large extent by paying workers high enough wages so that they could consume what they produced, a practice pioneered by Henry Ford (hence, “Fordism”). Increases in wages were also tied to productivity of these firms, so that the more workers produced the more their wages increased, and thus the more they could consume.

But profits also depended on having continued, stable access to a supply of workers and to the raw materials necessary for production. The solution to this part of the profit problem was to “internalize” market relationships with suppliers and employment relationships with workers. Large industrial firms such as Ford became “vertically integrated,” buying up other firms that provided and transported raw materials, as well as retail outlets that supplied the finished product to the consumer. Internalization of employment relations was accomplished through bureaucratic controls which turned workers into employees and jobs into careers: in-house job training, internal labor markets, job ladders, productivity-based raises, and expensive benefits generated (necessitated) worker commitment to the firm and consent to the firm’s authority. In exchange for job security and other extrinsic benefits workers ceded control over their immediate work conditions, or as the saying went: “workers work and managers manage” (Myles 1990; Rubin 1996; Cappelli et al. 1997; Fenwick 2003). Greater economic well-being, however, may come at the expense of reduced psychological well-being and greater job stress in these rigid systems of bureaucratic control through more job demands, less autonomy, and more routine and repetitive tasks (Karasek 1979). In Karasek’s demand–control model, these are “high strain” occupations, for example, machine operatives, office clerks. Machine pacing produced high levels of job demands while close supervision and narrow, routine skills limited workers’ decision latitude (Karasek 1989).

While not characteristic of all firms, especially smaller firms, “Fordist” employment relations did come to characterize larger nonindustrial firms (e.g., banks) and public employment. Moreover, this was the organizational and employment model to be emulated by other firms (Myles 1990).

Well into the 1980s, there was a general consensus in the business literature that this “Fordist” system would continue, and indeed needed to expand and intensify. This argument was largely in response to the success of large Japanese manufacturers in capturing increased market shares from their US competitors; even in the United States, Japanese success was attributed to their managerial practices that encouraged worker commitment and involvement with their employers through an even more highly internalized, even “paternalistic,” system of employment relations, which included extensive job training and retraining, direct worker participation in production decisions, and permanent employment. It was argued that US firms had not gone far enough in providing job security, training, and participation; and that only by emulating their Japanese competitors could they encourage the

level of worker commitment and innovation needed to compete (Hays and Abernathy 1980; Ouchi 1981; see also Cappelli et al. 1997).

However, starting in the 1970s there were already forces at work undermining the “Fordist” system. Today, the consensus is that the “Fordist” era is over, and in its place there has risen a “post-Fordist” system in which rigid internalized employment relations are being replaced by externalized and more *flexible* employment relations (Cappelli et al. 1997; Fenwick 2003). Explanations for the shift from a “Fordist” to a “post-Fordist” system fall into three categories: (1) “deindustrialization” – the decline of manufacturing and the loss of manufacturing jobs; (2) the growth of a postindustrial, service-based economy and service jobs; and (3) pressures to restructure jobs and externalize employment relations, whether they are service or manufacturing.

Faced with competition, especially from firms that could keep their labor costs lower, the “Fordist” model could not be sustained. Beginning in the 1970s, competition came, and it came on two fronts: (1) globally, from German and Japanese firms in durable manufacturing, such as automobiles and steel; and (2) domestically, from deregulation of the transportation and telecommunication industries. The consequences have been oft told. The US share of world manufacturing exports declined from 25% in 1960 to less than 17% by 1980, and profit rates for the US industrial firms declined from 15.5% to under 10% over the same time (Bluestone and Harrison 1982). The resulting loss of capital led to massive disinvestment by these firms: selling off subsidiaries, closing plants in the US, and moving operations to low wage regions around the globe. This, in turn, led to the loss of between 32 and 38 million jobs during the 1970s, primarily in manufacturing (Bluestone and Harrison 1982). This “structural” unemployment was (and is) much different, and much more stressful, than the periodic layoffs that accompanied the cyclical economic downturns of the “Fordist era.” The salience of job security as a job property is thus much more prominent in the post-Fordist era. We will return to this point in the chapter on the effects of macroeconomic changes.

Deregulation of transportation industries, starting with the airlines in 1978, and followed by deregulation of telecommunications and financial services allowed new and lower-cost firms to enter these markets. This put pressure on older firms which had thrived in the protected markets of the “Fordist” era to become low cost themselves by restructuring their “Fordist” employment practices, lowering pay, eliminating internal labor markets, and even moving to contingent employment contracts where possible, as well as shifting from “defined” (guaranteed) benefits to “defined” contribution plans (Cappelli et al. 1997). These changes have continued to ripple through all economic sectors, further undermining “Fordist” employment relations.

Simultaneously with the “deindustrialization” of the US economy was the continued growth of a “postindustrial” service economy. Indeed, by 1950 the United States was already a service economy: over half of all US workers were employed in service industries. By 1970, that figure had increased to over 60%, compared to only one-third employed in manufacturing (or “transformative”) activities (Singlemann 1978). The “service sector” is composed of a variety of distinct kinds of services, ranging from personal (e.g., private households, food preparation) to

professional (e.g., medical, legal) to financial (e.g., banks), but all share similar underlying features that distinguish them from manufacturing and extractive activities. Services are “actions” performed (provided) rather than the “products” of these actions. The actions are performed by people – service providers – *directly* to the consumer through social interactions. This contrasts with the consumption of manufactured or extracted goods where consumers do not interact with the actual producer – for example, the workers who make your car or the farmers who grow your food. Because of the direct nature of provider–customer relationships, services are inseparable from the people who produce them (Vallas et al. 2009), and the quality of the services is equated with the quality of these personal interactions, or “personal service” (Leidner 1993).

To provide “personal service,” service workers require different skills than the physical skills required in manufacturing and extracting jobs. Service jobs rely on “soft skills,” based on personality, attitudes, and overall demeanor (Vallas et al. 2009). Each consumer–provider encounter is potentially unique; therefore, providers generally have some discretion in how they handle each encounter. These skills, or “competencies,” reside in individual service workers and are thus difficult to program into an organizational or technical system, as was the case in manufacturing (Cappelli et al. 1997). As a result, service workers report significantly higher degrees of decision latitude – greater autonomy and greater skill variety – than workers in manufacturing (Tausig et al. 2005).

The personal nature of service work also has inherent psychological risks for the worker. In her book *The Managed Heart* (Hochschild 1983), Arlie Hochschild argued that much service work requires the provider to *display* an appropriate emotion in their encounters with consumers, say helpfulness or cheerfulness or calmness, despite what their real emotions might be at the time. The result is that service providers are no longer in control of their emotions and become estranged from their feelings and eventually from their sense of self, just as Marx’s workers who no longer own the product of their labor. While the consequences of performing “emotional labor” can range from psychological detachment and loss of empathy to “burnout” (Maslach and Jackson 1981), the personal interactions that generate these emotions can also be experienced as affirming and satisfying (Wharton 1993; Vallas et al. 2009), as in teaching.

Deindustrialization and the shift to a service economy are prominent examples of an overall transformation of the organization of work from the rigid bureaucratic structures of the “Fordist” era to flexible work systems characteristic of “post-Fordism.” Flexible work systems have resulted in increasingly segmented jobs as firms restructure their activities and workforces along the lines of *numerical flexibility and/or functional flexibility* (Smith 1997). *Numerical flexibility* refers to the ability of firms to adjust their labor costs quickly in response to changing markets. These adjustments include the ability to raise or lower wages and to hire and release workers as needed. One strategy that firms use to accomplish this flexibility is to replace permanent employees, generally those who are less skilled, with part-time or contingent employees (Smith 1997; Fenwick 2003; see also Myles 1990). Because *numerical flexibility* is primarily accomplished through labor market adjustments – who

gets hired – rather than organizational practices – how the work is done – we will save a more detailed discussion until the next chapter.

Functional flexibility, in contrast, does involve changing how work is done in an organization. This type of flexibility characterizes the strategy of constantly changing and innovating organizational activities and skill levels of workers as new market opportunities become available. This strategy requires continually upgrading the skill levels of already highly skilled workers (Rubin 1996), and is associated with activities that constitute “high performance organizations,” or HPWOs: job cross-training, self-managing work teams, increasing employee responsibility and opportunities for participation in organizational decisions, and creating flatter organizational hierarchies (Cappelli et al. 1997). Many HPWOs reward workers by adding a performance-based component to their compensation and encourage cross-training and skill upgrading by providing job security and promotion opportunities within an internal labor market (Kalleberg et al. 1996) – continuing this characteristic of the “Fordist” system.

What is different about internal labor markets in the “post-Fordist” era is that they are reserved for workers in the most highly skilled jobs, excluding those in less skilled positions. This reverses an important role of internal labor markets in the “Fordist” era when they extended to most workers in a firm, and indeed became the avenue for unskilled workers to move up into the ranks of the skilled. In “post-Fordism,” even when there is little distinction in skill levels among employees, access to the firm’s internal labor markets is used to distinguish “core” jobs or occupations – those that are most directly involved with producing the firm’s primary product or service – from those that are less essential (Marsden, Cook and Kalleberg 1996). *Functional flexibility* and opportunities for upward mobility characterize the first; *numerical flexibility*, contingent employment, and horizontal or “serial” mobility from firm to firm characterize the second. One example is the distinction in higher education between tenure track and contingent faculty. This example is also indicative of the type of jobs that are among the most highly skilled in the “post-Fordist” era. These are the jobs that are defined by their analytic or “intellective skills” (Zuboff 1988) and involve work on “symbolic” objects, such as computer programming or financial modeling (Block 1990; Vallas et al. 2009). This reflects the rising importance of the “knowledge economy” for generating wealth in a postindustrial economy (Bell 1973; Florida 2002). With the spread of integrated computer networks and robotics, the “knowledge economy” has extended to segments of traditional clerical and manufacturing blue collar workers who must now use intellective skills to operate these systems (Zuboff 1988).

The concept “post-Fordist” suggests that the emerging organization of work is based on principles that are discontinuous from those of “Fordist” work organizations. *Numerical flexibility* means that for many workers the insecurity of contingent employment has replaced the security of internal labor markets, while *functional flexibility* implies that “posthierarchical,” self-managed work teams have replaced the hierarchical system of bureaucratic control. However, others have suggested that many of the characteristics of the new system are continuous with the principles of “Fordism,” representing a sophisticated extension of bureaucratic control. Rather than “post-Fordist,” the new system is “neo-Fordist” (Vallas 1999).

Nowhere is the “post-Fordist” versus “neo-Fordist” debate more intense than in the competing characterizations of self-managing work teams. “Post-Fordists” see these teams as the cornerstone of *functional flexibility*. Instead of obedience to hierarchical rules, members of work teams manage themselves. This is accomplished through “concertive control,” value-based work behavior consensually developed from the team members themselves – within the firm’s general guidelines, or mission statement (Barker 1993). Team members share responsibility for the team’s productivity and make their own decisions about how to accomplish productivity goals. They also take on collective responsibility for solving problems that arise in production – primarily issues of quality control – and for hiring, training, supervising, and disciplining their own members. Proponents of these teams argue that the increased control and responsibility encourages worker innovation and cross-training and allows more rapid responses to production problems or changing consumer tastes. The participative nature of work teams is also viewed as enhancing job satisfaction and worker commitment to the firm. Finally, by devolving authority to work teams, management is able to reduce production costs by “delaying,” eliminating layers of middle management.

However, there is evidence that the nature of concertive control in work teams changes after the initial stage. In his study of work teams in a small manufacturing plant, Barker (1993) found that the original value-based consensus, which created a mutually shared work ethic among team members, became increasingly rationalized and formalized into specific sets of rules collectively enforced by the team. The result was a return to bureaucratic control and routinization of individuals’ job tasks, or “tightening of the iron cage.” There is also evidence that the original commitment and job satisfaction generated by self-managing work teams begin to decline as job demands increase (e.g., doing your job and supervising each others’ work). This is particularly true when work team productivity is not linked to improved extrinsic rewards, such as pay (Kochan et al. 1986).

Despite these limitations, work teams have become increasingly popular among American employers since the 1970s. By the end of the twentieth century it was estimated that as many as 85% of US firms had instituted some form of self-managed work teams, under names like Quality Circles (QC) and Total Quality Management (TQM) (Cappelli et al. 1997). Included are some of the country’s largest and most visible companies: Xerox, General Motors, Coors Brewing Company (Barker 1993). In fact, the larger the size of the firm the more likely they have been to adopt self-managing work teams (Cappelli et al. 1997). Likewise, the greater the formalization of firms (more rules) the more likely they are to adopt work teams, specifically QC, which in turn increases workers’ perceived job control (Fenwick and Tausig 2009). This is particularly ironic given that formalization itself reduces workers’ perceived job control (Fenwick and Tausig 2010), and that one of the rationales for work teams is to increase the *functional flexibility* of jobs and workers by eliminating some of the rigid job descriptions and rules that had developed under “Fordism.” Since organizational size and formalization were two of the organizational characteristics most associated with “Fordist” production, it appears that there is no discontinuity with “Fordist” principles, and that self-managed work teams seem to be more “neo-Fordist” than “post-Fordist.”

Whether the new system is “post” or “neo-Fordist,” there is evidence that organizational restructuring since the 1970s has increased job stress. One study by the Northwestern National Life Insurance Company found that the number of workers reporting to be “highly” or “extremely stressed” increased from 20 to 46% between 1985 and 1992, while the number who reported having had stress-related illnesses increased from 13 to 25%. In turn, the increased stress appears to have been linked to increased *numerical flexibility*, particularly the insecurity and increased workloads associated with organizational downsizing. Those working in firms that had gone through reductions in force were twice as likely to report job burnout and 50% more likely to have experienced stress-related illnesses than those working for firms that had not undergone reductions in force (Northwestern National Life Insurance Company 1992). A second study by Zemke (1991) found that stress among middle managers in firms that had downsized was 50–100% greater than for managers in firms that had not downsized. And the *Wall Street Journal* (1988) reported that worker compensation claims for mental stress increased 500% from 1983 to 1988 (all reported in Cappelli et al. 1997: 195–7).

In contrast, *functional flexibility* appears to be related to lower levels of job stress. Adoption of HPWOs is related to greater job security in large part because of their link to internal labor markets (Fenwick and Tausig 2010). And, as noted above, the adoption of QCs increases workers’ perceived job control. In turn, the Northwestern Life study found that characteristics associated with self-managing work teams like QCs, such as increased worker participation and control over work-related decisions, as well as having supportive co-workers and supervisors reduced stress. The study also found that employees working for firms with family friendly programs, such as flextime, reported 50% less burnout than employees in firms with no such programs (reported in Cappelli et al. 1997). Not surprisingly, the availability of flex-time programs declines with the organizations’ level of formalization (Fenwick and Tausig 2010).

Functional and numerical flexibility are also reflected in the growth of “nonstandard” job-schedules or shifts among workers. Working more than 40 h per week, “overtime,” evenings “swing shifts,” nights, “graveyard shifts,” and periodically changing shift times, “rotating shifts” were common job schedules for many factory workers at the height of “Fordism.” And, they were even more common before New Deal legislation such as the Fair Labor Standards Act helped institutionalize the 40 h work week (Cappelli et al. 1997). The average work week for American workers declined from 64 h at the end of the nineteenth century to 44 h in the 1930s (Block 1990), and remained stable at around 40 h through the end of the 1960s (Schor 1993). Eventually, the 40 h work week came to be equated with working days from Monday through Friday – the “standard” shift. It was this shift that epitomized work during the post-WWII “Fordist” era.

Many postindustrial theorists predicted the trend toward ever shorter work weeks would continue as automation continued to increase productivity (e.g., Bell 1973), so much so that the lack of work would become an increasingly significant social problem as automation replaced human labor in all economic sectors (Rifkin 1995). Some demographic and economic research seemed to bear out this trend, finding

that the average work week declined between 1 and 5 h between the 1950s through the 1980s (Block 1990; Burtless 1990). However, in her 1993 book *The Overworked American*, Juliet Schor found that the American worker worked an average of 163 h more per year in 1987 than they had in 1969, an average of three additional hours per week, or the equivalent of one extra month of work per year (p. 29).

Extensive research on time at work since the publication of Schor's book points to both trends occurring simultaneously: Americans are working *both more and fewer* hours than a generation ago. As a result, the average workweek has remained at about 40 h per week, but this statistic is deceptive. By 2000, less than one in three American workers worked the "standard" weekday shift (Presser 2004). An increasing number were working much longer hours. Jacobs and Gerson (2004) found that 26.5% men and 11.3% of women worked more than 50 hours per week, compared to 21% and 5.2%, respectively, in 1970. Much of this increase can be accounted for by the growth of professional, technical, and managerial occupations which have historically had the longest work weeks. However, even within these occupations the average work week has increased since the 1970s (Coleman and Pencavel 1993). But due to both the decline in the average work week for manufacturing workers and the growth of part time employment over the same period (Coleman and Pencavel 1993), larger percentages of both genders are also working less: 8.6% of men and 19.6% of women worked fewer than 30 h per week in 2000, compared to 4.5 and 15.5% in 1970 (Jacobs and Gerson 2004). In contrast to the "standard shift" of the "Fordist" era, the "post-Fordist" era is characterized by "temporal" diversity in the number of hours worked.

This "temporal" diversity also applies to which hours of the day and which days of the week are worked (i.e., flexible scheduling). This is the issue of shift work. Although there is a general impression that the percentage of workers on non-day shifts has increased since the 1970s, this impression cannot be confirmed due to the lack of comparable measures of shift work over that time (Presser 2004). However, what can be confirmed is that the prevalence of non-day shifts is greatest in some of the fastest growing service industries and occupations (U.S. Bureau of Labor Statistics 2002). Among all full time (35 or more hours per week) workers, 17% worked non-days, while just over 30% worked weekends. Shift work is much more prevalent among part-time employees: 30% worked nonstandard hours and 58% worked weekends. Workers in services industries were both the most likely and least likely to work nonstandard hours, ranging from 35% of workers – both full and part-time – in "personal services," such as food establishments, to 12% of workers in "producer services" such as banking and insurance (Presser 2003). Likewise, 60% of workers in "personal service" establishments but only 23% of those in "producer services" worked weekends. More specifically, just ten occupations account for one-third of all workers on nonstandard shifts, hours, or days, and nine of these were in the service sector (e.g., cashiers, cooks, waiters/waitresses, registered nurses, nurse's aides, orderlies, etc.). The only nonservice occupation in this group was truck driving. And, among workers in these ten occupations, 73% of those on non-day shifts also worked weekends. At the other end, elementary and secondary school teachers were the least likely to work non-days, and secretaries the least likely to work weekends (Presser 2003).

For most workers the increase in temporal diversity reflects the preferences of their employers rather than their own preferences (Presser 2003, 2004; Reynolds 2003; Jacobs and Gerson 2004). Many workers prefer to work longer or shorter or different hours than those they work. In many cases the results of these “mismatches” between actual and preferred hours are highly stressful. Workers who worked long hours or felt overworked reported high levels of stress, sleep problems, expressed anger toward their employer and resentment toward their co-workers, were prone to on-the-job injuries, and reported poor health. And because more time spent at work means less time for other activities, such as family and leisure, they also reported high levels of work–family conflict (Galinsky et al. 2001). This is particularly acute for single parents and dual-career couples. By 2000, dual-career couples jointly averaged almost 82 h working per week, and more than one out of every seven dual-career couples jointly averaged more than 100 h per week (Jacobs and Gerson 2004).

But working too few hours can also be stressful. Because of the decline in hours worked, the real (inflation-adjusted) weekly earnings of production and nonsupervisory workers was 5% or \$30 less in 2007 than in 1973 (Mishel et al. 2009). Meanwhile, the percentage of part-time jobs – fewer than 35 h per week – grew by 69%, outpacing overall job growth (which increased 54%). Thus, part-time employment has become increasingly involuntary, confined to those who actively sought full-time employment, but could not find it (Vallas et al. 2009). Both trends have led to increasing financial stress and the pressure for workers to take on second jobs and for families to have two or more earners, which in turn increases work–family conflicts (Jacobs and Gerson 2004). Involuntary part-time employment has also been linked to lower self-esteem (Prause and Dooley 1997) and increased alcohol use (Dooley and Prause 1998).

When a person works can be just as stressful as *how long* they work. A substantial body of research has found that working nonstandard hours or days has detrimental effects on workers’ physical and mental health as well as their family and social relationships. The underlying conceptual argument in this research is that working nonstandard job shifts poses physiological, psychological, and social adjustment problems due to disruptions in normal behavioral patterns (Fenwick and Tausig 2001, 2004). Epidemiological research has found that shift work, especially night and rotating shifts, increases the risk of various physical and mental health problems because of disruptions of human circadian rhythms. As a result, many of these workers suffer from sleeping and eating disorders (Akerstedt 1990; Bohle and Tilley 1990; Costa et al. 1989; Parkes 1999). But there are more dire health consequences as well. Studies of female nurses in the United States (Kawachi et al. 1995) and male paper mill workers in Sweden (Knutson et al. 1986) produced nearly identical results regarding the effects of shift work on coronary heart disease. Both found that those who had ever worked night or rotating shifts were 40% more likely to have suffered incidents of coronary heart disease than those who had never worked these shifts. And, both studies found that those odds increased to more than 200% if the workers had been on these shifts for 6 or more years. Shift work in general has also been associated with other illnesses ranging from diabetes and hypertension, as well as smoking and alcohol use, and obesity (De Backer et al. 1984; Kawachi et al.

1995; Knuttson et al. 1986; Karlsson et al. 2001), to headaches, musculoskeletal problems, job-related injuries (Parkes 1999), and to psychological problems such as neurotic disorders (Costa et al. 1989), lower psychological well-being (Bohle and Tilley 1990), and perceived stress (Coffey et al. 1988).

Shift work can also disrupt a worker's family and social relations. Since most social activities are scheduled for evenings and weekends working these times means one is unavailable for these activities (U.S. Congress 1991). Family activities and relationships suffer most because of this. Working nonstandard shifts has been found to reduce marital happiness and satisfaction while increasing work-family conflict (Staines and Pleck 1983), couples' sexual problems, and parents' problems with their children, culminating in increased rates of divorce (White and Keith 1990). As with working long hours, working nonstandard shifts is viewed as presenting more acute problems for dual-career couples and single parents (Staines and Pleck 1983). And, while men are slightly more likely than women to work nonstandard schedules, shift work is seen as more disruptive for women because of higher levels of family obligations, especially child care, leading to higher levels of perceived role conflict (Staines and Pleck 1983) and job absenteeism (Vandenheuvell and Wooden 1995). However, there is no consensus regarding these results. White and Keith (1990) found no gender difference in shift work's effects on marital or family problems.

As with the length of the workweek, work schedules mostly reflect the preferences of employers or the nature of the jobs more than the preferences of employees. However, a sizeable minority of workers cite personal and family reasons for working nonstandard shifts; and, for mothers of preschool children, child care is the most frequently cited reason (Presser 2003). There is also evidence that having some choice or control over one's job schedule is beneficial to workers. Schedule control has been found to improve workers' mental health, reducing job burnout, overall distress, and self-reported minor health problems while increasing subjective health status and life satisfaction. Likewise, it increased work-family balance. Moreover, schedule control benefited all workers, not only workers on nonstandard shifts, but also those on the standard day shift; and it benefited men as much as women and traditional single-breadwinner workers as much as dual-career and single-parent workers. Overall, the effects of schedule control on mental health and family balance were stronger and more general than the actual clock times worked (Fenwick and Tausig 2001, 2004; Tausig and Fenwick 2001).

Many employers have responded to the needs of their employees for greater control over their work schedules by instituting "family-friendly" programs such as offering "flextime" and "telecommuting." Flextime allows employees to vary their work schedules periodically by starting and ending their workdays early or late by an hour or two, or by compressing weekly work hours into fewer days, such as working 10 h a day for four days. Telecommuting is a new policy for the old practice of working at home, updated to take advantage of computer networks and other advances in communications technology. These flexible practices have gained popularity since the 1970s with the increase in female labor force participation, especially by mothers of young children. Many firms initiated these practices as a way

of attracting and keeping talented female employees, as well as increasing overall morale, job satisfaction, and productivity (Fenwick 2009).

By 2001, 59% of employers offered flextime to some or all of their employees, an increase of 21% since the early 1990s (Fenwick 2009). Comparable information on telecommuting is unavailable. Flextime is very popular among workers; 80% of working parents rated flextime as a desirable job characteristic. However, only about 29% made use of it (U.S. Department of Labor 1972). Reasons for the underuse of flextime include informal employer and co-worker pressures and fears that it will negatively impact career, for example, the “mommy track.” Telecommuting also has drawbacks; it can isolate the worker, reducing social networks and mentoring relationships, while increasing family demands, particularly when younger children are present, and also increasing work demands by making the worker available to the employer 24/7 (Fenwick 2009).

Perhaps, the biggest drawback with these programs currently is that they are not always offered to those who need them the most. In general, higher educated professionals and managers have the greatest access, while lower educated, blue collar, women, African-Americans, and workers in low income jobs have less access. Not surprisingly, service sector firms are more likely to offer flexible scheduling programs while firms in manufacturing and extractive sectors are much less likely to do so. There are also significant differences in access to these programs within the service sector: firms in financial, professional, and business services are more likely to offer flexible schedules, while workers in personal and private household services also have greater access because of the nature of these services. Conversely, because of the nature of medical, hospital, educational, and government services, there is less access (Golden 2008).

Informal Work Structures

This chapter has so far focused primarily on the formal structures of work, although it has also recognized that workers are not passive recipients of these formal structures, and often resist or adapt formal structures to their own needs and goals. In doing so, workers have used a variety of strategies ranging from unionization and collective bargaining to individual tactics such as absenteeism, quitting, and even sabotage. However, there are many strategies in between that make use of the network of informal group relations that develops among workers on the shop floor or in the office.

Studies of work groups have been conducted primarily among blue collar and less skilled white collar and service workers. A particular focus of these studies is the availability and nature of *social support* in the workplace. As discussed in the previous chapter, *social support* is an important job characteristic that has consistently been found to reduce job stress. While there has been a vast amount of research on the occupational aspects of *social support*, there has been little on how support is affected by organizational structures.

Historically, the strength of social support among workers was related both to the relatively closed nature of occupational communities and the collective nature of the work, such as in isolated mining communities and factory towns, and the segregation of these communities in urban neighborhoods and within the firm – for example, workers on the factory floor and managers in offices. Thus, Edwards (1979) argued that the use of technical control during the early “Fordist” period increased the solidarity of production workers by homogenizing their skills and making their jobs interdependent by linking them together through technology. It was this solidarity – and support – that the development of bureaucratic control was intended to dissipate.

Bureaucratic control individualized jobs through the elaboration of detailed job descriptions and job ladders. And, because bureaucratic control was more advanced in white collar and service jobs and organizations, we would expect those jobs to be more individualized and thus the nature of social support to be different than in manufacturing. This could explain the differences between the outcomes found in the literature on informal work groups among blue collar and professional and managerial employees. Because of the more collective nature of work in manufacturing organizations, the structure of social support in the form of informal work groups operates to protect the group by contravening managerial attempts to increase workloads. But the individualized nature of work in organizations employing large numbers of professionals and managers produces shared meanings and binding obligations that pressure employees to take on greater workloads than required by organizational rules in the latter. This is consistent with evidence that, on the one hand professional and managerial workers are more likely to work in highly formalized firms, and on the other hand, formalization reduces the level of perceived social support among employees (Fenwick and Tausig 2010).

Summary

Organizations are important determinants of job stress because their rules define a worker’s job tasks and because they provide (or not) the resources for workers to accomplish these tasks. Further, they require that their employees give up some of their personal autonomy and work together to accomplish collective goals. In return, organizations reward their employees, materially and symbolically (status, esteem). Organizations vary in how they define and organize an individual’s work depending on their goals (rational system), but all organizations require their employees to provide at least a minimum amount of labor beyond the needs of the individual employee (control). The methods organizations use to do this have changed historically with changing markets and technologies and with changes in the size and the underlying ideologies legitimating the organization’s authority over their employees. The charismatic authority of the entrepreneur in small nineteenth century firms gave way to the “rational” but hierarchical authority of large twentieth century bureaucratic, or the “Fordist,” corporation, with its highly formalized, complex, and

rigid structure of jobs. As a result, job stress has been largely a result of the rigidity of the worker's job tasks, or demands, and the lack of personal (Person–Environment Fit) or organizational (Demand–Control) resources to accomplish the tasks. Since greater formalization (more job rules) limits workers' discretion about how to do their job, it should be no surprise that increased formalization reduces workers' job control, the level of autonomy, and the substantive complexity of skills (Fenwick and Tausig 2010).

There is evidence though that the twentieth century organization is changing into a neo- or post-“Fordist” organization with less hierarchy and formalization of job rules. Organizations now have greater “functional flexibility” in how – and when – workers get the job done; but also organizations have complete “numerical flexibility” as to when to employ and when not to employ workers. These changes have implications for both the causes of job stress and the organizational contexts in which they occur. As discussed above, the increasing diversity of work times and schedules has put greater stress on balancing the demands of the job and the demands of the family. Thus, the concept of job control is expanding to include not only how to do the job but also when to do it. Likewise, the nature of social support and job security are changing with changing impacts on job stress. Under “Fordism,” high levels of social support on the factory floor contravened management attempts to gain greater control over the production process and increase the workload. Under neo- or post-“Fordism,” the evolution of self-managing work teams may produce a structure of social support very different, one that as suggested above supports a culture of “overtime” and high job demands. Job insecurity, the fear of losing one's job, has always been stressful, but the nature of insecurity is changing. During the “Fordist” era, it was linked to layoffs that accompanied cyclical economic downturns (Tausig and Fenwick 1999). However, layoffs were generally temporary and social safety nets provided some income security during a layoff. But in the new era, job insecurity is viewed in the context of increased *numerical flexibility* with the growing use of nonpermanent employees, with no guarantees of being called back to the job. Work is increasingly “precarious,” and its “precarity” has been increased by the erosion of the social safety net. As a result, there is evidence of a significant increase in job insecurity among American workers since the 1970s (Fullerton and Wallace 2007; Kalleberg 2009).

In addition, organizations impact job stress because they mediate the effects of more macro structures and processes on workers. Sometimes, they pass on these effects to their workers, as when they reduce hours or lay off workers when faced with declining demands for their product or service, or when they increase hours and pay when demand increases. Sometimes, they will protect or buffer their employees, especially their “core” employees on whose service they depend for their survival.

But organizations are not autonomous actors. They are “open systems” that are affected by external forces, or “environments.” They are affected by the actions of their consumers, those who supply their resources, the actions of their competitors, as well as the general economy, social, political, and cultural conditions in which they operate. In particular, if we think of how organizations structure work to

be more or less stressful, we need to consider three external environmental forces: (1) the labor markets from which they hire their employees; (2) the structure and dynamics of the economic markets that both provide them with necessary resources to operate, such as financial markets, and consume what they produce; and (3) the general “institutional” context which legitimates the appropriate form of organizational structure and methods of operation. It is to these environmental forces that affect organizations and ultimately job stress that we now turn, beginning with the structure of labor markets from which organizations hire their employees.

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Chapter 4

Occupational Determinants of Job Stress: Socioeconomic Status and Segmented Labor Markets

Overview

While organizations are the most proximate determinants of job structures, job structures are not completely determined by them. Job structures are also broadly shaped by customs and laws, such as antidiscrimination and worker safety laws. But the most significant “external” determinant of job structures is the relative availability of individuals with the appropriate “capital,” the knowledge, training, skills, and experience, to fill particular job openings. Jobs differ in the kinds of tasks that need to be performed and individuals differ in both the type and amount of capital that would enable them to perform these tasks. The differences roughly correspond to differences among occupations. Occupations are aggregations of jobs that involve similar tasks or activities regardless of employer, and requiring similar skills and training (Kalleberg and Berg 1987: 78, 84; Vallas et al. 2009: 37). Organizations thus structure jobs to allow them to find suitably trained and skilled workers in the labor market. Hence, part of the explanation for the structure of jobs in organizations is related to the nature of occupations and to the labor market that links workers to those jobs.

There is a substantial literature on occupational differences in the psychological functioning of workers, including differences in job stress. Because of occupational differences in tasks and worker capital, occupations also differ in the degree to which they produce the kinds of job “stressors” that were discussed in Chap. 2. For one, occupations vary in levels of physical and psychosocial demands that can lead to worker “burnout,” distress, anxiety, depression, and even stress-related physical illnesses, such as cardiovascular disease (Karasek 1979; Karasek and Theorell 1990). These effects are especially likely in occupations where workers also lack the personal and social resources to manage their high level of demands, resources such as autonomy, skill complexity, and social support (Bakker and Demerouti 2007; Karasek and Theorell 1990). Occupations also vary in their degrees of extrinsic benefits, opportunities for advancement and job security, the lack of which has consistently been shown to be stressful (Catalano and Dooley 1983; Tausig and Fenwick 1999).

Moreover, occupational differences in stressors are systematically related to the socioeconomic status of the occupation. This relationship reflects the more general relationship between socioeconomic status and overall health (Pearlin 1989; Link and Phelan 1995), and provides a specific pathway by which disparities in socioeconomic status produce health disparities. To the extent that disparities in socioeconomic status reflect differential access to social resources, those in higher status positions should be better able to avoid exposure to risks, such as job stress, and have more resources to manage the risks they do encounter. In fact, higher status occupations, such as professional and managerial occupations, typically have high levels of psychosocial demands (risks), but they also have high levels of resources to manage the demands, such as “decision latitude,” autonomy, and skill complexity (Karasek and Theörell 1990). These are also the occupations that are most likely to produce employees to fill authority positions in organizations, thus providing another potential resource to manage demands (Kohn et al. 1990; Link et al. 1993). And, these are the occupations that provide the most tangible rewards in the form extrinsic benefits, opportunities for advancement and job security. As a result, workers in these occupations generally report fewer stress-related outcomes than workers in lower status occupations, such as clerical, sales, and most noncraft blue collar occupations (Karasek and Theörell 1990). Importantly, these occupational differences in stress have less to do with differences in levels of job demands (risks) than with differences in amounts of resources available to manage demands (e.g., decision latitude), as well as differences in rewards, opportunities, and job security (Karasek and Theörell 1990).

But what accounts for these differences? Why are higher status occupations structured in ways that provide workers more resources to manage stress than do lower status occupations? And, more generally, why do occupations vary in their socioeconomic status?

One answer is that the socioeconomic status of an occupation is related to its centrality for the goals and survival of the organization. The more central or essential the occupation, the more the skills required, which in turn requires longer periods of training. As argued in Davis and Moore’s functional theory of stratification (Davis and Moore 1945), in return for undergoing long training and acquiring more skills, these jobs accord their incumbents greater resources, such as authority or autonomy, and more rewards, such as income and occupational status, for example, physicians in hospitals. This argument is also consistent with the “rational systems” perspective on organizational structuring discussed in the previous chapter.

A second answer is that the socioeconomic status, resources, and rewards of occupations result from the occupation’s relative economic, political, and social power. For most workers, this power is ultimately derived from their occupation’s ability to control the market for its labor, products, or services. Thus, many professional and craft occupations acquire market power by restricting entry into the occupation, by determining training and skill requirements for membership in the occupation (e.g., physicians), by requiring that their services be used in certain situations (e.g., lawyers or accountants), or by withholding their collective labor (craft unions). This is consistent with Weber’s concept of “classes” based on differing

“market situations” producing disparities in “life chances,” such as opportunities for good health and psychological well-being (Weber 1947: 180–186). Socioeconomic status and occupational power can also be derived from the occupation’s (or at least its members’) control over the labor of others, for example, managers, and ownership over capital property, for example, self-employed, as argued from Marx’s class analysis and especially from neo-Marxist analyses of class categories (Wright and Perrone 1977). Both views of occupational classes are in line with the organizational “control” perspective discussed in Chap. 3. The Weberian model, in particular, offers insights into why some occupations – those with more power to control their labor markets – have been able to resist deskilling and the more perverse effects of bureaucratic formalization.

Occupational power can create powerful constraints on the operations of labor markets, the arenas where workers exchange their labor power with employers for rewards, such as earnings and status (Kalleberg and Berg 1987: 48). And differences in occupational power mean that the level of market constraints will also vary, leading to the creation of submarkets or market segments which differ in how labor exchanges between employers and employees are carried out. Segmentation also implies that the processes of matching workers to jobs and how much workers are rewarded differ by segment (Kalleberg and Berg 1987: 51). Thus, the key to understanding occupational power is to understand the operations of occupational labor markets. Labor markets are the venue where the needs of organizations and attributes of workers are matched, and thus are the central mechanism for allocating workers into jobs, and allocating job resources and rewards to workers. Labor markets then affect the job conditions experienced by workers and, hence, the stressfulness of those jobs.

Labor markets are also segmented along other fundamental lines of social inequality: race, ethnicity, gender, age, immigration status, and increasingly by standard versus contingent employment contracts. Often, these lines of segmentation coincide with occupational segmentation, further preventing mobility into higher status occupations and creating occupational ghettos for less privileged groups, such as the gendered “pink ghetto” of clerical work overwhelmingly staffed by female workers. Segmentation based on racial, ethnic, gender, and other group differences can also intersect occupational segmentation, creating intra-occupational labor markets. This also hinders the mobility of less privileged groups, in this case within occupations, such as the “glass ceiling” faced by many female and minority managers.

Labor markets, like organizations, also pass on the effects of macro structures and processes to individual workers. Indeed, labor markets are often viewed as the key link between macro level inequalities and inequalities among individual workers. As Kalleberg and Sørensen (1979: 351) note, “The analysis of labor markets . . . permits an understanding of the way macro forces associated with the economy of a society and elements of social structure impinge on the micro relations between employers and workers in determining various forms of inequality.” For example, expanding markets for particular goods or services increase the demand and price for labor for workers producing those goods or providing those services.

The increasing demand for labor creates what economists call a “tight labor market” in which the number of job openings is greater than the number of individuals seeking employment, and thus shifts the balance of market power from the demand side to the suppliers – employees. And, because the price of labor, extrinsic rewards, psychological job resources, and well-being are highly related (Kalleberg and Sørensen 1979; Karasek and Theörell 1990), it is by no means a stretch to argue that this shift in power can also be realized in better “intrinsic” working conditions and less stressful work. Conversely, contracting product and financial markets lead to lower labor demand and cost as labor markets become “loose” – more individuals seeking employment than jobs available – which shifts market power to the side of the employer, including the power to restructure job conditions in ways that create more stressful work (Fenwick and Tausig 1994). In this way, labor markets reflect the pendulum of employee–employer relations as determined by shifts in their respective labor market power. Indeed, measures of labor markets, such as unemployment rates, are the most widely used indicators of overall changes in macro-economic markets. We will expand our discussion of the dynamics of labor and other markets in Chap. 5.

This chapter surveys in depth the research literature on the occupational determinants of job stressors, the job structures, and characteristics that have been found to increase or reduce stress-related health outcomes. In doing so, we show how occupational disparities in stress are ordered along the lines of the socioeconomic status of occupations. We then evaluate how both occupational status and job stress result from inequalities in job resources and rewards produced by labor market segmentation, both between and within occupations. This includes an examination of the role of both gender and race/ethnic inequality and the way in which health risk is unequally distributed based on occupational and labor market processes. Then, as in Chapter 3, we look at how the emerging flexibility of post- or neo-Fordism (new forms of work) has changed the contours of occupational status, labor market power, and the consequences for job stress. This includes a discussion of the effects of the growth of forms of contingent employment.

Socioeconomic Status, Occupations, and Stress

Two general lines of research bear on the relationship between socioeconomic status and the occupational determinants of stress: (1) the vast literature documenting the association between socioeconomic status or class position and health outcomes, and (2) the equally vast literature documenting the occupationally specific causes of stress. While each of these literatures has made considerable contributions to our knowledge about the economic and work related causes of stress, they have developed separately, and each has largely failed to incorporate the insights of the other. The SES-health literature starts with “distal” socioeconomic or class determinants of health disparities but has often failed to elaborate the specific pathways by which socioeconomic or class inequality leads to health disparities. In contrast, the occupational

stress literature has been focused on the most “proximate” causes of job stress in specific work settings, but in general has not been concerned with how occupational variations in “proximate” job stressors are related to overall socioeconomic inequality.

Sociology has a long history of examining socioeconomic status and class disparities in health, and especially mental health. Almost all of this research has documented inverse associations between status or class and rates of physical and mental illnesses. However, following Durkheim rather than Marx or Weber, most of the early research also focused on ecological explanations for these associations rather than looking at disparities in economic resources and power as primary, or even contributing, causes. For example, in their 1939 study of psychiatric disorders in Chicago, Faris and Dunham found that rates of psychiatric hospital admissions were highest in the central city slum areas and regularly declined as one moved out toward more affluent suburbs. They explained this ecological association in terms of the “social disorganization” of inner city slums. This, in turn, led to personal disorganization where “persons are unable to achieve a satisfactorily conventional organization of their world,” resulting in “a confused, frustrated and chaotic personality,” making “communication and understanding impossible.” In the end, this leads to “unintelligible behavior which becomes recognized as mental disorder” (Faris and Dunham 1939: 46; see also Dohrenwend and Dohrenwend 1974: 440–441).

Subsequent studies continued to emphasize ecological explanations – for example, “social disintegration,” “poverty complex,” or “role discontinuity” (see the review by Dohrenwend and Dohrenwend 1974). However, the most influential of these later studies also included occupation and education along with “ecological place of residence” to create a scaled index of five “class statuses” or “social positions” (one being the highest; five the lowest). August Hollingshead and Frederick Redlich’s 1958 study of class differences in mental health in New Haven, *Social Class and Mental Health*, discovered differences among these five classes not only in rates of mental disorders but also in the types of disorders and the quality of treatment provided. For all three of these mental health outcomes prevalence of disorders, types of disorders, and quality of treatment the relationships with class were inverse: the lower the class the higher the rates of *treated* mental disorders, the more severe the diagnosed disorder (e.g., schizophrenia), and the lower the quality of treatment (e.g., state hospital rather than private psychiatrist). Although Hollingshead and Redlich (1958) speculated about the reasons for these relationships, including factors such as differences in access to quality treatment, differences in family structures, cultures, and stigmatization of mental disorders, the speculation did not extend to how class differences in the content and structure of occupations affected these mental health differences.

While this line of research firmly established the relationship between socioeconomic status or class and mental health, it has not been universally accepted that SES disparities *cause* disparities in health. Rather, two plausible alternative relationships have been postulated. In the first, the causal direction between SES and health is reversed: disparities in individual health lead to disparities in SES. Those with good health are “selected” for higher status attainment, while individuals with poor health, including depression and schizophrenia, are selected for, or drift into,

lower status positions (Dohrenwend et al. 1992; Wells et al. 1989; Broadhead et al. 1990). In the second, the SES health relationship is spurious; SES becomes a proxy for more proximate, and primarily individual, risk factors which are seen as the real causes of disease (Rothman 1986). These factors include smoking, drinking, diet, and the lack of physical activities, or with respect to mental health, factors such as childhood traumas, abuse, or growing up with a single parent, or more generally “stressful life events” (see Link et al. 1993; Link and Phelan 1995). But as a result of their attempts to articulate the causal pathways between social status/class and health, sociologists and epidemiologists sometimes moved away from the earlier focus on the social structural causes of health disparities to focus ever more on the proximate, individual risk factors (Link and Phelan 1995). This parallels the shift in the literature on the economic causes of illness from a more macroeconomic approach that examined the relationships between aggregate economic indicators, such as unemployment rates, and aggregate rates of mental illness or institutionalization (e.g., Brenner 1973, 1984) to a focus on the relationship between personal unemployment experiences and individual health and well-being (e.g., Cobb and Kasl 1977; Jahoda 1982). We will discuss these issues in more detail in Chapter 5.

The emphasis on proximate and individual factors has also been present in much of the occupational stress literature. The proximate emphasis is on the specific aspects of jobs that are associated with stress and thus can be redesigned to reduce stress. The individual emphasis is on personality characteristics or strategies that allow workers to adjust or cope with work stress. As Dean Baker noted in his 1985 review of the occupational stress literature, because the literature was dominated by a clinical perspective, its focus was on individual “perceptions and susceptibility” to workplace stressors, and on interventions directed toward individual coping strategies, that is, “managing stress” (Baker 1985: 367; see also: Gardell 1982; Warshaw 1979; Quick and Quick 1984; Selye 1983).

But, what are the job conditions to which workers are “susceptible” for developing stress, and thus could be redesigned to reduce stress? Based on extensive empirical research, a large number of job conditions have been identified as stressors. These include the physical work environment, including noise, extreme temperatures, exposure to hazardous chemicals or physical danger, physical exertion and fatigue, and ergonomic factors; job content and structure, such as workload, monotonous or repetitive tasks, lack of autonomy, deadlines, machine pacing, forced overtime, and shiftwork; and work roles, including role ambiguity, role conflict, and work–family conflict. In addition, job insecurity and lack of extrinsic benefits and rewards, such as promotion opportunities have been identified in this literature as stressors (Baker 1985). However, Baker concluded that most of this research lacked conceptual models that could account for the stressful effects of these job characteristics. In an earlier review of this literature, Katz and Kahn (1978: 591) commented that most occupational stress researchers have noted inverse relationships between these job stressors and the occupational status of the job and the educational level of the worker, or as they put it: “Jobs lower in status, rewards, and tending toward simple and repetitive activities are associated with lesser satisfaction at work, more symptoms of depression, and lesser satisfaction with life.” But they go on to state that: “The active causal factors that account for such differences are not yet clear.”

An early exception to the lack of conceptualization was Kornhauser's (1965) study of automobile workers in Detroit. As discussed in Chapters 1 and 2, Kornhauser's seminal finding was that the mental health of autoworkers was related to the skill level of their jobs: highly skilled autoworkers had better mental health than those working in routine, repetitious jobs. According to Kornhauser, this relationship was explained by differences in the opportunities high versus low skilled jobs provide for workers to use their abilities, thus creating differences in feelings of accomplishment, personal growth, and self respect. He also found that these job characteristics were far more significant in explaining mental health differences than nonwork and prework characteristics such as the worker's level of education. However, the relationship between skill level and mental health was mediated by the worker's level of job satisfaction. Workers in high skilled jobs were more satisfied than those in the least skilled jobs; however, highly satisfied workers in low skilled jobs differed little in their levels of mental health from workers in high skilled jobs, while dissatisfied workers in high skill jobs had poorer mental health little different from the level of unskilled workers in general. Here, the effects of objective job characteristics on mental health were conditioned by workers' subjective orientation to their jobs, thus modifying the effects of the objective job characteristics.

Kornhauser's results concerning the joint effects of objective job conditions and workers' subjective orientations anticipated not only the development of the Person–Environment fit (P–E) job stress model but also research into the determinants of job satisfaction and Kohn (1969) and Kohn and Schooler's (1983) work on the job–personality relationship. The P–E fit model argues that stress results from *incongruity* between the objective work environment, on the one hand, and the worker's subjective perceptions and assessments of his/her work environment and, especially as related to how it fulfills the individual's needs and goals (Caplan et al. 1975; French et al. 1982; Van Harrison 1978). Conversely, the literature on job satisfaction has suggested that high levels of job satisfaction result from the *congruity* between the objective work environment and the worker's subjective motivations for work, goals, and values (Kalleberg 1977). It could be argued that job satisfaction is a dimension of overall psychological well-being, and the opposite of stress.

As the job satisfaction literature developed during the 1970s, it distinguished between two fundamental types of motivations: workers motivated by “extrinsic” goals or rewards that were realized off the job, such as pay, fringe benefits, and job security, and workers motivated by the “intrinsic” qualities of the job itself, such as autonomous, creative, and challenging work (Gruenberg 1980). As with the P–E fit model, the job satisfaction literature suggested that two workers employed in jobs with identical characteristics could have very different levels of satisfaction – or, conversely, stress – if their work motivations and values were different. An intrinsically motivated worker would be more satisfied in a low-paying, but challenging job, such as a day care teacher, and less satisfied (or more stressed) in a better paying, but routine job, such as on an assembly line. An extrinsically motivated worker, on the other hand, would be more satisfied (and less stressed) in an assembly line job than in day care teaching.

These different work motivations were not, however, produced by idiosyncratic subjective outlooks. Rather, they were systematically related to different types of

occupations and the workers in these different occupations. The most seminal finding of the job satisfaction literature was that, like mental health, satisfaction was positively related to the status of the worker's occupation: professionals and managers were significantly more satisfied with their jobs than all other workers, while unskilled blue collar service and farm workers were the least satisfied (Staines and Quinn 1979; Mortimer and Lorence 1979; Hamilton and Wright 1986). Moreover, professional and managerial workers were also the most "intrinsically" oriented, in that they were the most likely to express a desire for autonomous, creative, and challenging work. In contrast, blue collar workers expressed greater desire for "extrinsic" rewards, such as increased pay and job security, than for intrinsic rewards (Gruenberg 1980).

But, what are the sources of these class differences in workers' job orientations and motivations? A wide range of otherwise disparate theories have argued that these differences arise in the nature of the jobs themselves. In particular, these theories focused on whether or not jobs provided opportunities for workers' control over different aspects of their jobs. Where opportunities for control were absent, workers focused on their jobs' extrinsic characteristics. As discussed in the previous chapter, labor process theorists such as Braverman (1974) and Burawoy (1979) argued that jobs lacking in opportunities for worker control resulted from the separation of the execution of work from its conception or planning. Jobs involving work execution, such as most manufacturing and clerical jobs, do not need intrinsic elements, such as autonomy and creativity. But these are essential elements of jobs responsible for the conceptualization and planning of work tasks, such as most professional and managerial jobs. Thus, workers in these jobs were more oriented to these intrinsic qualities.

Other researchers, following the work of Maslow (1968) on the hierarchy of human needs, suggested that extrinsic and intrinsic job rewards met different types of needs: extrinsic rewards were more relevant to meeting "lower order" "physiological" and "safety" needs, while intrinsic rewards were relevant for attaining higher order "esteem" and "self-actualization" needs. In his "two factor model" Frederick Herzberg (1966) in fact suggested that job satisfaction and dissatisfaction were not opposite ends of the same continuum, but two different orientations, determined by different job characteristics. Extrinsic job characteristics and rewards, or what Herzberg called "hygienes," would not generate job satisfaction, but their absence would lead to job *dissatisfaction*. He included as "hygienes" job characteristics such as having to work in unpleasant physical and social settings, low wages, close supervision, and hazardous conditions. In contrast, job *satisfaction* was the result of a different set of job characteristics, which were intrinsic, or what Herzberg called "motivators": challenges, opportunity for developing new knowledge and skills, autonomy, achievement, advancement, personal recognition, and responsibility (Herzberg 1966). Despite different starting points, these theoretical traditions both end up pointing to the characteristics of the jobs themselves as the sources of worker satisfaction and dissatisfaction. Additionally, these theories are in general agreement that while all workers in all occupations desire both extrinsic and intrinsic rewards, most blue collar, clerical, and service jobs provide few realistic opportunities for intrinsic rewards (Gruenberg 1980). Thus, workers in these jobs focus on and settle for those (extrinsic) rewards that are realistic.

While on-the-job experiences reinforce workers' orientations and expectations about their jobs, other theorists also emphasize nonwork factors, such as family, community, religion, and schooling as sources of job orientations and expectations. In the "life cycle" literature on socialization, the attitudes workers bring to their jobs originate in prior socialization experience, beginning in childhood. The consensus reached in this research is that class differences in childhood socialization have significant effects on workers' job related values and attitudes. In particular, socialization of middle class children emphasizes self-reliance, independence, critical thinking, and achievement, while socialization of working class children emphasizes obedience to authority and conformity to external rules (Kohn 1969). These differences are the results of different family structures and parenting strategies (more patriarchal and punishment oriented in working class families), which, in turn, reflect the different occupational experiences of working class and middle class parents, and especially their experience with authority: "order taking" for working class parents versus "order giving" for middle class parents (Kohn 1969; Collins 1975). Moreover, class differences in socialization are continued in the different educational experiences of students attending predominantly working class (greater emphasis on rote learning and discipline) and predominantly middle class (greater emphasis on critical thinking and problem-solving) schools (Kohn 1969; Bowles and Gintis 1976; Della Fave 1980). Additionally, the more close-knit nature of working class families and friendship networks has been found to produce a more "local" orientation which further reduces occupational aspirations and opportunities for working class children compared to the broader networks and more "cosmopolitan" outlooks of middle class children that encourage aspirations and mobility (Collins 1975). Ultimately, class differences in socialization are realized as differences in both the personality traits and occupational choices, which help maintain a general pattern of SES inheritance from one generation to the next (Kohn 1969). Because socialization affects occupational choice, it also has a distal effect on job conditions.

Perhaps the most ambitious and influential approach to disentangling the relationships among social class, work, and "psychological functioning" has been that initiated by Melvin Kohn (1969) and developed by Kohn and Schooler and their associates (Kohn and Schooler 1973, 1978, 1983). The preeminent conclusion of this research was that the *structural* conditions of work accounted for, or mediated, the relationship between class and multiple dimensions of "personality" (Spencer 1988). In particular, the "substantive complexity" of work – requiring thought and independent judgment on the part of the worker – had significant positive effects on all three fundamental personality dimensions: self-directedness, intellectual flexibility, and a sense of well-being (vs. distress) (Kohn 1976; Kohn and Schooler 1978). Moreover, the effects of a job's substantive complexity on psychological functioning were independent of respondents' own needs, values, and subjective orientations regarding their jobs. Substantive complexity had the same positive effects on the psychological functioning of workers with extrinsic job orientations as for workers with intrinsic orientations (Kohn 1976; Kohn and Schooler 1973; Kohn 1994). The effects of substantive complexity were also independent of the

selection process that drew respondents into particular occupations (Kohn and Schooler 1978). In longitudinal panel analyses, Kohn and Schooler did find reciprocal effects between work structures and psychological function, but the overall evidence supported the preeminence of work structures: their effects, particularly those of substantive complexity, on psychological functioning were stronger than the effects of psychological functioning on work structures. Moreover, substantive complexity had immediate, or contemporaneous, effects on psychological functioning (time 1 work structures affected, time 1 psychological functioning), while the effects of psychological functioning were noncontemporaneous, but rather lagged from the first interview to the second, 10 years later (Kohn 1994).

The research conducted by Kohn, Schooler and their colleagues has provided a solid framework for further research into the effects of job structures on psychological functioning. However, the dimensions of psychological functioning that were central to their research were enduring personality traits (e.g., “self-directedness” or “intellectual flexibility”). Less enduring psychological attributes, such as anxiety or depression, were more tangential (Spencer 1988). These were, however, made central in the research by Link et al. (1993). Starting from Kohn and Schooler framework, they returned to Hollingshead and Redlich’s (1958) focus on the relationship between class and mental illness. They developed a model that linked SES, occupational structure, personality factors, and depression/distress in a causal sequence and tested it with data drawn from samples of psychiatric patients and community residents in the Washington Heights section of New York City (1993: 1351).

As with Kohn and Schooler, they focused on the structure of job control as it is characteristic of higher SES occupations and should provide protection against depression/distress by increasing one’s general sense of mastery and personal control over life’s challenges (1993: 1354; Mirowsky and Ross 1989). But rather than looking at substantive complexity, which measures control over one’s own job, they examined control or authority over the work of others using the “direction, control and planning” (DCP) dimension of the U.S. Labor Department’s Dictionary of Occupational Titles (DOT) which rates over twelve thousand occupations on 44 dimensions as determined by on-site ratings by Labor Department analysts (1972). Link, Lennon, and Dohrenwend justified using DCP by arguing that workers having control over the work of others are likely to have control over their own work as well as increasing confidence in one’s own abilities as a result of being in an authority role (pp. 1356–1357). Results from their analysis strongly supported the assumptions of their model: occupational DCP mediated the effect of SES on depressive symptoms, which, in turn, was mediated by personality attributes measuring respondents’ sense of control and mastery over their lives. As with Kohn and Schooler, Link, Lennon, and Dohrenwend’s results demonstrated the central importance of job structures in explaining the relationship between SES/class and various dimensions of psychological well-being.

While the research frameworks provided by the job satisfaction and work–personality literatures have served as important road maps to better understanding the effects of work on mental health outcomes, arguably the most important recent framework has been Karasek’s “demand–control” framework. Even more than the

literatures discussed above, it has focused on aspects of job control as the central structure of work determining stressful health outcomes. As discussed in Chapter 2, Karasek's model predicted that job stress-related health outcomes, ranging from exhaustion and depression to cardiovascular disease resulted from structural characteristics of jobs (Karasek 1979, 1989a, b; Karasek and Theorell 1990). The model focused specifically on three such structures: "decision latitude," similar to "substantive complexity" in Kohn and Schooler, "job demands," especially the amount and pace of work, and in later research on the structure of workers' on-the-job "social support." These job conditions were conceptualized as objective job characteristics independent of workers' subjective perceptions and orientations to their jobs, although they were measured from respondents' reports of their current jobs, similar to Kohn and Schooler. To avoid the possible subjective bias from individual reports, the data were then aggregated into mean occupational scores for each job structure (Karasek 1979; Karasek and Theorell 1990). The model was tested in a series of surveys of Swedish and U.S. workers. Results consistently found that the incidence of stressful health outcomes varied according to the combination, or interaction, of the levels of job demands and decision latitude (and later social support). The worst jobs, those with the highest incidences of depression or cardiovascular disease, were those with "high job strain," jobs with high job demands and low decision latitude (or low social support). The best jobs, on the other hand, were the jobs with both high demands *and* high decision latitude (Karasek 1979, 1989a, b; Karasek and Theorell 1990).

The interpretation of these results rested on the conceptualization of decision latitude and social support as *resources* workers could use to manage their *exposure* to job demands. When these resources were absent, workers could be overwhelmed by job demands, resulting in stressful health outcomes. When these resources were present demands could be managed, and in the case of jobs with both high demands *and* high decision latitude workers have the resources – autonomy, skills – to be "active" in meeting the challenges of demanding work, thus learning and becoming creative (Karasek 1979). Not surprisingly, these job characteristics, and most particularly decision latitude, were in turn related to occupational SES: bad jobs with high demands and low decision latitude were primarily routine, low skilled blue collar jobs, while "active" jobs with both high demands and latitude were primarily professional and managerial jobs (Karasek 1979, 1989a, b; Karasek and Theorell 1990).

Research by Michael Marmot and his colleagues (1984; 1997) produced very similar results among employees in the British civil service. The original Whitehall study examined mortality rates over 10 years among male civil servants beginning in 1967. It was designed to examine specific job-related ways in which social class differences determined class differences in mortality rates, while controlling for the heterogeneity of occupations that exist within a socioeconomic class. It did so by focusing on a single "industry" – the British civil service – in which there was little heterogeneity among occupations – mostly white collar office jobs – but sharp authority divisions among employment grades. Occupations studied ranged from top level administrators ("mandarins") to office messengers. Results showed significant

inverse relationships between level of employment grade and various causes of mortality: the lower the grade level, the greater the risk of premature death (Marmot et al. 1984).

Whitehall II, which began in 1985, was specifically designed to investigate the contribution of the “psychosocial” characteristics of jobs on employment grade differences in mental and physical morbidity and mortality rates among both male and female civil servants (Marmot and Bosma 1997). The research approach and interpretation of results of Whitehall II were heavily influenced by Karasek and Theorell’s “demand–control,” or “job strain” model. Researchers found that although job demands were independently associated with levels of mental and physical health, high demands were not by themselves the cause of ill health, but rather the combination of high demands with low decision latitude. Although high level administrators had higher levels of demands than other civil servants, they had better health because they had the highest level of decision latitude (control over job decisions and use of their skills) (Marmot and Bosma 1997). Additionally, the level of decision latitude had positive effects on health, independent of job demands (Marmot and Bosma 1997), as did the level of social support (Stansfeld et al. 1997), while job insecurity – due to the privatization of many civil service departments during the study – had independent negative effects on health (Ferrie et al. 2001). Marmot and his associates also found that health was negatively affected by the imbalance or lack of reciprocity between effort and rewards (esteem, career opportunities and promotional prospects, and remuneration), independent of job demands and job control (Kuper et al. 2002).

A substantial body of research has since confirmed the significance of these psychosocial job characteristics, either alone or in combination, on workers’ health (e.g., Johnson et al. 1996; Bosma et al. 1998). And, among all psychosocial job characteristics, job control continues to be singled out as the most salient (Sauter et al. 1989). However, as was noted at the beginning of this chapter, most of this research has not been concerned with the origins of these job characteristics, including job control, and why they vary among occupations according to occupational status. The overriding research concern has been with how and which job characteristics mediate the relationship between occupational status and health. Although generally unstated, this implies a casual order in which occupational status determines the psychosocial characteristics of jobs. And, indeed, there is a strong statistical association between SES and most psychosocial job characteristics, and especially between SES and various measures of job control: autonomy, skill discretion and variety, and authority. This strong association does not *prove* the implied direction of the causal relationship, however. There is in fact substantial evidence that the direction of causality may be reversed: occupations which have high levels of job control are accorded high occupational status.

This evidence comes from looking at the history of many occupations and how the levels of job control among their members have varied over time and among societies. For example, many current professional and craft occupations that are characterized by high levels of individual job control also exercise high collective control over the requisite knowledge, skills, training, and admission of their

members. Historically, such collective control has enabled these occupations to set the conditions for the employment of their members, including control over job tasks and use of skills. Such control is legitimated by claims of exclusive knowledge and skills – expertise – and it is the acceptance of these occupational claims by employers, “clients,” and the general public that has led to their higher status. However, the exercise of collective occupational power and claims to exclusive expertise have not always been successful, and will almost always be resisted by employers, members of similar and competing occupations, and other groups. This is a point that Paul Starr made clear in his book *The Social Transformation of American Medicine* (Starr 1982).

Conversely, other occupations and their members have lost control over job tasks and skills. As discussed in the previous chapter, this “deskilling” process can be the result of the introduction of new technologies, such as the effects of integrated machinery and the assembly line on skilled manufacturing workers and the introduction of office machinery (e.g., typewriter) on office workers (Braverman 1974). The introduction of computerized printing has led to the loss of skills and autonomy among printers – once considered the most skilled of all craft workers (Blauner 1964) – as well as editors in the book publishing industry. Occupational job control can also be threatened by the introduction of new groups and categories of workers into the labor force. As much as the introduction of new technology, the mass immigration of unskilled labor from southern and eastern Europe threatened the job control of skilled native industrial workers, who often resisted by using their collective occupational power in attempts to exclude these new arrivals either from immigrating (e.g., pressuring Congress to impose quotas) or, once immigrated, from entering certain occupations (Bonacich 1972). More recently, the growing reliance by American universities on a new category of workers, “contingent” faculty, poses potential threats to job control – through academic freedom and shared governance – of traditional tenure-track faculty.

These differences in occupational control and authority can be seen more generally throughout occupational and class structures of different nations. In their comparative study of class structures, Black and Myles (1986) found that the United States had a substantially higher percentage of “managers” and “supervisors,” that is, employees who had authority over the work of other employees, but a substantially smaller percentage of “semi-autonomous” employees, that is, employees who have some control over how they do their own jobs. Black and Myles argued that, compared to other countries, the United States has developed a unique pattern of organizing work activities which resulted in a strict division between administrative employees and production employees, as reflected in the saying “managers manage and workers work.” In turn, this result reflected the historical strength of American management and weakness of labor (e.g., unions).

These examples illustrate two points: (1) although job control is a significant dimension of occupational status, it is not necessarily occupational status that confers the scope of job control; (2) nor is the scope of job control necessarily determined by the technical nature of the job tasks. Rather, the job control exercised by individual workers is in large part a consequence of occupational power – the

collective ability of occupations and their members to determine the economic and psychosocial conditions of their employment. And, while there are multiple sources for the relative power of an occupation, ultimately this power resides in the market for its labor, and especially in the occupation's ability to control that market. It is to theories of occupational labor markets, and how they differ from occupation to occupation and within occupations by industry, gender, race, and other lines of segmentation, that we now turn to provide a more complete account of occupational disparities in job stress.

Segmented Labor Markets

As described at the beginning of this chapter, labor markets are arenas where workers exchange their labor power (capacity and willingness to work), skills, experience, and other forms of capital that they possess to employers in return for wages, status, and other job rewards (Kalleberg and Berg 1987: 48). Theories of "segmented" labor markets assume that there are two or more distinct labor markets with substantial barriers to worker mobility between them. These different labor markets are distinguished by the quality of their jobs – "good" jobs versus "bad" jobs – rather than by the characteristics of the workers, such as skilled versus unskilled. "Good" jobs that define "primary" or "core" labor markets are characterized by their relatively high pay and status, promotion opportunities, good working conditions, job autonomy, employment stability, and due process in work rules; "bad" jobs that define "secondary" or "peripheral" labor markets lack these characteristics (Doeringer and Piore 1971).

Labor markets can be segmented based on a number of characteristics. The most straightforward segmentation occurs among occupations on the basis of differing levels of control over their labor markets. Occupations attempt to control the market for their labor and the terms of their employment by controlling the entrance, training requirements, and certification and licensing of members, and through peer evaluations of their members' job performance throughout their occupational careers. Professions, especially those which determine the accreditation of their training programs (including university colleges and departments) are examples, as are most craft occupations through their apprenticeship programs and trade unions. Occupations without control of the market for their labor constitute a secondary segment of the labor market.

Labor markets can also be thought to be segmented along the lines of Marxist "class" positions: employers (capitalists), managers, self-employed (*petite bourgeoisie*), semiautonomous workers, and proletariat (e.g., Wright and Perrone 1977; Black and Myles 1986). These class positions can be distinguished by the amount and source of power over labor markets and the labor process. Employers have the greatest power based on ownership of the means of production and thus control over the labor market outcomes (hiring and wages) and working conditions of their employees. Managers also have substantial power based on their authority positions

within firms to determine labor market outcomes and direct the labor, and thus working conditions, of other employees, but are themselves subject to the power of employers. Another source of labor market power for both employers and managers is their high levels of job autonomy over their own labor and working conditions. Because the self-employed employ few if any workers, their degree and source of labor market power are similar to semiautonomous workers (e.g., professional, craft): a high degree of control over their own labor markets and autonomy over the use of their own labor. The proletariat lacks power to affect their labor market outcomes or determine how to use their own labor.

Labor markets are also segmented according to the characteristics of employers that generate “good” or “bad” jobs. Chief among these characteristics is the relationship between the firm and its product or service markets as measured by census industrial categories. Parallel to the “dual labor market” thesis of Doeringer and Piore (1971) is Beck et al. (1978) distinction between “core” and “peripheral” industrial sectors. “Core” industry sectors are characterized by large, capital intensive (high capital investments in technology and equipment) firms producing durable goods or high end services in noncompetitive, “oligopolistic” national and international markets, that is, markets dominated by just a very few firms such as the Fordist era US automobile market dominated by the “Big Three” auto companies. The lack of market competition generally guarantees high, stable profit margins for “core” sector firms. As a result, these firms are able to generate “good” jobs in which wages are high and directly related to workers’ level of human capital. Job security is high and other benefits and working conditions are good, and workers move in a career path within a single firm (Beck et al. 1978).

In contrast, “peripheral” sectors are characterized by small firms producing nondurable goods or low end services using labor intensive techniques generally for local or regional markets. As a result, productivity rates are lower and profit rates are low and unstable because product/service prices are subject to strong competitive pressures, as in most retail trades. The result is the creation of “bad” jobs that are low wage and little related to workers’ human capital, with poor working conditions and benefits, and lack job security and opportunities for career advancement (Beck et al. 1978).

In a similar scheme, Hodson (1978: 444) distinguishes between “monopoly” (core) and “competitive” (peripheral) economic sectors, but adds a third distinctive sector in which production is organized not by private capital, but by the “state.” The “state” sector includes economic activities performed by the state itself, such as education, and those produced by private capital under contract with the state, such as military ordnance, and those regulated by the state, such as utilities. As with jobs in the “monopoly” (core) sector, jobs in the “state” sector are “good”: secure, high wage, careered, and with good benefits and working conditions. However, the “state” sector is also distinguished from the “monopoly” sector on the basis of its occupational makeup – more professional and fewer blue collar employees – and the human capital of its employees – more college and post college degrees.

Other approaches have combined occupational and industrial segmentation. The most fundamental of these starts with the distinction between “external” and “internal” labor markets. In contrast to the previously discussed internal labor markets

and external labor markets operate more or less in the way markets are conceived by neoclassic economic theories. The job matching process is a free exchange between workers and employers based on “wage competition,” that is, access to jobs is determined by competition among workers over wages, which in turn are subject to the law of supply and demand. “External” markets are “spot markets” in that they meet the short term (“on the spot”) interests of both employer and worker. As a result, neither side has long-term obligations or commitments to the other side (Williamson 1975); thus jobs lack security and career trajectories, as well as good benefits and working conditions (Thurow 1975). These are the “bad” jobs in the “secondary,” “peripheral,” or “competitive” sectors.

For the most part theories of segmented labor markets are used to explain differences in wages, benefits such as pensions and health insurance, and status – extrinsic job qualities. It is central to our general argument that segmented labor markets also account for differences in the scale and combination of psychosocial job characteristics (intrinsic job qualities) such as job demands, decision latitude, autonomy, and job insecurity. Labor market segmentation, then, also offers an explanation for the “bundling” of job characteristics and rewards, such as good pay with high job control and low pay with low job control (Tilly 1996). In other words, segmented labor market theory can be used to explain the distribution of stressful job conditions using exactly the same logic used to explain differences in wages and benefits.

In neoclassic economics, the concept of “compensating differentials” postulates that there is a trade-off between “good” and “bad” job characteristics: workers would demand and get higher pay for less desirable, more dangerous – or more stressful – work (Kalleberg and Sørensen 1979). But, if labor markets are segmented, employers in primary markets are forced to offer both good pay and good working conditions in order to attract and keep the most talented workers among what is, because of barriers to entry, a relatively small pool of individuals with the specific appropriate capital. Conversely, workers in secondary markets are forced to accept low pay with poor working conditions because the nature of the jobs, their lack of capital, and barriers to finding employment in other markets make them easily replaceable. This would account for why high status professional and managerial jobs offer both high pay and better working conditions such as higher decision latitude, or, in a more specific example, why employees who work nonstandard shifts in retail services are not paid higher wages than standard shift workers, but rather on average receive lower wages (Presser 2003). The notion that extrinsic and intrinsic job qualities are bundled as just described explains why the segmented labor market is a central determinant of job conditions, including stressful job conditions.

Segmented Labor Markets and Stressful Jobs

All segmented labor market theories assume that stressful jobs are concentrated in secondary or peripheral sectors. However, little of this research has directly examined the effects of segmentation on the psychosocial characteristics of jobs.

Moreover, because higher status occupations are generally in primary labor market sectors while lower status occupations cluster in secondary sectors, it is often difficult to disentangle the effects of occupational *status* from occupational *segmentation*. For example, is it the high status of professional occupations that explains their high levels of autonomy and substantive complexity, or is it control over their employment conditions exercised through their internal labor markets?

Despite these analytical issues, there is evidence from a number of diverse studies that suggest that labor market segmentation does indeed affect the psychosocial conditions of jobs, and that these effects are independent of and often stronger than the effects of occupational status. For example, workers in craft occupations, which are characterized by “Occupational Internal Labor Markets,” (OLIM) in which entry into the occupation, training, and *inter-firm* mobility is controlled by the occupation and their agents, such as craft unions, have more autonomy than workers in clerical occupations (Fenwick and Tausig 2010; see also Karasek 1989a, b). This is in spite of the much lower occupational status of craft occupations (Mean=31.7) than either clerical (Mean=44.5) or sales (Mean=50.5) occupations on the Duncan SEI scale.

But, because positions in occupational labor market sectors are usually measured by the same variables (job/occupational titles) that are used to measure occupational status, direct comparisons are often not possible. Instead, many researchers have looked at segmentation as measured by authority and/or class position. As discussed above, Link et al. (1993) found that workers in occupations with authority, as measured by DCP over the work of others, reduced their experience of depressive symptoms. Moreover, these effects were stronger than the effects of occupational prestige, and when entered into ordinary least squares (OLS) regression equations completely mediated the effects of prestige on depression and distress. Kalleberg and Griffin (1980) compared the effects of occupational status and neo-Marxist class categories on job rewards, including “fulfillment” (opportunities for skill development, personal growth, challenging work, and interesting work). While they found that occupational status had important effects on fulfillment, there were significant and independent class effects: employers had greater fulfillment than managers and workers, and managers had greater fulfillment than workers (they did not separate “semiautonomous” employees from “proletariat”). These class differences were also found within occupational groups. For example, professionals who were employers had greater fulfillment than professionals who were managers, who, in turn, had greater fulfillment than professionals who were neither. Not surprisingly, they found similar class effects on earnings, both overall and within occupations, thus suggesting similar patterns in the distributions of extrinsic and intrinsic job rewards. Likewise, McNamee and Vanneman (1987) compared the effects of occupational status and neo-Marxist class positions on a variety of job rewards and conditions. They found that while occupational status (measured by Duncan SEI) had greater effects on job security and fringe benefits, along with the safety and cleanliness of the workplace, class position had the greater effects on autonomy, interesting and nonroutine work, opportunities for promotion, and co-worker support – along with earnings. Indeed, using canonical correlation analysis they found that the levels of autonomy and skills are closely clustered – or bundled – with earnings as outcomes of class position (e.g., owner, manager, etc.).

Some studies that have used different measures of labor market segmentation have found that there can be trade-offs between extrinsic and intrinsic job rewards (i.e., that extrinsic and intrinsic job characteristics are not bound). For example, the presence of unions is often seen as the single best indicator for the existence of Firm Internal Labor Markets (FILMs) in which job mobility is within a single firm, because they are associated with the firms' use of job ladders, formal employment rules, and employee rights, as well as higher earnings and better fringe benefits acquired through union-management agreements (Kalleberg and Sørensen 1979). Unions are seen as one of the principle agents creating and elaborating bureaucratic control in firms as a way of reducing unilateral and arbitrary management control (Edwards 1979). As a result, research has consistently found union members to have significantly higher earnings, greater job security, and better fringe benefits than nonunion members in the same occupation and with similar levels of human capital (Fenwick and Olson 1986; Kochan et al. 1986; Mishel et al. 2007). However, research also has found that union members have less autonomy and skill discretion than nonunion workers (Fenwick and Olson 1986; Fenwick and Tausig 1994), likely because of elaborate job rules and the focus in collective bargaining on "shop floor" issues rather than broader issues of organizational decision-making (Perlman 1949; Cole 1979).

Segmentation by Population Groups: "Split Labor Markets"

Labor markets are also segmented along lines of different population groups, most significantly race, ethnicity, gender, and immigration status. This type of segmentation is both *inter-occupational*, accounting for why population groups are underrepresented in some occupations and overrepresented in others, for example, the so-called "pink ghettos," and *intra-occupational*, accounting for why some groups are disadvantaged – economically and "psychically" – compared to members of other groups within the same occupation, for example, "glass ceilings."

Researchers argue that one of the major reasons for the persistence of racial, ethnic, and gender economic inequality into the twenty-first century is that workers continue to be differentially distributed across occupations and jobs on the basis of these ascribed characteristics. As a result, minorities and women are disproportionately placed – "segregated," or "crowded" – into occupations that provide fewer rewards, less security, and poorer working conditions: that is, "bad" jobs in secondary labor markets. This pattern of distribution does not reflect the levels of human capital, preferences, or productivity of workers in these groups, but rather the preferences of employers and workers from dominant groups, for example, systematic and statistical discrimination. Once placed into these secondary labor markets at the beginning of their careers, minorities and women find it difficult to leave (Kalleberg and Sørensen 1979: 370). And, even when women and minorities are hired into good, primary sector occupations, they are segregated into lower ranks and more marginal jobs within the occupation, such as male "operatives" versus female "assemblers" in manufacturing firms (Bielby and Baron 1986), or African American "assistant"

managers versus white managers (McGuire and Reskin 1993; Bielby and Baron 1986). As a result of this “hierarchical segregation,” job ladders for minority and women are “shorter,” with few opportunities to move into top positions of authority in organizations, the “glass ceiling” (Kanter 1977; Collins 1992; The Federal Glass Ceiling Commission 1995).

Underlying these patterns of gender and racial segmentation is the existence of “split labor markets.” According to Edna Bonacich (1972), a split labor market exists when there are at least two groups of workers whose price of labor differs for the same work, or would differ if they did the same work. “Price of labor” refers to labor’s total cost to the employer, including not only wages, benefits, and working conditions, but also factors such as recruitment, transportation, education, and potential labor unrest resulting from conflicts between cheap and expensive labor groups. Bonacich (1972) argues that differences in the price of labor are the underlying source of on-going “ethnic antagonism” in multiracial and multiethnic societies, where dominant groups are relatively expensive labor compared to the price of minority labor. Employers seek to displace higher priced labor with cheaper labor while higher priced labor seeks to prevent labor market competition from cheaper labor by excluding them from labor markets altogether by prohibiting or placing strict quotas on immigration. Or, where that is not possible, higher priced labor can use its control over market resources, such as skill acquisition and credentialing, to create a “caste” system in which its members have exclusive access to higher paid jobs and minority labor is segregated into lower paid jobs, even within the same occupation. In this case, as members of the different groups never occupy the same job title, the existence of split labor markets are often obscured, as in “hierarchical segregation” and “glass ceilings.” Employers are often complicit with this arrangement as it still maintains a pool of cheaper labor that could potentially be used to displace higher priced labor when needed, for example, the use of ethnic and racial minorities as strikebreakers (Bonacich 1972).

For their part, lower priced labor may also go along with the split labor market, at least initially. Lower wages in a split labor market may represent the best economic alternative for many minority group members, most particularly those who migrate (internal and international) from poorer, less economically developed areas. This is especially true for migrants who are seeking only temporary employment or supplemental income before returning home. These workers are more willing to put up with undesirable working conditions, as they will not be long endured, and they are less likely to protest their working conditions (Bonacich 1972); nor, as migrant groups, would they have the political or economic power to do so. And even when this is not the case, employers often categorize migrant workers in this way, and pay accordingly, for example, Mexican immigrants.

While Bonacich developed the “split labor market” concept to explain ethnic (and racial) antagonisms and inequality, it certainly also lends itself to the explanation of gender-based labor market segmentation and inequality. Legal and cultural restrictions on women’s opportunities for paid employment up until the 1960s excluded competition against higher priced male labor. And, even though civil rights legislation and regulations have opened up employment opportunities, women have continued to be segregated into less rewarding jobs, in part through a process of statistical

discrimination in which it assumed that because of family roles and obligations they are better suited to doing “care work”, that they are more likely to be temporary employees seeking supplemental family income, and that their careers are likely to be interrupted by their family obligations (Padavic and Reskin 2002; Glass 2004).

Additionally, split labor markets give insights into demographic changes in the racial, ethnic, and gender composition of jobs, especially why many jobs change in composition from high paid groups to lower paid groups. As discussed above, the process of deskilling allows employers to use less skilled and thus low paid workers in place of existing high-skill high-paid labor. As pay and working conditions decline in these deskilled jobs, they become less attractive to workers from traditionally high-paid groups, for example, whites and men. The result is that higher-paid labor seeks employment elsewhere while employers seek replacements from low-wage groups with few employment alternatives. This provides an account of the “feminization” of office clerical work that occurred after the introduction of office machines, such as typewriters, in the last half of the nineteenth century (Zuboff 1988).

Labor market segmentation by race and gender reduces the intrinsic job rewards received by members in these groups as it does their extrinsic rewards. Studies have consistently shown that women have less autonomy and skill discretion than men (Padavic and Reskin 2002; Petrie and Rioman 2004), and less job security (Fenwick and Tausig 1994). And results are similar for nonwhites (Tomaskovic-Devey 1993; Fenwick and Tausig 1994). Labor market segmentation thus puts workers with lower status characteristics at greater risk of exposure to work-related stressors and also restricts access to resources to deal with exposure. The split labor market, therefore, represents a mechanism whereby health disparities based on social status differences are produced.

Social stratification affects exposure to stressful job conditions and may be regarded as one mechanism that links work-related distress to the observed social gradient in health (Marmot and Bosma 1997; Warren et al. 2004). Indeed, it is possible to suggest that some health disparities attributed to structures of inequality occur because of the differences in risk exposure to work-related stressors that follow from differences in labor market positions. Not only are jobs in the peripheral segment of the labor market less secure and apt to provide less decision latitude, but they are also low wage and rarely include health insurance benefits leading also to differences in health care access and health outcomes. This account is completely compatible with the social status as fundamental cause of illness argument (Link and Phelan 1995) and is seen as increasingly relevant for explaining the social gradient in health generally (Clougherty et al. 2010).

Post-Fordist Labor Markets

These conceptualizations of labor market segmentation originated during the Fordist era of employment relations, and reflected differences in labor markets during that period: especially the distinction between jobs in internal labor markets based on

“bureaucratic” control and jobs in external markets based on “simple” market controls, as well as the lack of mobility between the two (Edwards 1979). Likewise, much of the data used to test these conceptualizations come from this era. However, as was discussed extensively in Chapter 3, most contemporary observers argue that the rise of a global, digital, deregulated, and increasingly service-based economy has permanently eroded the stability (or rigidity) of Fordist employment relations and has replaced them with more flexible employment relations – both “functional” and “numerical” (Smith 1997).

In turn, increasingly flexible employment relations have changed the nature of labor market segmentation, and in particular the role of internal labor markets. As noted above and in Chapter 3, the most essential characteristic of Fordist era internal labor markets (especial FILMs) was their job ladders, which provided younger less skilled employees with occupational mobility into more skilled jobs while being provided benefits throughout their career within the firm. Post-Fordist FILMs, in contrast, are reserved for the most skilled employees in core jobs or occupations. Increasingly, these are “symbolic analysts” requiring “intellective skills” (Block 1990; Vallas et al. 2009; Zuboff 1988). While these are characteristics mostly associated with professional, managerial, and technical occupations, the increasing use of integrative digital systems in manufacturing operations has increased the need for intellective skills among many craft and even some ranks of traditionally “semi-skilled” operatives (Zuboff 1988). These skills increase the *functional flexibility* – autonomy, responsibility, and skill diversity – of the core “symbolic analysts,” making them more indispensable to the firm, and thus increasing their job security and access to benefits.

In contrast, noncore employees are defined by their lack of intellective skills. Instead, they become subject to a new type of technical control – “algorithmic” – in which the workers’ autonomy is reduced as much as possible to a set of self-contained rules (algorithms) that are implemented by the computer (Appelbaum and Albin 1989; Vallas 1993; Burris 1998). Because these jobs require few skills and no need to learn new skills, post-Fordist firms – unlike Fordist firms – have no interest in training these employees in intellective skills; thus they have few or no opportunities to move into these FILMs. These employees become the “machine tenders” of the post-Fordist era, but the machines are “smart” (Zuboff 1988), and with the correct algorithms can perform operations with little human tending. Peripheral workers thus become increasingly dispensable, and can be characterized by their *numerical flexibility*, that is, contingent nature of their employment contract, lack of job security, and lack of employer provided benefits (Smith 1997; Fenwick 2003; Myles 1990).

This portrait of labor market segmentation in the post-Fordist era is supported by results from Kenneth Hudson’s study of changes in segmentation since the 1970s (2007). Overall, those results showed an increasing “polarization” of jobs into good versus bad labor markets as formerly good primary sector jobs have been redistributed into bad secondary labor market jobs (p. 298). These are jobs that pay poverty level earnings and lack employer health care and pension plans. The most important reason for the increased segmentation is the growth of “nonstandard” – e.g., contingent,

part-time, seasonal – employment. “Nonstandard” work is the single greatest predictor of work in secondary labor markets, followed by the employment of non-citizen workers, especially Hispanic immigrants. In turn, Hudson found that both the increase in “nonstandard” work and use of noncitizen labor, as well as the resulting redistribution of jobs into secondary labor markets, are all consequences of the decline in labor union membership from 33% of workers in 1955 to 12.9% in 2003 (p. 289). During the Fordist era, unions were essential to the creation of the kinds of internal labor market that provided mobility into primary labor market jobs, especially in core manufacturing industries. While union membership continues to predict employment in primary labor markets, workers in nonstandard employment and noncitizen workers are far less likely to be union members than those in standard employment arrangements, and there are now more workers in nonstandard arrangements than union members (p. 305). Together, Hudson found nonstandard and noncitizen workers comprised 28% of all wage and salaried workers in their prime career years – ages 30–60 (p. 305).

Hudson (2007) also found that race and gender have become less important in allocating workers into primary versus secondary markets. The reasons for this, Hudson argues, are the increasing real wages for female and African American workers since the 1960s, reducing their role as sources of cheap labor compared to white males, and the increased legal and social sanctions firms face for discrimination (p. 289). However, females and African Americans continue to have lower rates of occupational mobility from secondary to primary labor markets than white males, and highly feminized low skill occupations continue to be associated with secondary markets (p. 305).

The nonstandard employment that Hudson (2007) found to be the most important predictor of working in contemporary secondary labor markets is part of the overall flexibility in work arrangements that define post-Fordism. In general, non-standard employment is employment in which the worker is not a full-time, continuous employee of the firm for which their work is done (Fenwick 2009). This includes “contingent” workers, those who do not have an implicit or explicit contract for ongoing employment (U.S. Bureau of Labor Statistics 2011). In addition, workers can be employed in other various categories of “alternative (employment) arrangements,” such as independent or self-employed contractors, on-call workers, temporary help agency workers, and workers provided by contract firms. Under the most inclusive measure of contingency, the U.S. Bureau of Labor Statistics estimated that in 2005, contingent workers accounted for just over 4% of total U.S. employment, while other types of “alternative” employment arrangements collectively accounted for 11% of all employment. However, these categories also overlap with contingent work. Nonstandard work also includes the much larger category of part-time workers, those who are employed for less than 35 h per week. Part-time employment characterizes roughly one in five American workers (U.S. Bureau of Labor Statistics 2005). But there is only a slight overlap between contingent and part-time work: part-time workers make up 40% of contingent workers, but only 10% part-time workers do so on a contingent basis (U.S. Bureau of Labor Statistics 2005).

These types of nonstandard work existed prior to the post-Fordist era, but they have grown significantly over the past 40 years. The percentage of workers who are employed part-time has increased 60% since the 1970s (Fenwick 2009), while the various types of temporary work – contingent work, etc. – have increased at a rate 4 times the overall rate of job growth since the early 1980s (Vallas et al. 2009). This growth reflects the preference of employers for nonstandard work and not the preferences of nonstandard workers. Through the 1970s, the overwhelming majority of part-time workers did so by their own preferences, as a strategy to balance work–family roles or as students. However, since the 1980s the growth in part-time employment has been almost entirely among workers who sought full-time employment but could only find part-time employment (Vallas et al. 2009), or because employers cut their work hours from full-time to part-time week. By 2010, over 40% of all part-time workers did so because of the lack of full-time jobs (U.S. Bureau of Labor Statistics 2011). The majority of contingent workers (55%) also preferred standard employment, but more than 9 in 10 “independent contractors,” preferred their current status to more traditional employment arrangements (U.S. Bureau of Labor Statistics 2005), suggesting that there is wide variation in the quality of nonstandard employment.

In turn, the variation in the quality of nonstandard jobs is a consequence of differences in the demographic characteristics of nonstandard workers and the economic sectors in which they work. Compared to full-time workers, part-time workers are younger, more likely to be female, African American, and less likely to have a high school degree, but more likely to be a student. In fact, almost two-thirds of all part-time workers are students aged 18–24. One-in-five part-time workers are in “professional and related” occupations, but this reflects the overall size of this occupational category (the largest); slightly over one-in-five of all full-time workers (21.5%) work in this category. Part-time workers are overrepresented in all service occupations, especially “food preparation and service”: 14% of all part-time workers versus just 4% of all full-time workers. They are least likely to work in manufacturing. Likewise, part-time workers are overrepresented in “arts, entertainment, accommodations, and food service,” “retail trade,” and “education, health and social services” industrial sectors, and underrepresented in manufacturing. And, part-time workers are only half as likely to be union members as full-time workers (U.S. Bureau of Labor Statistics 2008).

Contingent workers are also younger than workers employed under standard arrangements – 27% are under 25 versus 13% of noncontingent workers. They are slightly less likely to be white and male, and substantially more likely to be Hispanic or Latino (21% vs 13% of noncontingent workers). They are more likely to be enrolled in school, less likely to have a high school degree, but also more likely to have a bachelor’s degree. Contingent workers are distributed throughout major occupational categories, but are most likely to work in professional, construction, and extraction occupations, professional and business services, education and health services, and construction industries. In contrast, independent contractors tend to be older, white, male, and more highly educated than other nonstandard workers. Overall, their demographic profiles are similar to the profiles of standard workers in

similar occupations and industries, which are primarily high-paying management, business, and financial operations, as well as construction occupations (U.S. Bureau of Labor Statistics 2005).

The rapid growth of nonstandard employment and the resulting *numerical flexibility* of post-Fordism, in turn, have increased the “precarity” of work: “employment that is uncertain, unpredictable and risky from the point of view of the worker” (Kalleberg 2009: 2). For Kalleberg, indicators of the increasingly precarious nature of work include the decline in employer tenure, especially among older white workers (the group that traditionally has had the longest employer tenure), increases in involuntary job losses and long term unemployment rates, the shift in “risks” from employers to employees, such as elimination of employer health care coverage, and the shift from defined benefits to defined pension plans (when provided at all), as well as the growth of nonstandard employment (2009: 6–8). As a result, workers are facing increased financial risks, as evidenced by the fivefold increase in mortgage foreclosures since the 1970s and the record number of personal bankruptcies, two-thirds of which resulted in part from job-related problems (p. 2).

This increased “precarity” can be indexed by a long-term decline in workers’ perceived job security. Kalleberg argues that the nature of job *insecurity* is different in the current post-Fordist era than in the past. During the Fordist era, levels of job security/insecurity fluctuated with economic cycles, and especially unemployment rates. This was because, even workers in the largest, most productive industries, such as automobiles or steel, faced periodic layoffs during cyclical recessions. Their job insecurity was mitigated by the short-term nature of the layoffs, seniority rules that determined the order of which workers were laid off last and rehired first based on workers’ seniority, and a financial safety net provided through employer, union, and government provided unemployment benefits. However, most of these protections have eroded or been eliminated (2009). “Layoffs,” a term which was once defined as a type of temporary job loss, is now qualified to include “permanent” layoffs. As a result, using General Social Survey data from 1977 through 2001, Fullerton and Wallace (2007) found that, controlling for changes in unemployment rates, the percentage of workers who felt secure about their job (that they would not lose their job or be laid off) declined from just over 65% in 1977 to 55% in 2001 (Kalleberg 2009: 7).

Increased labor market segmentation and “precarity” of work are mirrored in changes in the overall occupational composition of the U.S. labor force since 1980. The fastest growing occupations are, on the one hand, those at the top – professional and managerial occupations – and, on the other hand, those near the bottom – service and sales occupations. Those occupations that have grown the least or that have declined are mostly middle level occupations, such as craft, office and administrative support, and production operations (from U.S. Bureau of Labor Statistics, in Vallas et al. 2009: 293). The result has been a change in the shape of the occupational structure from a pyramid or diamond shape to an “hour glass” shape, or “two tiered” structure in which traditional middle class jobs have declined relative to those at the top or bottom. This would suggest increased polarization of job rewards, as is indicated by studies that show significant increases in income inequality, and

also increased polarization of the quality of jobs, including their psychosocial characteristics.

However, there is little research that looks at this proposition or looks more generally at how increasing labor market segmentation, the growth of nonstandard employment, or the polarization of the occupational structure have affected job stress and the psychosocial work conditions that cause stress. Two exceptions are studies by Tausig et al. (2005) and Fenwick and Tausig (2010) that looked at how occupational changes since the 1970s have affected workers' autonomy, skill discretion, and job demands. Surprisingly, these studies found neither polarization of these job characteristics nor an overall decline in job quality among all occupations, but rather an overall improvement in these job characteristics and a narrowing of differences among occupations. Comparing combined data from the 1972 and 1977 Quality of Employment Studies with combined data from the 2002 and 2006 General Social Survey–Quality of Work Life Modules, Fenwick and Tausig (2010) found that job demands declined for workers in all occupational categories except workers in technical and private household services, in which demands increased slightly. Conversely, autonomy and skill discretion increased among workers in all occupational categories except for those in farm, professional, and managerial categories. Farm workers experienced significant declines in autonomy and skill discretion, while professional and managerial workers experienced nonsignificant declines in autonomy and professionals also experienced a nonsignificant decline in skill discretion. The greatest increases in both autonomy and skill discretion occurred among workers in occupations which had the least in the 1970s: operatives (semi-skilled) and nonfarm laborers (unskilled). As a result, only workers in farm occupations and professionals experienced an increase in overall “job strain” – higher demands/lower decision latitude. However, professionals and managers continue to have significantly greater autonomy and skill discretion as well as job demands than workers in other occupations.

Reasons for this “upward convergence” of psychosocial job characteristics remain unclear. However, it is not accounted for by changes in the demographic composition of the different occupational categories. The overall labor force has become older, more educated, more female, and less white since the 1970s, and while demographic differences in psychosocial job characteristics have persisted they have become less significant. On the other hand, the declines in average firm size and union members, especially among blue collar workers, appear to have contributed to increased autonomy and skill discretion for reason that were discussed above (i.e., union job rules and elaborate bureaucratic control in larger firms). Other unexamined factors could also contribute to this convergence, including increasing use of computers and robotics in manufacturing – requiring more “intellective skills” (Zuboff) as well as the trend toward team-based work systems, which increases workers’ “task scope” and also requires higher “cognitive and interactive skills and activities (National Research Council 1999: 199).”

Methodological issues could also help explain these changes, and the lack of changes among professional and managerial workers. Because the job characteristics were measured by closed-ended scales (0–3 or 0–9) and because professionals

and managers already had very high levels of autonomy and skill discretion in the 1970s, it might not have been possible statistically for these workers to report any higher levels of these job characteristics – thus, a “ceiling effect” (Fenwick and Tausig 2010).

One other methodological issue is that these comparisons are of two points in time, with no data on what occurred in between. An inevitable but unwarranted assumption of such analysis is that the changes reflect secular, linear changes. However, as was suggested above with respect to changes in job security, changes in job characteristics are also sensitive to other kinds of economic changes, particularly changes brought about by period economic cycles of growth and downturns. This is the subject of Chapter 5.

Summary

In this chapter, we have considered how the resources, attributes, skills, status, and power of workers help determine the structures and quality of their jobs. In Weber’s theory of class, these characteristics represent “opportunities for income” – they are exchanged by workers in return for compensation from employers (Gerth and Mills 1964). “Opportunities for income” in turn determine one’s “life chances,” which would include physical and mental health. And, indeed, there is an unquestioned link between the socioeconomic class or “status” and health: the higher one’s occupational SES, the better one’s health. In turn, this relationship is in part mediated by the structure and quality of one’s job including job demands and the amount of control one has over how to manage those demands.

But despite the extensiveness of this literature, it is incomplete. Why does “status” confer control; and why does it do so in addition to compensation, benefits, and security? Why are these job qualities bundled together rather than exchanged for one another as is suggested by the economic concept of “compensating differentials?” The answer, we suggested, is that it is not “status” that confers control, but rather control, or more theoretically, “power” that confers status. Power can be individual, as in a job with authority, but it is most effective if it is exercised collectively, as through occupations and their agents, such as the American Medical Association, and industrial unions. It is the ability to exercise collective power to create market monopolies that Weber argues is the measure of an occupation’s class power. Workers exchange their marketable assets not only for “opportunities for income” but also for opportunity for control over their job, job security, and other desirable job qualities; they exchange their labor for their “life chances” simultaneously with their “opportunities for income.” Where they have sufficient bargaining power, they acquire better life chances and higher income as a bundle. Where they lack bargaining power, they take poorer life chances with low income as a bundle. This is one of the fundamental assumptions of the various theories of labor market segmentation.

Theories of segmented labor markets also share many of the fundamental assumptions of “labor process theory” as discussed in Chapter 3. Most fundamentally, both

argue that the nature of employer–employee relations is not a simple function of free exchanges among independent agents in the market but rather depends on the relative – and usually collective – *power* of the two parties to alter the employment relationship in their respective favor. Workers attempt to alter markets in their favor by restricting the supply of their labor and/or by increasing the demand for their particular labor, skills, or credentials. Conversely, employers attempt to increase labor supply by finding alternative labor, such as immigrant or contingent workers, and reducing demand for particular skills or credentials, through automating and deskilling the production processes.

The outcome of this contested relationship can be described both as extrinsic and intrinsic job conditions that, in turn, are related to job satisfaction, job stress, and mental and physical health outcomes. Social status distinctions such as those related to gender, race, ethnicity, and citizenship can be understood as reflections of differences in bargaining power over extrinsic and intrinsic job conditions and so differences in health outcomes related to job conditions. The distal influence of gender, race, ethnicity, and citizenship differences on health – health disparities – is partly explained, then, by the differences in labor market opportunity structures and subsequent job conditions that are related to the labor process.

Labor markets and the contours of their segmentation are also dynamic. The nature of labor markets, especially FILMs in post-Fordism, is vastly different from what it was like during the Fordist era, reflecting new technologies, new product and financial markets, as well as legal, political, and cultural changes. They also change in unintended ways with unforeseen consequences – for both workers and firms – as during economic downturns. We look at this in detail in the next chapter.

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Chapter 5

Macroeconomic Change, Unemployment, and Job Stress

Overview

The on-going change from Fordist to post (neo)-Fordist labor markets and job structures is representative of long-term, or secular, trends that result in relatively permanent structural changes to the macroeconomy. Underlying these trends are changes in commodity and financial markets, such as globalization, and the development of new technologies, such as computerization. But these secular trends are also punctuated by short-term economic trends: the cycles of market expansion and contraction that are endemic to all market economies. In the 40 year period from 1970 to 2010 that broadly encompasses the transition from Fordism to post (neo)-Fordism, the United States experienced six such economic cycles: (1) expansion from 1971 through 1973 and contraction in 1974–1975; (2) expansion from 1975 through 1979 and contraction in 1980; (3) expansion from late 1980 into 1981 and contraction in 1981–1982; (4) expansion from 1983 through 1990 and contraction in 1990–1991; (5) expansion from 1992 through 2000 and contraction in 2001–2002; (6) and expansion from 2003 through late 2007, ending with the contraction of the “Great Recession” that started in late 2007 (based on data from the U.S. Bureau of Labor Statistics 2008).

The relationship between these economic cycles and the secular trend toward post (neo)-Fordism has not been well established, although a case can be made that economic cycles have accelerated the longer term trend. Some have argued that the erosion of Fordist employment relations was rooted in the economic contraction of 1974–1975, which began (or at least signified) the “deindustrialization” of the US economy: the decline in manufacturing industries and manufacturing jobs, and the undermining of the system of firm internal labor markets (FILMs) that had been characteristic of this economic sector (Bluestone and Harrison 1982; Myles 1990; Rubin 1996; Cappelli et al. 1997). A similar argument can be made for the effects of the 1990–1991 contraction on white collar FILMs of large corporations, “downsizing” of middle management, and flattening of bureaucratic hierarchies – all characteristics of the emerging post (neo)-Fordism (Cappelli et al. 1997). The economic expansion of the 1990s, built largely on the expansion of global computer networks

and the software to run the networks (the “dot-com” revolution), further accelerated the trend toward post-Fordist employment by increasing the need for new “intellectual” and flexible skills in some labor market sectors while making other workers more redundant and easily replaceable (Fenwick 2003).

Understanding the effects that economic cycles have on the economic outcomes of firms and workers has been at the core of the discipline of economics. Sociologists too have been long interested in the effects of cyclical economic change, but following Durkheim’s pioneering work *Suicide* (1951 [1897]), our interests have focused more on their effects on the general well-being of workers, their families, their communities, and the overall population. Durkheim’s work was concerned with the effects of both phases of these cycles, expansion and contraction, but most contemporary sociological research is focused on the downturn part of these cycles, especially as they culminate in economic recessions or depressions. Although economic expansions affect well-being, both positively and negatively (Durkheim 1951 [1897]), in general it has been found that economic contractions have the greater and more negative impacts on personal and population well-being, including mental health (Brenner 1973, 1976). These negative effects include increased rates of mortality and morbidity, increased pathology, for example, crime, alcohol and drug use, increased admissions to mental health facilities as well as increases in individual symptoms of depression and anxiety (Brenner 1973, 1976; Catalano et al. 1981; Fenwick and Tausig 1994).

The reason that economic contractions have such varied and widespread effects on well-being is that downturns affect different individuals and groups through different economic processes. Investors experience contractions as the loss of investment income and wealth. Business owners experience downturns as declining rates of profits for their products or services; and, especially for small business owners, profit losses increase the likelihood of business and personal bankruptcy. However, the most widespread effects of recessions are experienced by workers as effects on labor markets: temporary or permanent job losses, reduction of work hours and pay, involuntary part-time or temporary employment, and loss of health, pension, and other benefits. But, recessions have also consequences for workers whose jobs are not directly threatened during recessions: reduced opportunities for promotions and job mobility, increased job insecurity and increasingly stressful jobs (Brenner and Mooney 1983; Catalano et al. 1986; Fenwick and Tausig 1994; Tausig and Fenwick 1999).

In this chapter, we describe the extent of disruption of well-being that economic change may bring and then we discuss the health effects of economic structures and change on both unemployed and employed workers. These changes include organizational responses that restructure work conditions as well as changes to labor markets.

Economic Contractions and the Labor Market

Economic contractions do not begin in labor markets, but their effects on labor markets are considerable. Unemployment rates are perhaps the most widely used and accepted indicators of how economic cycles impact labor markets, but they represent

the “tip of the iceberg” of a larger issue: *underemployment*. In addition to those who are officially counted as “unemployed” – out of work but actively looking for work – *underemployment* includes those working part time (less than 35 h per week) for “economic reasons” – either they could not find full time work, or their work hours had been cut due to slack demand – and a “labor force reserve,” those who were not actively looking for work but reported to a Current Population Survey (CPS) interviewer that they wanted a job (Sum and Khatiwada 2010). Including these “involuntary” part time workers and “discouraged” individuals with those officially counted as unemployed nearly doubles the rate of labor force *underemployment*. For example, in November, 2009, the seasonally adjusted unemployment rate was 10%, but the rate of *underemployment* was over 18%; and this was 5 months after the “official” end of the “Great Recession” (Sum and Khatiwada 2010).

But even the more inclusive rates of *underemployment* still underestimate the breadth of a recession’s impact on the labor force. This is because rates of unemployment and underemployment are monthly snap shots of aggregate labor force activities and changes in those activities but cannot examine individual changes in labor market activities and the accumulation of these individual changes. Different individuals will be unemployed or underemployed at different times and for varying lengths of time during a recession. Many workers who were unemployed or underemployed during a recession regain full time employment before the recession ends, but they still have undergone that negative labor force experience. The percentage of workers experiencing unemployment or underemployment during a recession will be considerably greater than indicated by the aggregate rates at any one time. For example, a Pew Research Center survey conducted in May 2010 asked about individuals’ labor market experiences over the previous 30 months since the onset of the “Great Recession.” The survey found that 32% of adults in the labor force had been unemployed at some time during the recession or were currently unemployed at the time of the survey; another 6% had been or were currently underemployed. Among respondents who were employed at the time of the survey, 28% had their work hours reduced at some point in the previous 30 months, 23% had experienced a pay cut, 12% were forced to take unpaid leave, and 11% had been forced to switch to part time. Overall, 55% of all respondents experienced one or more of these labor market changes during the “Great Recession” (Pew Research Center 2010).

And yet, even these data do not capture all of the ways in which economic contractions affect workers. As pointed out above, even workers not threatened by unemployment or underemployment or whose labor market status did not change in any way could be affected through reduced job mobility opportunities and benefits as well as restructured jobs that may be increasingly stressful. Data on the prevalence of these kinds of job changes during the “Great Recession” are currently (as of 2011) less available than the aggregate and individual level data on unemployment and underemployment cited above. A 2010 survey of employers with 50 or more employees by the Families and Work Institute indicated the various ways that firms attempted to cope with the recession. Among the most prevalent strategies were those that reduced mobility opportunities, such as eliminating bonuses and pay increases (69%), instituting hiring freezes (61%), and freezing promotions (35%). One in three firms reported reducing employee health care benefits or

increasing employee costs for these benefits, while one in five reported reducing their employer contributions to employee pension plans. Job restructuring appeared to be somewhat less prevalent: 22% reported increasing the use of compressed workweeks (e.g., working 10 h, 4 days per week); 19% reported increasing telecommuting; and 11% reported outsourcing jobs or redefining jobs from standard employment to contract work (Galinsky and Bond 2010).

Health Effects of Economic Contraction

The health effects of economic recessions tend to be lagged, many not showing up in health trend data until well after recessions end, even as long as 20 years after (Sullivan and von Wachter 2009). Thus, at the time of this writing there are few data available on the potential health effects of the “Great Recession.” The most recent comprehensive health data come from the Centers for Disease Control and Prevention report *Health, United States 2010*, with the latest data from 2009 (National Center for Health Statistics 2011). Although data from 2 consecutive years do not make a trend, comparing data from 2008 to 2009 on stress-related health risks and outcomes is suggestive. For example, among risk behaviors, the age-adjusted percentage of Americans engaged in leisure time physical activities declined, the rate of tobacco use increased, but heavy drinking declined. There were also increases in the rates of heart disease and strokes. The rate of Americans reporting “psychological distress” increased slightly from 2.9 to 3.2, but among Americans with incomes below the poverty line, the increase was more substantial: from 8.3 to 9.0. Likewise, while the level of “subjective health” among the total population remained unchanged, it declined substantially among those with incomes just above the poverty line (Centers for Disease Control and Prevention 2010).

Without thorough analysis of longer term health data, it cannot be claimed for certain that these changes in health measures were related to the onset of the “Great Recession.” However, based on previous research there are reasons to suppose that some, and perhaps all, of the changes were the results of the economic downturn. It is to this research that we now turn. As suggested in this chapter overview, research into the health effects of economic change can be classified according to three traditions: (1) an “economic change and population health” literature that has examined the effects of aggregate changes in economic indicators, especially changes in unemployment rates, on changes in aggregate health indicators, such as mortality and morbidity rates and rates of social pathologies; (2) a mostly social psychological literature that has examined individual experiences with changes in their labor market status, especially unemployment, and their effects on both objective and subjective health; and (3) a “multi-level,” or “macro-micro” literature that links the effects of aggregate measures of economic change – that is, unemployment rates – to both individual labor market and job experiences – including job restructuring – and changes in their health and well-being.

Economic Change and Population Health

The study of the effects of short-term economic changes on health began with Durkheim's *Suicide*, and in particular the chapter on "Anomic Suicide" in which he stated: "It is a well-known fact that economic crises have an aggravating effect on the suicidal tendency" (1951 [1897] :241). As evidence for this assertion, Durkheim found that abrupt increases in bankruptcy rates during financial crises were followed within a year by abnormal increases in suicide rates. These "economic disasters" led to a "declassification... which suddenly casts ... individuals into a lower state than their previous one" (p. 252). However, increased suicide rates were not brought on by absolute declines in a population's material well-being; rather they resulted from changes in social status per se. Economic downturns changed not only absolute conditions of individuals' lives, but also altered their expectations about their future living conditions as well. According to Durkheim, the "standard according to which needs were regulated can no longer remain the same ... in 'economic disasters' ... [individuals] must reduce their requirements, restrain their needs, learn greater self-control," but "society cannot adjust them instantaneously to this new life" (p. 252). Nor were increased suicide rates solely the result of negative "economic disasters." He also found similar increases in suicide rates immediately following years of rapid economic expansion, or "fortunate crises," and for the same reason. In "fortunate crises" the line between "legitimate claims" and "immoderate" hopes disappears; "there is no restraint upon aspirations" (p. 253). Thus, increased pathology in both economic downturns and booms is the result of the lack of social cohesion and regulations (informal as well as formal) governing behavior during these periods of rapid change – "anomie."

For more than a century after Durkheim's work, research into the effects of economic change on various types of pathology, including health, has continued to be heavily influenced by his approach, both theoretically and methodologically. Theoretically, social scientists and epidemiologists have continued to frame the causality of economic change in terms of its ecological effects on human groups – breakdowns in the cohesion of groups and their shared values and norms – rather than changes in the material conditions of groups. Methodologically, the focus of inquiry has remained the group rather than the individual, resulting in the nearly exclusive use of aggregate statistics and analyses.

Among more contemporary researchers who have followed in this Durkheimian tradition, the most exhaustive and influential research has been that done by M. Harvey Brenner. Brenner has analyzed the effects of economic change, as measured by a wide range of aggregate data, on a wide range of pathologies in a number of countries. In one of his earliest works, Brenner analyzed the effects of economic change on first admissions to mental hospitals in New York State from 1914 to 1967. As his measure of economic change, he chose the annual percentage of the state's workforce that was engaged in manufacturing jobs because it was the one retrospective measure going back to the early twentieth century that was most highly correlated with more contemporary indices of economic well-being. He found that

short-term changes in industrial employment had a strong negative lagged effect on first admissions for the total population: first admissions increased after a decline in industrial employment and declined after increases in industrial employment (Brenner 1969, 1973).

Brenner followed up this research with a report for the Joint Economic Committee of the U.S. Congress in 1976. The purpose of the research was to evaluate “the long term and aggregate impact on society of changes in income, prices and employment” (Brenner 1976:iii). Specifically, Brenner analyzed the effects of per capita income, the rate of inflation, and the rate of unemployment on seven “stress indicators”: suicide, state mental hospital admissions, state prison admissions, homicide rates, mortality from cirrhosis of the liver, mortality from cardiovascular and renal disease, and total mortality rates. Data for the analyses covered the years 1940–1973, with the exception of prison admissions, which dated back to 1935.

Brenner’s analyses showed that while changes in per capita income and the rate of inflation affected some of the stress indicators, these effects were inconsistent and difficult to interpret. The effects of unemployment, on the other hand, were consistent and significant for all seven stress indicators. Moreover, the effects of unemployment persisted – or were lagged – for up to 5 years. A sustained 1% increase in the unemployment rate accounted for almost 2% of the total mortality rate, as well as the mortality rate for cirrhosis, and for cardiovascular and renal diseases 5 years later. For homicide rates, the 5-year-lagged rate was almost 6%, for suicides 4%, and for prison and mental hospital between 2.3 and 4.3% (Brenner 1976). Looking specifically at the 1.4% increase in the unemployment rate that occurred in 1970, Brenner found that it accounted for a 5.7% increase in the suicide rate and an 8% increase in the homicide rate in 1975. Likewise, it accounted for a 5.6% increase in incarceration, a 4.7% increase in mental hospital admissions, and a 2.7% increase in both total mortalities and cirrhosis and cardiovascular disease-renal specific mortalities in 1975 (Brenner 1976).

Brenner extended his research on economic change and health to advanced industrialized countries in Europe during the post-World War II era (1950–1980). On the one hand, he found that long-term economic growth, as measured by positive increases in per capita disposable income, had significant effects on reducing total mortality among nearly all age groups in Great Britain – England, Scotland, and Wales (Brenner 1983) – and in Sweden (Brenner 1987). Long-term growth also reduced disease specific mortality rates, such as all types of heart disease, strokes, cancer, and infant mortality (Brenner 1983, 1987). Short-term economic growth, as measured by year to year increases in per capita income, also reduced cardiovascular mortality rates in Scotland and cerebrovascular mortality in England and Wales (Brenner 1983). Reduction in mortality rates occurred in spite of the evidence that economic growth also substantially increased risk behaviors that are related to increased mortality rates, such as tobacco, alcohol, and fat consumption (Brenner 1983, 1987). Economic growth was also associated with increased crime rates in Sweden (Brenner 1987). Aside from the overall increase in a population’s standard of living associated with long-term economic growth, Brenner attributes the declines

in mortality rates to the increased provision and utilization of the universal publicly provided health care systems in Great Britain and Sweden.

On the other hand, Brenner found that economic recessions in these countries were associated with increases in total and disease-specific mortality rates, similar to his results for the United States. For Great Britain, Brenner found that the overall unemployment rate was positively related to mortality from all causes (i.e., cardiovascular, chronic, stroke, and cirrhosis) except infant mortality and suicide for all age groups with 0 and 1 year lags. Among workers aged 20–49, long-term unemployment (over 28 weeks) was also positively related to the total mortality rate. Unemployment also had longer term effects on mortality, peaking at 10 years later for England and Scotland and 6 years later for Wales. Reductions in average weekly hours for workers in manufacturing also increased mortality rates for all causes except suicide and homicide (Brenner 1983). Results for Sweden likewise found that higher unemployment rates increased overall mortality and mortality rates from strokes, heart diseases, cirrhosis, and chronic causes. For total mortality and these disease-specific mortalities, the lagged effects of unemployment peaked at between 2 and 4 years, and for total mortality and cardiovascular mortality there was a second peak 8–9 years after the unemployment rate was measured. Additionally, Brenner found that the rate of business failure was positively related to nearly all Swedish mortality rates, except from cirrhosis (Brenner 1987).

Brenner argued that for individuals who lose their jobs during recessions their increased health risks arise from the significant loss of social and economic status, which accompanies their job loss. In turn, this leads to a loss of self-esteem and the social relations with former coworkers. These initial losses can be compounded by long-term unemployment which continues through the recovery phase of the economic cycle, if they remain unemployed while many of their coworkers are recalled to work or find new jobs, or if they can only find employment only in less skilled jobs with reduced earnings (Brenner 1987:187). It is worth noting that Brenner does not include the potential effects of the loss of earnings and thus health resources on increasing health risks for the unemployed. It is doubtful that this is an oversight since unlike American workers those in Great Britain and Sweden are not dependent on private health care coverage determined by their employment status and employer, but by universal public health care that would continue to be available to the unemployed.

Brenner also argued that the increased mortality resulting from economic recessions is not limited to those who are unemployed or lose their businesses. Individuals who do not lose their jobs or have their earnings reduced are also at risk, especially those working in firms that suffered significant reductions of employees due to the economic downturn. For these continuing workers, the increased health risks arise from increased feeling of job insecurity as well as increased job stress. Anxiety over losing one's own job is enhanced when coworkers lose theirs, and this anxiety can become chronic if the recession persists. Loss of one's coworkers also results in the loss of an important source of social support, which he acknowledged is an important "modifier" in the stress-illness process (Brenner 1987:187).

Recessions lead to increased job stress as firms themselves are threatened with the possibility of going out of business. Their survival depends on remaining

competitive, or even becoming more competitive by becoming increasingly “flexible”, cost cutting, using innovative production techniques, and/or marketing innovative products or services. And, most of all, this “flexibility” is intended to do all of this with fewer workers. As a result, firms operate with smaller margins of error, which means employees must work with greater mental concentration and take on more responsibility for doing their own job, but with increased anxiety over their job performance. Recessions also mean closer supervision by management and thus loss of job autonomy. And, with fewer coworkers, the remaining employees take on increased workloads – job demands. Moreover, these changes in work structures are accomplished more by the fear of job loss for underperforming rather than rewards for high performance in the form of pay raises and promotions (Brenner 1987:187–188).

A number of researchers, and especially economists, have been critical of Brenner’s work, both his methods of analysis and his interpretations of the links between economic recessions and mortality risks. Methodologically, critics have argued that his use of lengthy time-series analyses is likely to suffer from substantial biases due to omission of certain variables. For example, the relationship between occupations with high levels of unemployment during recession, such as unskilled blue collar workers, and high mortality rates may in fact be spurious, both being related to a third causal variable: lack of education. Other critics have pointed out that Brenner failed to take into account and control for a possible “selection” explanation that preexisting poor health may be the cause of unemployment rather than caused by unemployment. Additionally, critics have argued that the estimated effects of unemployment on mortality rates have been sensitive to his choice of countries and time periods studied. Finally, economists in particular have been critical of Brenner’s focus on the role of psychological mechanisms, such as stress, as mediating the effects of unemployment rates on mortality rates. Instead, economists have focused on lifestyle behaviors, human capital investments, and the relationship between income and the price of medical care. And, perhaps not surprisingly, economists have come to a very different conclusion from that of Brenner: that economic recessions – and depressions – may actually be good for the population’s overall health (for a thorough review of these critiques, see Ruhm 2000:618–619).

For example, in “Life and Death during the Great Depression” Granados and Diez-Roux (2009) examined the effects of changes in the GDP and unemployment rates in the United States on life expectancy and mortality rates from 1920 to 1940. Their results showed that population health did not decline during the peak years of the Great Depression, 1930–1933, but actually improved. Total mortality rates declined among nearly all age groups and life expectancy increased by several years for males and females, nonwhites as well as whites. They found similar declines in mortality and increases in life expectancies during the 1921 recession and during the second “dip” of the Great Depression in 1938. Mortality rates, in contrast, peaked in years of strong economic expansion: 1923, 1926, 1929, and 1936–1937. The only exception was suicide rates, which increased with unemployment rates, peaking in 1921, 1932, and 1938. They explained these relationships in terms of changes in lifestyle behaviors and job stress that are procyclical. The economic expansions of the 1920s and 1930s increased risky lifestyle behaviors, such as the

use of tobacco and alcohol. Expansions also increased the purchase and use of automobiles, which lead to increase traffic fatalities, especially during the 1920s when automobiles were relatively new to most Americans. Economic expansions also led to reductions in sleep as workers worked longer hours, and increased job stress caused by longer work hours including increased overtime, and increased pace of work, along with more strenuous physical labor among manufacturing workers. All of these risks were greatly reduced during the Great Depression as unemployment led to the decline of work and thus job stress, and to loss of income that led to the inability to afford risky lifestyles. However, their data did not permit them to examine the lagged effects of increased unemployment on health beyond 3 years. They note that there was a peak in mortality rates in 1936, 4 years after the worst year of the Great Depression, 1932, in which unemployment rose to its historic high of 22.9% and the GDP declined by 14%. But, they also note that 1936 was a year of strong economic growth and that most of the increases in mortalities that year were accounted for by factors, such as physical injuries, that cannot plausibly be related to the lagged effects of economic downturns.

Ruhm (2000) examined the effects of economic changes on mortality rates for ten of the leading causes of death in the United States from 1972 to 1991, which together accounted for approximately 80% of all deaths. Overall, Ruhm (2000:627) found that for total mortality rates “Joblessness is always *negatively* [italics in the original] and statistically correlated with total mortality”; a 1% increase in the unemployment rate decreased the total mortality rate by approximately one-half percent. Moreover, increased unemployment rates reduced specific mortality rates for eight of the ten leading causes of death. These included deaths from heart disease, flu and pneumonia mortality, lifestyle mortalities such as liver disease, auto and other accidents, homicide, and infant and neonatal mortalities. Only suicide increased with unemployment rates, while cancer mortalities increased with a 4-year lag.

As with Granados and Diez-Roux (2009), Ruhm (2000) argues that the procyclical effects of unemployment on mortality are related to poorer lifestyle behaviors brought on by economic expansion. To test this argument, he examined the effects of changing unemployment rates on individual levels of risk behaviors. Data for this part of his analysis were collected by the Centers for Disease Control and Prevention in a yearly survey, “Behavioral Risk Factor Surveillance System” for the years 1987–1995. His analysis generally confirms his argument; increased unemployment reduced most risky behaviors, especially tobacco use, as well as body mass index, obesity, the percentages of respondents who were either overweight or underweight, and the daily consumption of fat. Increased unemployment conversely increased positive health behaviors such as daily physical exercise and the daily consumption of fruits and vegetables. The only exception to these health effects of increased unemployment was alcohol consumption, which increased with the unemployment rate. And, not surprisingly, unemployment reduced individuals’ use of preventative health care, such as routine medical checkups and cancer screening. However, even though these effects are mostly consistent with Ruhm’s original argument about the procyclical effects of unemployment, because this part of his analysis looked at individual behavior it cannot be conclusively demonstrated that these risky behaviors by

individuals are what led to the increased mortality as measured by aggregate level data, that is, whether or not the individuals studied died, or if so whether they died from these risky behaviors.

This last point is somewhat ironic in that most of the research on the effects of economic change on health has been criticized for the opposite omission, the “ecological fallacy” by which the statistical relationships at the aggregate level are incorrectly assumed to describe actual individual experiences, that is, that the actual increased mortality found in Brenner’s work occurred among the unemployed, and occurred because of their unemployment. This is not, however, what Brenner, Granados and Diez-Roux, and Rhum have actually argued. Indeed, they have speculated about many individual level factors that could mediate the pro- or countercyclical effects of unemployment, or economic cycles more generally on health outcomes, measured at the aggregate level. A more accurate criticism is that the mechanisms that mediate, or explain, the effects of aggregate economic events on individual health outcomes have largely been left unmeasured (Catalano and Dooley 1983). Such an explanation suggests a more social psychological approach to understanding how individuals actually experience economic events such as unemployment. It is to this literature that we now turn.

Individual Experiences with Unemployment

The study of how individuals experience job loss and unemployment is a research tradition that goes back the Great Depression in the 1930s. The research by Bakke (1933, 1940), Jahoda (1982), and Eisenberg and Lazarsfeld (1938) established the parameters of unemployment’s effects on individuals: (1) increased economic deprivation and eventual impoverishment due to the loss of income; (2) reduced psychological health and self esteem due to the loss of social status and personal identity attached to one’s job; (3) increased social isolation due to the loss of work-related social relations as well as the inability to afford participation in community activities; (4) the loss of a regular time structure created by fixed schedules of going to and from work, and (5) increased passivity and a sense of loss of control over one’s life (Jahoda 1982). Moreover, these economic and psychological effects are not independent of one another. Increased deprivation and impoverishment eventually leads to declines in physical health due to malnutrition (Jahoda 1982). Since this risk is also shared by all members of the household, especially children, it compounds the negative psychological effects on the unemployed person as it reduces his/her breadwinner status within the family. This is particularly acute for males who were the only or the primary breadwinner in this historical period (Gordus et al. 1981; Perrucci et al. 1988). Reduced psychological health, in turn, limits the future reemployment and job stability prospects of the (especially long term) unemployed (Jahoda 1982; Darity and Goldsmith 1996).

There was a hiatus in this research beginning with the onset of World War II through the generally prosperous postwar era from 1945 into the 1970s. But as both

cyclical and structural unemployment rates began to climb in the 1970s and 1980s, studies of individual experiences with unemployment remerged. In 1971, there were fewer than 20 studies published in psychology on the effects of unemployment, but almost 200 such studies were published in 1986 (Dooley and Prause 2004:21–23). The new generation of unemployment research not only retained the general focus of the Great Depression era research on the economic and psychological impacts of job loss but also became more nuanced in the specific research questions that it has addressed. These included the short-term versus long-term effects of job loss; the effects of job loss and unemployment on reemployment prospects and, in turn, the effects of reemployment on long-term economic, physical, and psychological well-being; and the effects of different types of job loss: not only displacement, but lay-offs, individual termination, and job losses due to preexisting health problems or disabilities.

These more recent studies also differ in their research frameworks and methodologies from those conducted during the Great Depression. The earlier studies were mostly in depth qualitative studies of entire communities, such as Jahoda et al.'s (1972[1933]) study of Marienthal, Austria and Bakke's study of Greenwich, England (1933). In contrast, the methodologies of contemporary studies tend to fall into one of two categories: case studies of plant closings using quantitative or multi-methods (quantitative and qualitative) approaches which focus almost entirely on the effects of displacement; or a smaller category of general social surveys of populations using quantitative analyses on large and mostly longitudinal social surveys with representative samples of the subject populations. This choice of methodological approaches does not appear to have biased the results and conclusions of job loss and unemployment studies.

Substantial evidence exists both in the plant closing literature (e.g., Kasl et al. 1975; Perrucci et al. 1988) and from general longitudinal surveys (e.g., Turner 1995; Dooley et al. 1994; Ferrie et al. 1998; Gallo et al. 2000) that involuntary job loss is strongly associated with worsening physical and mental health, at least in the short term. These effects include an increase in self-reported medical conditions, the number of illness episodes, hospital referrals and admissions, and poorer physical functioning (Hamilton et al. 1990; Gallo et al. 2000; Turner 1995). They also include increased symptoms of psychological distress: anxiety, sleep disorders, and depressive symptoms (Turner 1995; Dooley et al. 1994; Gallo et al. 2000; Burgard et al. 2007).

Typical of the plant closing literature is the Perrucci et al.'s (1988) study of the closing of an RCA plant in Monticello, Indiana in 1982. This study found that displaced workers reported increased headaches and gastrointestinal problems, and to a lesser degree high blood pressure, respiratory, and heart problems. They also reported increasing their consumption of tobacco and alcohol (p. 85). These displaced workers also reported greater psychological distress than a control group of continuously employed workers in the Monticello area. They expressed significantly less "mastery" or sense of control over their lives, less optimism for their economic future ("there is a job waiting for me"), and more symptoms of anxiety and depression, including feelings of "hopelessness." They reported the same level of social support from their families and friends as did the continuously employed (pp. 89–94).

Among displaced workers in this study, those with stronger social support reported fewer depressive symptoms (p. 96), similar to the results of other studies that have shown strong social support to have significant “buffering” or moderating effects between displacement and depression (e.g., Liem and Liem 1979).

These results did not vary significantly by the gender or marital status of the displaced workers. The ages of these workers were also unrelated to physical health and psychological well-being, except that older workers had fewer depressive symptoms and had more stability in their relations with family and friends (Perrucci et al. 1988:96). This is consistent with the results of Warren’s (1978) study of the effects of job loss on women workers. However, other studies have found that older workers may suffer more because they have longer periods of unemployment after displacement and have fewer human capital skills – such as level of education – than younger workers, and because of age discrimination in reemployment (Lipsky 1979). Still other research has found that middle-aged workers are most affected because they are in the middle of their careers and lose the most social status when they are displaced. They also are most likely to have the largest families and families with dependent children, and thus the greatest financial burdens (Brenner 1973). Yet another type of age effect was found by Kasl et al. (1975) in their study of the closings of two plants. Younger workers reported more days of “not feeling well” in the “anticipatory stage” between the announcement of the plant closing and their actual displacement, but these complaints declined significantly in the following stages from actual unemployment through stable reemployment. Older workers, on the other hand, reported increasing complaints after job loss and had a significantly higher level of complaints than younger workers in the final stage of stable reemployment.

In contrast to the short-term effects of job loss, the research is quite mixed with respect to the long-term effects. For example, with the exception of older workers increasing their complaints about not feeling well through the various stages of displacement, Kasl et al. (1975) found that overall psychological effects were the greatest in the “anticipatory” stage as workers worried about their impending job loss. The results from this study indicated no trends toward worsening psychological distress for the 2 years they were studied after the shutdown (see also Kasl and Cobb 1979). Nor was unemployment in this sample related to overall number of illness symptoms (Gore 1978). Buss and Redburn’s (1983) study of the closing of the Youngstown (Ohio) Sheet and Tube steel plant found that shortly after the shutdown the displaced steelworkers reported more stress symptoms on each of 12 mental health scales than either those who had found new jobs or had retired. But, 1 year after the closing, the unemployed reported more symptoms on only four of the scales: increased alcohol use, family problems, feeling of victimization, and anxiety. And after 2 years there were no significant differences on any of the scales (p. 71).

Other studies have found long-term effects. Liem and Liem’s (1979) study of male blue collar workers who lost their jobs primarily due to layoffs found that they had significantly higher levels of psychiatric symptoms than a control group of employed men 1 month after their job loss, and that this difference increased at 4 months. In their study of the displacement of aircraft workers in New England, Liem and Rayman (1982) found that both men and women who had experienced a

job loss within the previous 10 years reported higher level of physical strain, high blood pressure, alcoholism, smoking, and insomnia. Results from longitudinal surveys have produced similar results. Pearlin et al. (1981) studied the effects of “disruptive job events” – being fired, being laid off, leaving a job for health reasons, and being downgraded – on depression using a two wave study of Chicago area workers conducted in 1972–1973 and again in 1976–1977. They found that job disruptions between the first and second waves increased respondents’ depressive symptoms at time 2 (they did not disaggregate the types of job disruptions). Using LISREL analysis they found that this relationship was mediated by the effects of job disruptions on reducing respondents’ self-esteem and sense of mastery while increasing their perceived “economic strain,” for example, not having enough money to pay bills and afford household necessities. Gallo et al. (2000) looked at the effects of involuntary job losses on myocardial infarction and stroke in a sample of older workers born between 1931 and 1941, using longitudinal data from the U.S. Health and Retirement Survey. They found that among those who had experienced an involuntary job loss over the previous 10 year period – between the first wave interview in 1992 and the second wave interview in 2002 – there was more than a twofold increase in the risks for both myocardial infarction and stroke.

The strongest evidence of the long-term effects of job loss comes from a couple of studies that measured effects on long-term mortality rates. In one study, Craypo and Davisson (1983) found that 15% of the workers displaced by the closing of a brewery in South Bend, Indiana had died within 7 years of the plant closing: an age-adjusted mortality rate 16 times the average for the general population. In a second study, Sullivan and von Wachter (2009) used an innovative methodological approach to study the effects of job displacement on long-term mortality rates among male workers in Pennsylvania. Rather than using case studies of plant closing or longitudinal survey data, these economists used “administrative data,” matching data on individual workers’ employment and earnings history during the 1970s and 1980 from the Pennsylvania Unemployment Insurance office to Social Security Administration death records from 1980 to 2006. Their sample consisted of male workers who left their firm between 1980 and 1986 in the context of general downsizing by their firm (a 30% or more reduction in the firm’s workforce) and who did not leave their job because of preexisting health conditions. To further control for preexisting job instability (low productive workers) they look only at “high-seniority” male workers and workers who had been employed by the same employer for the previous 6 years. For this group of workers mortality rates in the year after their displacement were 50–100% higher than what would have been expected in the overall population age-adjusted mortality rates. While the mortality rates declined sharply over time the study estimated that displacement continued to increase the annual death hazard by 10–15% for as long as 20 years after the job loss. For a worker who was displaced at age 40, these results indicated a decline in his life expectancy by 1–1.5 years.

Sullivan and von Wachter (2009) found that displacement was associated with an immediate and sharp drop in earnings and increased unemployment for the first 2–4 years after displacement, leading to “acute” (life-event) stress and ultimately to

sharp increases in mortality rates. In the long term, displacement was associated with a 15–20% drop in average earnings and increased variability in earnings. And while the effects on continued unemployment disappear after 2–4 years, the effects on job instability continued. Overall, they argue that these employment and earnings changes represent a decline in “lifetime resources” that reduced health investments and increased “chronic” financial stress, leading to long-term increases in mortality (Sullivan and von Wachter 2009:1269). These results are consistent with other research that has found displacement leads to long periods of unemployment (Farber 2003), significant losses in both short-term and long-term income and increased financial strain (Jacobson et al. 1993), and reduced job quality when reemployed (Brand 2006).

Some plant closing studies have found that reemployment shortly after displacement positively affects physical health (Kasl and Cobb 1979) and can reverse some of the psychological damage done by displacement (e.g., Liem and Liem 1979; Buss and Redburn 1983), but only if the new jobs have equivalent or greater earnings than the jobs that were lost (e.g., Snyder and Nowak 1984). But other research indicates that reemployment does not result in improved well-being or better physical health (Aiken et al. 1968; Palen 1969; Perrucci et al. 1988). An Australian study has found that unemployed workers who were reemployed in “poor quality” jobs actually showed a worsening of their mental health. Researchers from the Australian National University examined results of a nationally representative household survey of more than 7,000 Australians covering 7 years beginning in 2001 (Butterworth et al. 2011). The quality of jobs was based on four factors: job demands, job control, job security, and whether the respondents evaluated their pay as being fair or not. Respondents’ mental health was assessed by questions that measured symptoms of depression and anxiety as well as feeling of calm and feelings of happiness. Not surprisingly, the results showed that employed respondents had better mental health than those who were unemployed, and that among the formerly unemployed those who were subsequently reemployed in “high quality” jobs improved their mental health. However, those who were reemployed in “poor-quality” jobs had worse mental health than those who remained unemployed and showed a greater decline in mental health over time than did the unemployed. These differences persisted after controlling for other factors that could affect the results, such as age, gender, marital status, and level of education (Butterworth et al. 2011).

As pointed out above, almost all plant closing research has focused on the effects of job displacement – job loss due to the permanent elimination of the worker’s job. Much of the discussion in the survey research literature has also focused on displacement, and for good reasons. The average length of unemployment following displacement is longer than those following other types of involuntary job loss, which, in turn, makes reemployment in jobs of similar quality more difficult, and increases the likelihood that the worker will become “discouraged” and stop looking for work (Brand 2006). But are the effects of displacement on workers’ health worse, or any different, from the effects of other types of job loss? Surprisingly, research by Burgard et al. (2007) suggests that this is not the case. Their results show that while displacement is significantly associated with poorer self-rated

health (compared to respondents who had not lost a job), the effect of job loss for “health reasons” was much larger, with an unstandardized regression coefficient almost nine times that for displacement (0.449 compared to 0.056 for displacement). Likewise, while displacement significantly increased depressive symptoms, “health reasons” had a much larger effect, over four times as great. In fact, the effect of displacement on depression was similar to the significant effects of being “fired/laid off” and “temporary/seasonal” job losses.

Although, as discussed above, the choice of a focused plant closing case study or a longitudinal social survey has not appeared to bias the results and conclusions about the effects of job loss on the individual’s economic, physiological, and psychological well-being, each approach has its own particular strengths as well as weaknesses. Plant closing studies are highly focused on the outcomes of a relatively limited number of individuals. This allows for more continuous and in-depth observations of the processes of job loss and subsequent unemployment and reemployment. With the use of daily diaries kept by the subjects, researchers can measure daily changes in well-being. Results from plant closing studies are also less likely to be vulnerable to issues of preexisting health selection effects or other confounding and spurious effects because, when an entire plant closes it is unlikely that the particular characteristics of individual workers are responsible for their displacement. Still, the results from plant closing research are not very generalizable to the rest of the labor force. Almost all plant closing studies are of industrial manufacturing firms and almost all of the displaced workers are blue collar, white, and mostly male. Moreover, the plants that close may not be typical of all firms and worksites in that particular industry. Because plant closing is an extreme and not typical response to economic crises, the closed plant may be forced into such an extreme response because it was less productive than others.

The use of large scale longitudinal social surveys to study job loss can produce results that are more generalizable to the entire labor force. As seen above, these studies can also address all the various types of job loss, not just displacement. However, the number of workers losing their job at any one time for any reason is relatively small. Without a very large sample or without oversampling for the types of workers who are most vulnerable to job loss, a small “*n*” problem may arise; there may be too few workers with job losses to analyze adequately. Longitudinal surveys are conducted in waves 2–4 years apart, or more, and thus cannot measure changes that occur entirely between the waves. For example, the study by Pearlin et al. (1981) looked at the stress effects of job disruptions that occurred in the 4 years between the two waves of the study, while Gallo et al. (2000) looked at the effects of job losses in a 10 year period between survey waves. Unless the surveys contained questions about when the job loss actually occurred, there is no way of differentiating the effects of a job loss that occurred the day after the first wave was conducted and a job loss that occurred the day before the second wave. And, because these studies usually have only limited baseline controls for preexisting health conditions and other individual characteristics that may have contributed to the job loss, they cannot adequately rule out a health selection interpretation (Burgard et al. 2007).

Moreover, both plant closing studies and longitudinal studies of job loss focus only on one aspect of how macroeconomic processes affect individual workers: unemployment. But, as discussed earlier in this chapter, unemployment is just the “tip of the iceberg” when it comes to understanding the effects of macroeconomic processes on workers’ labor force positions and health. Even those workers whose jobs are not threatened can be affected. There is some research in plant closing studies that demonstrate these effects. Research by Kivimäki et al. (2001) found that workers who “survived” (kept their jobs) significant downsizing by their firm saw increased job demands, reduced job control, and increased job insecurity after the downsizing. In turn, these increases in job stressors led to increases in self-reported health problems and emotional difficulties similar to the workers who were displaced (see also Woodward et al. 1999; Karasek and Theorell 1990). But, these results only pertain to the workers in the particular firms where the downsizing occurred. They do not address the more systematic effects economic changes have on all workers, the structures of their jobs as well as their health and well-being. It is to a body of research that does address these more systematic effects that we now turn.

The Macroeconomic Context or Work and Stress: Linking the Macro to the Micro

This research consists of studies using multilevel models to examine the effects of the macroeconomic climate, or context, on individual experiences with labor market disruptions and changes to the psychosocial characteristics of their jobs that constitute job stressors. In turn, these individual experiences are what directly determine workers’ levels of physical and mental distress and well-being. The underlying assumption of this research is that the macroeconomic context – its structures and processes – is the primary distal cause of workers’ work and labor market experiences. These experiences are not limited to workers’ individual experiences with unemployment or other labor market disruptions, but also their daily work experiences. This assumption has allowed researchers to link the macro level “economic change and health” literature to both the literature on individual unemployment experiences and to the general literature on job stress: why some jobs and some occupations are more stressful than others (Fenwick and Tausig 1994). While the individual’s own experiences are the proximate determinants of their level of distress and well-being, these experiences are determined in turn by the macroeconomic context. Moreover, the individual’s understanding of their experiences is also framed by the macroeconomic context.

For example, Turner (1995) examined the effects of the local economic context, as measured by local community unemployment rates, on how respondents’ current or previous unemployment experience affected their physical health and level of depression. Overall, Turner found that while the local unemployment rates had little impact on the physical or mental health of respondents who were stably employed (neither currently nor previously unemployed), increased local aggregate

unemployment rates increased reports of physical illness and depressive symptoms among currently unemployed respondents, and especially those without a college education. He interprets these results by suggesting that being unemployed is particularly stressful when prospects for reemployment are poor, as they would be when unemployment rates are high, and especially stressful for groups whose prospects are further limited by their lower levels of human capital, such as that of the noncollege educated. The combination of poor reemployment possibilities and limited human capital exacerbates the financial strain of being unemployed (Turner 1995:224–225). In contrast, Turner found that the stressful effects of previous unemployment were greatest when the local unemployment rate was low, and these effects were greatest among the higher status college educated. He interprets these findings in terms of the greater self-blame and personal stigma associated with unemployment among higher educated respondents, especially in times when the economy is good and overall employment prospects are high (p. 225).

In a series of articles, Catalano, Dooley, and associates examined the impact of a range of aggregate economic indicators on a number of mental health outcomes. In a study of the effects of changing economic indicators on reported life-event experiences and mood among a sample of Kansas City area residents, Catalano and Dooley (1977) found that unemployment rates were the most consistent predictor of variations in both life-events and mood, especially when lagged 3 months. Aggregate measures of employment changes in different industrial sectors had less consistent effects, while changes in the Consumer Price Index, as a measure of inflation, had no effects. They next examined aggregate economic changes in the Los Angeles–Long Beach metropolitan area and found that economic contractions, as measured by increasing unemployment rates, increased the individual incidence of undesirable job and financial events even among stably employed workers (Catalano and Dooley 1983). In turn, the experience of these life events led to increased levels of injuries and illnesses among respondents. And, in a later analysis of the Los Angeles–Long Beach data they found that contracting employment in the industrial sector in which a respondent worked increased the respondent's perceived job insecurity, which in turn led to more help-seeking for psychological problems (Catalano et al. 1986). While they found that increased help-seeking was related to increased symptoms of psychological problems due to respondents' perceived job insecurity, they also speculated that employers become less tolerant of worker deviance, including psychological problems, during economic contractions.

In a pair of articles, Fenwick and Tausig (1994) and Tausig and Fenwick (1999) looked at the effects of the 1974–1975 economic recession, as measured by changes in national occupational unemployment rates, on changes in both individuals' reported stress (a combination of symptoms of anxiety and depression) and life satisfaction (Fenwick and Tausig 1994) and on aggregate changes in these psychological outcomes for the general population (Tausig and Fenwick 1999). Data for both studies came from the 1972/1973–1977 Quality of Employment Survey Panel Study, sponsored by the U.S. Department of Labor. The significance of this panel study is that, in addition to its in-depth information on respondents' job structures and psychological functioning, it provided before and after information on the

effects of the mid-1970s recession for a sample ($N=830$) of employed workers. The choice of occupational unemployment rates to measure this macroeconomic change was in keeping with previous research, as discussed earlier. Additionally, occupational unemployment taps into the more theoretical importance of unemployment as a mechanism used to “discipline” workers (Starrin et al. 1989). It disciplines workers economically, as an increased pool of unemployed individuals increases the competition for jobs and, as a source of cheaper labor, also potentially reduces wages for most stably employed workers – Marx’s “surplus army of the unemployed” or neoclassic economics’ theorizing about the demand–supply curve (Becker 1975). But this labor discipline goes beyond earnings; workers are also disciplined in the work tasks and structures they will accept. Starrin et al. (1989) argued that economic recessions threaten the survival of firms, forcing them to reduce their costs by eliminating some jobs and restructuring the jobs of surviving employees to make them less costly and more productive. Restructuring involves not only cutting hours, pay, and benefit, but also higher workloads and demands due to reduced staffing; reduced margins of error in employees’ output coupled with increasingly “close” supervision by management; and relaxation of job rules, including those pertaining to worker safety and health. But, with higher unemployment rates, and thus fewer alternative employment possibilities, workers have little choice other than to put up with increasingly stressful jobs.

For these studies, occupational unemployment rates were measured separately for each of ten broad occupational categories used by the U.S. Census Bureau: (1) professional and technical; (2) managers and administrators; (3) sales workers; (4) clerical; (5) craft; (6) operatives, except transportation; (7) transportation equipment operators; (8) nonfarm laborers; (9) service workers; and (10) farm workers. The unemployment rates that were calculated were those 2 years prior to each interview wave to take into account the lagged effects of unemployment on health outcomes found in much of the literature (e.g., Brenner 1976); that is, 1971 unemployment rates for the 1973 wave and 1975 for the 1977 wave. Each respondent was assigned the rate of unemployment for his/her occupational category. Measures of job structures for the 1994 study were “decision latitude” and “job demands” based on Karasek’s (1979) work as well as a measure of perceived job security.

Results from the 1994 study on changes in individual level stress and satisfaction (Fenwick and Tausig 1994) indicated that increased occupational unemployment rates were associated with increased stress and lower life satisfaction among respondents at the second, postrecession, wave in 1977. But, these effects were almost entirely indirect through their effects on workers’ job structures. The increased unemployment rates during the mid-1970s recession reduced workers’ well-being primarily because they significantly increased job demands while reducing decision latitude. Reduced decision latitude in particular had the greatest effects on both increasing stress and reducing life satisfaction. On the other hand, perceived job security declined only among workers who had changed jobs or employers between waves one and two. Workers’ job security was not affected by increased unemployment rates nor, did it have a significant effect on reducing workers’ well-being.

In the 1999 follow-up study (Tausig and Fenwick 1999), a similar model of macroeconomic change was applied to analyzing changes in the well-being of the overall population, using the same Quality of Employment Survey Panel Study. This was accomplished by an analytical procedure that allowed the determination of the percentage of total aggregate changes in “distress” (“stress” in the 1994 study) and “dissatisfaction” (reverse coded from satisfaction) attributable to changes in measures of the macroeconomy, job structure, and individual characteristics between 1973 and 1977. Results of the analysis showed a significant increase in the overall distress and dissatisfaction of the population (of employed workers) over the course of the recession. Moreover, the largest percentages of those changes were accounted for by job restructuring: about 20% of the increase in distress and almost half of the increase in dissatisfaction. Increased job demands and increasingly “inadequate pay” (not analyzed in the 1994 study) made a substantial contribution to the decline in well-being: roughly 13% of the increase in both distress and dissatisfaction. Worsening extrinsic job characteristics (not analyzed in the 1994 study) also made substantial contributions to the decline in well-being. Of particular note was the effect of workers’ perception of increasingly “inadequate pay,” which alone accounted for a quarter of the well-being decline. This change taps into the rather unique context of the mid-1970s recession, which included not only increased unemployment but also increasingly high rates of inflation, or as it came to be called at the time: “stagflation.” Personal experiences with being unemployed accounted for approximately 10% of the well-being decline and increased unemployment rates accounted for 13% of the decline. The overall results of both studies indicated that the effects of recession on job restructuring are more widely stressful (affect more people) than those of actual unemployment or increased job insecurity. This difference is due to the more general experience workers have with restructuring during recessions compared to workers who experience unemployed (about 14% of the panel sample).

Summary

In this chapter we have addressed specifically the effects of macroeconomic change on workers’ well-being, physical and mental. In doing so, we provided overviews of three approaches: the “economic change” research which focuses on how macroeconomic changes, measured by aggregate indicators, impact the overall health and well-being of populations; a second approach that focuses on how individual changes in labor market status, especially unemployment, impact the individual’s well-being; and a third approach that links macroeconomic changes to individual changes, not only in labor market status but also in individual experiences with job insecurity and with job restructuring. Although these three approaches have somewhat different concerns, they are united in their understanding that *unemployment*, individual or en masse, is what is most stressful about macroeconomic change. Unemployment creates acute “life event” stress among those who lose their jobs and creates more

chronic stress the longer individuals remain unemployed. It creates greater job insecurity for many other workers, especially those who “survive” episodes of organizational downsizing, and have to worry if they will be next. And, it “disciplines” many other stably employed workers into accepting work that has more stressful characteristics and often for less pay and fewer benefits – “givebacks.”

These stressful consequences of unemployment are often portrayed as inevitable and necessary outcomes of economic cycles and the process of “creative destruction” in market economies – especially in theories of neoclassic economics. However, there is substantial evidence that these outcomes are neither inevitable nor necessary, and that the breadth and depth of the effects of economic contractions are conditioned by “institutional” forces that can contravene the effects of economic markets. And, foremost among these institutional forces is the political state. As the largest organization and institutional actor in society, the state has the ability through its actions and policies to ameliorate or to exacerbate the impact of economic cycles on workers and their jobs.

As discussed in the previous chapters, the “Fordist” era of employment in the United States (and elsewhere) from 1945 to the early 1970s was marked by stable, if also bureaucratic and rigid, employment systems and, as a result, sustained economic growth and prosperity for an increasing number of Americans. Not only did average incomes increase yearly, but both poverty and overall economic inequality declined significantly. While these trends were related to the macroeconomic markets of the era, and especially the lack of global competition for American industrial products, the foundations of the “Fordist” era were not economic, but political. These began with the policies and laws enacted during the New Deal in the 1930s, establishing old-age and unemployment insurance, the right of workers to collective bargaining, and defining full-time employment and benefits. Minimum wage legislation and as late as the 1960s Medicare and Medicaid added to this institutional foundation of economic security (Kalleberg 2009). As Myles (1990:273–275) has argued, the “welfare state” that emerged during the Fordist era was based on a transformation in government’s traditional welfare role. Rather than only providing assistance to the poor – poor relief – the goal of the Fordist welfare state was to provide income security in the form of “wage replacement” – unemployment compensation and various welfare “safety nets” – to keep individuals and families from falling into poverty even during economic contractions. The financial stress of being unemployed would be greatly mitigated. Indeed, as Burawoy (1979) observed in his study of a Chicago-land machine tool shop in the mid-1970s, long time workers with seniority looked forward to being laid off for a time during the mid-1970s recession because it would provide them more leisure time. They were secure in the knowledge that their layoff would be temporary, that between state-provided unemployment insurance and union funds for such times they would continue to have adequate income, and that as workers with seniority they would be rehired before these funds ran out.

Likewise, the demise of the Fordist era employment system and the turn to post- or neo-Fordism also had political roots. According to O’Connor (1973), it began with the “fiscal crisis” of the welfare state. Beginning in the late 1960s, businesses

became increasingly reluctant to continue helping to pay the costs of providing employment and income security through taxation. They argued that these costs increasingly restricted the money available for capital investments. Their argument was aided by the failure of Fordist era economic stabilization policies to control either unemployment or inflation (“stagflation”) during the mid and late 1970s. The broad political consensus that had supported Fordist era welfare policies began to erode in the 1970s as political conservatives argued to unleash market forces to discipline workers to be more productive and less costly (wage and benefit give-backs) in an era of growing international competition (Myles 1990:275–281). The initial culmination of this shift was the ascendancy of “tight money” policies by the Federal Reserve and Reagan administration policies of cutting taxes on businesses and investors, reducing or eliminating income replacement programs, and making it easier for businesses to void wage, benefit, and pension obligations to their workers. Workers would have less protection from the financial stresses of unemployment. Unemployment rates, which had remained under 6% for much of the Fordist era, even during recessions, began increasing: 8.5% at the height of the mid-1970s recession, nearly 10% during the 1981–1982 recession, and over 10% in the Great Recession of 2007–2009 (data from Bureau of Labor Statistics). And, with the increased job and financial insecurity of ever-deepening recessions have also come increased inequalities in income and wealth, and increased rates of poverty (Marger 2011). All of these changes suggest an increased risk of stress for individual workers and the population as a whole (e.g., Wilkinson and Pickett 2006). And, to the extent that these increased risks are products of changes in state policies as well as market forces, the “economy of stress” discussed in this chapter becomes a “political economy of stress.” And, of course, it is workers who absorb all of this as changes in exposure and vulnerability to stressful work conditions.

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Chapter 6

Institutional Factors

Introduction

Organizations are embedded in broad institutional environments. As such, organizations may influence those environments and are certainly influenced by them. At the end of Chapter 5, we discussed how the political state as an institutional force influenced work organizations during the Fordist era with respect to their employment relations with their workers, directly by legislating rules on wages, work hours, and collective bargaining, and indirectly by legislating social welfare and security programs such as Social Security, unemployment insurance, and minimum wages that in effect tightened the labor market driving up the cost of labor for business. These are not the only examples of how the state has affected employers, employees, and labor markets. Nor is the state the only institutional environment in which organizations are embedded.

In this chapter, we use the logic of institutional theory to show how certain environmental factors affect labor markets, organizational structures and job conditions and, therefore, job stress. We examine how changes in the normative understanding of what constitutes the rational work organization are changing the structure of jobs, organizations, and labor markets. We also discuss how the large-scale entry of women into the labor force intersects with those organizational and job structure changes. According to Meyer (1994:28), “Every aspect of organizational life—the existence and identity of organizational populations of various types, the formal structures of organizations in these populations, and the activity routines within them—is now understood to be dramatically affected by environmental forces...” Surely, then, institutional environments have effects on job stress through their effects on labor markets, organizations, and job conditions and a comprehensive understanding of job stress requires that we account for these effects.

We first discuss some general principles of institutional theory and then we apply these to understand how such institutional processes affect labor markets, organizational structure, and job conditions. In fact, the structure of labor markets, organizations, and jobs has undergone dramatic change in the last 30 years or so and we use that

transformation to both illustrate the general importance of including institutional factors in the study of job stress and to explain how the specific changes at the institutional level have affected work and workers. Meyer (1994) notes specifically that institutional researchers need to account for new models of management (both at the organizational level and at the jobs level) that have developed in recent years. He also notes that institutional theory needs to address the enormous expansion of the involvement of women in organizational life (at the labor market, organizational, and jobs levels). Hence, in this chapter we discuss the emergence of new forms of work and their implications for job stress as well as the direct and indirect effects of the great increase in the participation of women in the work force on organizational structure and job conditions. We also discuss the changing “labor” contract between employees and employers that is reflected in the “new deal at work.” To assess the impact of each of these factors on work and stress requires an analysis at the institutional level. We see too that some of these labor market, organizational, and job changes differentially affect women, minority groups, and immigrants so that the changes may also be related to health disparities as these are related to systematic differences in work conditions.

Organizational Environments

Although it is certainly possible to study behavior in organizations without leaving the boundary of the organization, it is also clear that doing so will provide an incomplete picture of that behavior. Just as we need to consider the organization as a context for understanding specific job structures, we need to consider the environment of the organization as a context for understanding behavior in organizations. Indeed, we have already discussed the labor market as one such “environment” that affects both organizational structure and job conditions.

The sociological study of organizations that followed from Weber’s writings on bureaucracy (1946; 1947) was originally focused on the problem of coordination and control within the organization for the purpose of maximizing efficient goal attainment. The organization was assumed to have a single goal, articulated by the owners of the firm that was best reached by organizing activity using rational bureaucratic principles that emphasized structures of authority, the use of expertise, and impersonal decision-making. We derive the dimensions of organizational structure, formalization, centralization, departmentalization, etc., from this Weberian, bureaucratic perspective on organizations.

At the same time, however, researchers noted that there did not seem to be one best way to organize (as the Weberian logic might suggest). Rather, organizational structures seem to vary based on their purpose(s), size, the basis of membership (i.e., employment or voluntary), and the underlying technology of production and, in numerous other ways including the multiple interests of organizational constituencies that make the organization a contested terrain. It also became apparent that organizations did not exist apart from their environments. Indeed, once the notion of

organizational environments was established, much organizational activity was seen as related to external contingencies that organizational members actively monitor and manage (Lawrence and Lorsch 1967; Pfeffer and Salancik 1978).

The implication of this latter observation is that organizational structures are shaped by relationships with various organizational environments. Organizational environments both create needs for efficient structures of coordination and control (i.e., technology and competition) and provide the means for organizing (i.e., models (myths) of organizational structures). Scott (1987) suggests that organizational environments can be parsed into several components. One component is associated with the “participants” in organizations. This component emphasizes the nature and source of employees in the organization and would include the socialization, education and training of employees, their cultural and value orientations and, importantly, the conditions of the labor markets that connect workers and employers. There is also a technical environment that includes the sources of materials (objects or persons) that are processed by the organization, the methodology of production (which can include the job demands and decision latitude associated with production functions), and the limits imposed by unionization and professional occupational norms. The technical environment can also include the viability of a given organization vis-à-vis its competitors. Finally, it can be argued that there is a social institutional environment that provides legitimated models of organizational forms from which individual organizations can derive credibility for their activities and improve their chances for survival (Meyer and Rowan 1977). Even if these models serve as idealizations (myths) of effective organization rather than as true means for attaining well-organized activity, they provide a legitimating function for organizational activities in the broad social environment and thus have a “ceremonial” function. And, as we will see, the responsiveness of organizations to some issues related to the influx of women into the labor force (the family-flexible workplace), the extent to which new forms of work have transformed organizations (functional flexibility), and the emergence of contingent and part-time work (numerical flexibility) and the “precarity” of employment may be explained by reference to organizational institutional environments.

Resource and Institutional Environments

The relationships between the environment, the organization and jobs have been studied from several different perspectives. Two of these are particularly relevant to our discussion: resource-dependence and institutional explanations.

In the 1960s and early 1970s, work could have been characterized by its stable nature. The bureaucratic form of organization seemed well-suited to most enterprises, unionization reached a zenith, and employment with a single company might be for a lifetime. Men worked and women kept the household and raised the children. This stability concerning all things organizational was reflected in the research literature about work and organizations. A benign and placid environment allowed

research to maintain an “internal” focus in which researchers sought to understand such things as how the technology of production affected the specific degrees of formalization, centralization, and departmentalization within organizations (Woodward 1965; Thompson 1967; Hage and Aiken 1969) or how work group cohesion affected job satisfaction (Tumulty et al. 1994). The study of work stress in a bureaucratic (Fordist) form of work organization gave rise to the demand–control explanation for job stress that we have been following here. But, in the 1970s, researchers became aware of the environment because the tranquility of the environment was replaced by change and uncertainty (Emery and Trist 1965). This uncertainty revealed the importance of the environment for organizations and obligates us to consider if the demand–control model still applies to the explanation of job stress in restructured jobs in restructured organizations.

According to Aldrich and Pfeffer (1976), one conceptualization of the relationship between organizations and the environment is an interorganizational one. In this view, organizations are embedded in organizational environments and the interactions between organizations both determine organizational behaviors and define much of the internal structure of a given organization.

Interorganizational relations can be depicted using a resource dependence and/or network metaphor (Pfeffer and Salancik 2003[1978]; Borgatti and Foster 2003). In this explanation, “the... model proceeds from the indisputable proposition that organizations are not able to internally generate either all the resources or functions required to maintain themselves, and, therefore organizations must enter into transactions and relations with elements in the environment...” (Aldrich and Pfeffer 1976:83). Organizations require material and personnel resources, technical knowledge, and information from the environment and the organizational transformation of resources must be related to the users or consumers of their products. At least some part of the organization, therefore, must be engaged in scanning and monitoring the environment for these resources. Additionally, resource exchange also implies the possibility of dependencies that constrain organizational behavior. Hence, knowledge of resources in the environment is not sufficient for organizational success; organizational personnel must also manage or administer resource exchange relationships.

Aldrich and Pfeffer (1976:89) suggest that organizational structure is related to the nature of the organizational environment based on the following propositions:

1. The environment provides many of the constraints, uncertainties, and contingencies because of the necessity for transacting with the environment.
2. These contingencies affect the distribution of power and influence within organizations, providing some subunits with more power and others with less.
3. Power is used in determining organizational social structures, particularly to the extent that there is uncertainty and the decisions concern critical issues.

The effect of the environment conceived in resource dependence terms on specific job structures (decision latitude, job demands, etc.) is indirect in this formulation. The environment and the contingencies it produces for the organization directly affect organizational social structures that in turn have an effect on job conditions as we have already described.

Because individual organizations are embedded in resource acquisition and distribution networks, they are mostly aware of changes in the pattern of availability of resources and/or changes in the distribution of resources. In turn, organizations may change organizational structure or jobs to accommodate changing external conditions.

This appears to happen in two ways; organizations may attempt to adapt to relevant external changes in ways that are consistent with a resource dependence explanation. This is well-illustrated by organizational responses to variations in the state of the macro-economy. For example, Fenwick and Tausig (1994) showed that individual job conditions change during economic downturns because organizations respond to poor external economic conditions by redesigning jobs (making them more demanding and reducing decision latitude). The inference is that job redesign is temporary and cyclical. One could easily argue that the development of flexible employment practices is simply a response to macroeconomic changes in the economic environment including the presence of global competition that represents time-limited changes in the pattern of resource distribution and dependence. Both Tolbert and Zucker (1983) and Westphal et al. (1997) have observed that early adoptees of organizational change do so relative to changes in external markets, internal organizational requirements, or the need for efficiency gains. In these examples, organizations adapt their structures to deal with changes in interorganizational networks. D'Aunno et al. (2000) have argued that organizations change both in response to market forces and institutional forces so that divergent organizational change may occur at any time regardless of the status of institutional, normative influences. The resource dependence perspective helps us to understand the immediate and particularistic responses of organizations to environmental change. As such, we can view the emergence of flexible employment practices in the face of an economic downturn, for example, as temporary and limited (i.e., as a short-term response to economic downturns). But in fact, flexible employment practices are today also part of a more universalistic, common organizational structure that functions regardless of the condition of the economy or the level of competition. Hence, we need to account for this general change in organization as part of the way that we explain the concrete work conditions experienced by workers and as they are related to job stress.

The resource dependence explanation is not sufficient to account for the longer-term (permanent?) impact of global economic competition however. Drori et al. (2006) argue that "globalization," conceived as a large-scale movement, gives rise to preferred models of social organization that are seen as appropriate rubrics for organizing. That is, generic shifts in the normative institutional models for organizing activity occur in response to broad changes in organizational environments. If changing conditions persist, changing norms and values brought on as a function of institutional change are incorporated into the operating procedure and organizational structure of organizations in general as part of that institutional change. An institutional perspective is helpful here even though it has been suggested that the resource dependence perspective can be seen as compatible with an institutional perspective (Pfeffer and Salancik 1978[2003]).

Over time, changes in organizational structure and practice may become wide-spread and it is no longer likely to be the case that resource (in) dependence in

interorganizational relationships is the sole reason for change. After awhile, organizations “adopt” innovations simply because everyone else in their interorganizational networks is doing it (i.e., the change is now best explained from an institutional perspective as a normative process). Thus, while flexible employment practices might first have been adopted to deal with the immediate effects of global competition and business cycles, they (flexible employment practices) become embedded in organizational structures in the forms of both numerical (downsizing, contingent and part-time work) and functional flexibility (new forms of work). In turn, this process has affected the nature of the implicit employment “contract” between the employer and the employee. Contingent and part-time employment are now embedded features of labor market structure and work organizations and contingent and part-time jobs differ in structure from permanent and full-time jobs. These jobs are also differentially available through labor market processes to workers based on such characteristics as gender, citizenship, education, race, and age (Kalleberg et al. 2000).

The core proposition of the institutional perspective is, “...organizations are driven to incorporate the practices and procedures defined by prevailing rationalized concepts of organizational work...Organizations that do so increase their legitimacy and their survival prospects, independent of the immediate efficacy of the acquired practices and procedures.” (Meyer and Rowan 1977:340). This is to say that broad changes in organizational environments such as global economic competition, the entry of women into the labor force, and the need for flexible employment practices give rise to models of effective organization that are likely to be adopted in some form by most or all organizations that share these environmental conditions (Zucker 1987). Hence, in light of these wide-spread changes in the environment of work organizations, we would expect to see that most organizations now hire women, have adopted some form of flexible employment processes, and define job duties in terms of “new forms of work.” The implementation of these changes might vary within and across organizations (Dacin et al. 2002) and might have differential emotional (stress) effects on different types of workers. However, the important thing to note here is that most organizations in a given environment are likely to adopt these new organizational principles as part of a normative process for legitimating organizational practices. In turn, to the extent that these changes alter job structures, we expect that there will be effects on job stress.

New Forms of Organization and Work

There is broad agreement that organizations and the workplace have undergone considerable restructuring in the past 30 years. The change has been both radical and widespread (Osterman 1994; Osterman 2000; Vallas 1999). Vallas (1999:77) describes the change as a, “...broad historical shift in the organization of work: owing to changed economic conditions, firms can no longer rely on Fordist views of jobs and organizations, and must instead invoke new conceptions of labor, new patterns of

organizational structure, and new relations with suppliers and subcontractors.” The impetus for these changes is variously tied to global economic competition that forced US companies to change their methods of production to achieve greater efficiency, changes in employment law and regulatory and trade policies, the shift away from manufacturing (in the United States), technological change (i.e., computerization), and fundamental shifts in the nature of capitalism (Cappelli et al. 1997; Smith 1997; Vallas 1999; NORA 2002). Clearly, a transformation of both the structure of organizations and the jobs within them has taken place.

A transformation in the normative institutional “myth” that legitimates organizational structures has also occurred. The “traditional” organization that seemed to serve economic development so well following World War II reflected the broadly shared characteristics of hierarchy, standardization, and routinization that excluded workers from decision-making and authority (Smith 1997). This set of normative expectations about organizational structure has been largely replaced by a conceptualization of the “modern” organization.

Drori et al. (2006) characterize the new, modern organization as one in which the degree and scope of rationalization is much greater than in traditional bureaucracy. Employees must be highly educated, trained, and credentialed. These employees are explicitly assumed to be able to make their own decisions regarding how they do their work. They also have greater responsibility as authority is more widely distributed and workers participate actively in decision-making for the organization. Employees are considered crucial to keeping the organization “dynamic, adaptive, innovative...” (Drori et al. 2006:16).

Whereas individual organizations might undergo transformation based on local market conditions or based on expected efficiency gains (Westphal et al. 1997; D’Aunno et al. 2000), the widespread adoption of this new, modern organizational form and logic reflects institutional forces that have “legitimated” this new form. The success and survival of an organization is now seen to require that the organization possesses the attributes of a modern organization (or at least its rhetorical attributes). The actual or asserted characteristics of the modern organization must reflect the normative influence of the new organizational “myth” describing such attributes. As such, the form (or the myth) is mimicked across a wide set of organizations and can be seen as the “normal” form of the modern organization (Lee and Pennings 2002). Indeed, the High Performance Work Organization (HPWO) is now widely observed among US organizations (Osterman 2000).

The Flexible Work System and Its Consequences

On a less abstract level, we characterize the modern organization as a flexible work *system* (embodied in the HPWO but including additional elements related to employment practices) to emphasize some specific implications of the new logic of organization for the experiences of workers (Smith 1997). The HPWO is characterized by decentralized decision-making, teamwork and flexible deployment of workers, and

training and performance-based rewards. HPWOs are also characterized generically as “flexible work organizations” to emphasize that employees in such firms are often involved in novel work tasks or novel work groups as the organizational task or objectives change in response to external conditions (Osterman 1994; Smith 1997). With “flat” hierarchies, HPWOs are less rigid and can, therefore, be more responsive (or flexible) in reacting to changing market or supply conditions. We use the term “functional” flexibility to characterize this aspect of the flexible work system (Smith 1997).

There are, however, at least two other ways in which modern work organizations can be characterized as flexible. Smith (1997) refers to “numerical” flexibility to denote the use of contingent and part-time workers and the use of alternative work schedules that are also characteristic of the modern organization. Organizational logic now suggests that the “lean” organization will also adjust the size and skill-sets of its labor force in some dynamic fashion in order to maximize efficiency and minimize employee costs. We also include “downsizing” as a form of numerical flexibility though, of course, it refers to a form of systematic unemployment (Osterman 2000). This form of flexibility affects the labor market, the structures of jobs defined as contingent or part-time, and also those in the organizational core in the form of job redesign (functional flexibility).

While the growth of contingent and part-time work implies an increase in worker job insecurity and a decrease in organizational commitment, there is a third use of the term flexible that is applied to the modern organization and that is intended to increase commitment. Firms that adopt “family-friendly” work practices and structures are also sometimes termed, “flexible workplaces” particularly as they develop work arrangements for employees so that they can attend to family and non-work-related concerns (Berg et al. 2003).

Using the notion of the flexible work system, we are able to relate changes in the normative (institutionalized) description of the effective organization to changes in organizational structure and also to specific work conditions that we know are related to job stress. The HPWO is a direct, concrete response to changing institutional notions of effective organization that has implications both for those who are employed permanently (functional flexibility) and those who are employed on a contingent or involuntary part-time basis (numerical flexibility). At the same time, the large-scale entry of women into the labor market has created additional complexity in the organizational environment and has also led to organizational restructuring to accommodate nonwork-related demands that interact with work-related demands (the flexible workplace).

Functional Flexibility

According to Smith (1997:315-6), the idealized description (institutionalized myth) of work flexibility entails, “...newly skilled, continually learning, empowered and engaged workers, aided by entrepreneurial managers, (who) strive to relax and flatten rigid bureaucracies...and use their experiential knowledge to improve the way

they produce goods and serve people.” This vision of flexible work is embodied in the HPWO that is characterized by the following features: work is done in teams, the organization uses performance-based compensation mechanisms, engages in continuous training of its employees, workers have considerable discretion in making decisions, and, as a consequence, there are fewer levels of supervision or management. It is assumed that an organization with this kind of structure and these kinds of jobs will be innovative, adaptive, and efficient. This structure is seen as appropriate for external conditions that are highly changeable, competitive, and demand high quality output and customer satisfaction. What workers do, how they do it, and how it affects their well-being is radically changed from how we would describe these attributes in a traditionally organized (i.e., bureaucratic) work organization. As we mentioned in Chapter 3, we might even need to reconsider the use of the demand–control model as an explanation for job-related stress in these new work organizations.

According to Cappelli et al. (1997), jobs in traditional organizations were organized around Tayloristic principles in which jobs are clearly described and distinguished from one another. These jobs are embedded in an organizational structure that emphasizes centralized decision-making and control. In other words, job demands are prescribed and unchangeable and decision-making is not in the hands of the average worker. Workers, then, sometimes find themselves simultaneously unable to meet the job demands of their position and unable to change the way in which the job is done (decision latitude). High job demands and low decision latitude can result in job stress.

New forms of work, however, radically alter these traditional features of the job. The HPWO represents an organizational form that loosely coordinates the work of “flexibly specialized” workers whose jobs are characterized by recognition of worker knowledge and judgment. Workers are active problem solvers who flexibly bring personal and organizational resources to bear to efficiently solve problems. Work may be done in teams and may involve continual and varied training. Supervision and management is minimized. These organizational conditions have implications for both job qualities and the resulting levels of psychological well-being (Landsbergis et al. 1999; Berg and Kalleberg 2002; Macky and Boxall 2008). The HPWO form is intended to increase productivity by encouraging innovation in the production process (leading to increased decision latitude). The HPWO form also demands substantially more from employees (leading to greater use of skills and problem-solving and also increasing job demands) (Cappelli et al. 1997). Based on the demand–control argument, we would, therefore, predict that workers would report less job stress in their new form of jobs (Macky and Boxall 2008). But, the HPWO also entails the likelihood that some work (at least) in the organization is subject to frequent numerical adjustment (i.e., layoffs, downsizing) in response to shifting market conditions thus increasing job insecurity both among those who might experience a layoff or firing and among retained workers (Smith 1997; Cornfield et al. 2001; Myles 1990; Kivimaki et al. 2001). Access to organizational resources is also crucial as the dynamic and adaptive character of jobs requires the ability to quickly mobilize appropriate resources. Hence, the sources of psychological

stress in the workplace might be expected to shift from work-specific conditions such as decision latitude and job demands to job-contextual conditions such as job insecurity and access to organizationally rationed resources such as information, equipment, and coworker and supervisor support (Cappelli et al. 1997; Cappelli and Rogovsky 1993). The very limited empirical examination of this general hypothesis finds inconclusive results (Berg and Kalleberg 2002).

There are two other considerations that are relevant to the need to modify the demand-control explanation for job stress as it fits new forms of work. First, there is the question of how different the new forms of work really are from those found in traditional organizations. Are new jobs Post-Fordist or Neo-Fordist? Second, there is a question of the extent to which all organizations have changed to the HPWO structure and if they have changed completely or only partially. For example, Macky and Boxall (2008) found that high involvement work, when fully implemented was associated with lower reports of job stress. However, when this implementation included expectations to work longer hours and higher job demands, job stress actually increased.

Hence, Cappelli et al. (1997) have suggested that new forms of work and work organization contain contradictions that can potentially create job stress. New forms of work often demand substantially more from the worker. Different skills such as those related to interpersonal relationships (team play), and logistics may be called for. Workers may find that the level of job demands has increased dramatically. Workers may also discover that the greater autonomy promised by the reorganization of work is illusory or offset by normative processes within work groups (Barker 1993).

Cappelli et al. (1997) also suggest that, whereas employees in traditional organizations are insulated from external labor and product market fluctuations, they are considerably less so in HPWOs. As employee rewards are contingent on the organization's overall performance, individual worker well-being is now closely linked to organizational success. Again, this is seen as a form of increased job demand.

Smith (1997) reports that research studies do not generally find that true decentralization of authority occurs in redesigned organizations. In this case, meaningful decision latitude may not actually increase. Landsbergis et al. (1999) reviewed studies of the impact of lean production systems in the auto industry and conclude that lean production actually intensified job demands and that decision latitude stayed low. Taken together, these observations raise the question of whether new forms of work really are new (i.e., they may be neo-Fordist and not post-Fordist) and, as such, the demand-control model might continue to be effectively used to assess the stress potential of new forms of work.

Institutional theory argues that organizations will, at least, espouse a commitment to normative standards for organizing work activities because of the legitimacy that is gained by doing so. New forms of work reflect the normative standards of modern organizational structure but, as Westphal et al. (1997) and D'Aunno et al. (2000) found, actual organizational change may reflect both institutional and market forces. Thus, observed organizational structures may not conform to institutional normative expectations. Indeed institutional theory views this norm as an idealization that legitimates organizational activity even if it does not perfectly describe the organization. The norm is a legitimating myth.

In this light, Prechel (1994) argues that Post-Fordists' emphasis on decentralization of control and decision-making in the modern organization has neglected to distinguish precisely what is being decentralized. His study found that authority was actually more centralized so that work groups had the task of executing decisions that were made by management. Execution of decisions was decentralized while true authority was more centralized. In such a situation, decision latitude as a reflection of authority and autonomy might actually be reduced but is certainly restricted. While the rhetoric of job restructuring includes the notion of greater authority and decision-making autonomy in work groups, the reality may be the opposite – new job forms may actually entail less authority and less true decision-making autonomy. Taplin's (1995) study of the apparel industry concluded roughly the same thing. Managers preserved, and even increased, their authority as they eliminated some middle management. He suggests that Post-Fordism might more accurately be labeled as "flexible Fordism." Vallas (1999) reviewed 23 studies since 1985 that bear on change in the workplace in the United States and he found that most studies did not support the idea that restructured organizations resulted in greater job discretion for workers. Like Prechel (1994), he concludes that firms place analytic functions in the hands of a small group of professionals and that discretion does not increase among manual workers in restructured firms. Barker (1993) focused on the dynamics within work groups and concluded that, even if the work group has nominal control over decision-making, interpersonal dynamics create concertive control that ultimately restricts individual worker decision latitude and autonomy.

A similar assessment of job demands has been observed. Taplin (1995), Lewchuk et al. (2003), and Landsbergis et al. (1999) all observed work intensification among jobs that had been restructured as organizations were transformed into modern forms. What might be regarded as job enrichment often had the effect of increasing job demands. Cappelli et al. (1997) have also argued that restructured work more directly exposes workers to the vicissitudes of the market, thereby increasing employee responsibility for organizational success and adding to job demands and job insecurity. All of this clearly implies that a demand–control model for explaining job stress is still conceptually applicable although it is also clear that a re-specification of what we mean by demands and control will be needed. Further, the way we explain the origins of these work conditions clearly involves consideration of institutional environments.

Complicating our ability to assess the actual effects on work experiences in modern or restructured work organizations is the uneven incorporation of HPWO structures by organizations (Osterman 1994, 2000). We have already pointed out that institutional theory does not assume that all organizations will actually adopt all the components of a given institutional norm for organizing activity even if they portray their organizations as aligned with the prevailing normative standard. Institutional theory does not assume that all organizations will undergo transformation or reorganization at all. On the one hand, institutional theory assumes that changes in institutional norms create a widely felt motive in organizational environments for organizational change. On the other hand, not all organizations share similar environments and change may occur in response to local market conditions or inter-organizational dependencies (Tolbert and Zucker 1983; D'Aunno et al. 2000).

Oliver (1992) has suggested that several factors must be present before large scale organizational restructuring will occur including functional, political, and social changes. In their absence, organizations may reject change as irrelevant in their specific institutional environment. Osterman (1994) found that participating in a market with international competition, utilizing a high skill technology and worker-oriented values were related to adopting functionally flexible work practices. To some extent, therefore, it may be possible that the contradictory finding discussed above may flow from incomplete restructuring in the organizational field and not necessarily from the contradictions with the objectives of capitalist firms contained in new forms of work and organization.

Numerical Flexibility

Osterman (2000) also notes that adoption of HPWO practices is associated with increased layoff rates and this finding emphasizes the link between functional flexibility within the modern organization and numerical flexibility (Kalleberg 2001). It also sensitizes us to another consequence of the restructuring of modern organizations, the changing bases of employment. The same environmental factors that are associated with the conceptualization of the HPWO – the need for lean production, capacity to adapt quickly to external conditions, close management of organizational resources – have substantial implications for numerical employment practices. Personnel policy is another aspect of the flexible system that characterizes the modern organization but it has caused a radical shift in the relationship that workers have with their employers and impacted labor markets as well. These changes also have implications for job stress and its causes.

Organizations may follow several strategies to align their structure and function with expectations for the modern organization. That is, organizations can restructure work (functional flexibility), they can redefine personnel needs (numerical flexibility), or they can do both as they adopt a modern structure (Kalleberg 2001). Numerical flexibility can take several forms. It can include downsizing and outsourcing, it can include the creation of a contingent, impermanent workforce, it can include the enlargement of the use of part-time workers, and it can include a recalibration of job demands and decision latitude characteristics for remaining jobs.

Downsizing and outsourcing have received considerable attention because they have a substantial effect on labor markets. In one sense, downsizing might not be understood as a strategy for obtaining numerical flexibility because it involves severing ties to the organization. However, since the 1980s firms have used downsizing as one part of an overall strategy for shifting to lean production structures and flexible employment practices. This leads to a phenomenon known as “job displacement” in which workers are involuntarily fired but are unable to return to their former jobs because the job itself disappears. In one of the few studies to examine the noneconomic consequences of job displacement, Brand (2006) found that displaced workers who found new work had lower occupational status, job authority, and employer-provided job benefits than they would have had if they had not been displaced.

Although it has not been studied, it may be the case that job stress increases for displaced workers relative to their former jobs because they end up with jobs that have less authority, greater job demands, and fewer benefits. There are, however, other reasons to include downsizing in the discussion of job stress. First, remaining jobs are redesigned to incorporate the lost functions of laid off workers. In redesigning remaining jobs, “surviving” workers are likely to experience higher job demands, decreased decision latitude, and increased job insecurity (Kivimaki et al. 2001). Downsizing, thus, can be seen as both a form of numerical flexibility and an impetus to functional flexibility for surviving workers (Smith 1997).

Second, downsizing has affected the size and structure of the labor market which directly affects the jobs that are available and who gets them. This latter implication is illustrated by the fact that downsized employees rarely get rehired at the same occupational or salary levels (Uchitelle 2006). To the extent that downsized workers lack competitive skills to participate in the primary labor market, numerical flexibility also contributes to increasing income inequality (Cappelli et al. 1997; Kalleberg 2009; Rich 2010). As we will see below, downsizing is also related to the growth of involuntary part-time employment and contingent work.

The widespread use of downsizing as an employment management strategy, even in a growing economy, has undermined the employer–employee relationship and exacerbated job insecurity. Part of the “New Deal at Work” (Cappelli 1999) includes the notion that having a job no longer implies permanent, secure employment and part of that is reflected in the concept of downsizing. Cappelli characterizes downsizing as a method that organizations use to reduce costs and improve financial performance (objectives of the restructured modern organization), and not necessarily as a response to a decline in business. While it is typical for hiring to follow business cycles, adjustments to workforces are now independent of economic cycles. The new deal at work is a recognition that the former social employment contract in which workers exchanged their labor for secure, lifetime jobs with stable pay has been replaced by a market-driven temporary relationship in which neither organizations nor employees make long-term commitments to one another. In doing so, the salience of job security as a work characteristic that is related to job stress has certainly increased both for laid off workers and for “surviving” workers (Fullerton and Wallace 2007; Kivimaki et al. 2001).

Downsizing is then both the embodiment of this new deal at work and perhaps a cause of job restructuring among the core of remaining workers following downsizing (Hudson 2001). It is also likely that some of the job functions lost through downsizing are also relegated to temporary or contingent employees who are viewed as the main “target” of numerically flexible systems.

Nonstandard employment, work arrangements that do not fit the model of full-time, Monday to Friday, 8–5 work schedule, such as part-time employment, temporary jobs, and contract work, has increased markedly. These nonstandard arrangements are crucial to the organizational ability to minimize fixed labor costs and to respond to market conditions that dictate job growth or job shrinkage. Such arrangements have obvious effects on worker perceptions of job security. Although these types of jobs are not new, they have taken on increased importance for researchers both

because their salience as work arrangements has grown and because their growth has changed the labor market in a number of important ways. The rationale for using temporary workers is now based on the need to replace former permanent positions in organizations and it is clear that nonstandard work arrangements are to be regarded as standard employment options in the new deal at work (Smith 1997).

Much of what we know about the conditions under which job stress arises at work is based on the study of full-time (standard) employment arrangements, but the widespread, permanent role of nonstandard work arrangements clearly requires that we evaluate the consequences of nonstandard work for job stress and mental health. Nonstandard work arrangements encompass a wide variety of ways in which workers are employed and it is not the case that all of these arrangements have the same implications for worker mental health.

Involuntary part-time jobs (the employee is working part-time but desires full-time work) have increased substantially (Houseman and Polivka 1998; Kalleberg 2000). While there have always been workers who prefer part-time work – especially women who are attempting to balance work and family obligations – many employees now work part-time because those are the jobs employers are offering in keeping with the objective of creating a flexible workforce (Tilly 1996; Kalleberg 2009). Involuntary part-time jobs generally are not “good” jobs. They are more likely to pay a low wage and to offer few benefits (Hirsch 2005; Kalleberg 2009). Tilly (1996) refers to “bad” part-time jobs as “secondary” to emphasize that these jobs are part of the secondary labor market characterized by low wages, low skill requirements, and poor benefits. Consistent with the discussion of institutional explanations, Tilly also argues that firms have created this secondary labor market in order to create a ready supply of cheap and occasional labor.

Part-time employment may be permanent or temporary and therefore there may be different implications for mental health based on the permanence of such work. Since it is also difficult to distinguish voluntary from involuntary forms of part-time work, there is little direct evidence of the psychological consequences of part-time work in terms of job demands and decision latitude.

Perhaps the broader category of jobs that is also characteristic of new forms of work and the new deal at work is the temporary job. By definition, these jobs are characterized by their impermanence. Employers may directly hire workers on a short-term or defined term basis. They might also make use of “temp” agencies to acquire workers for short periods. In this case, workers are employed by the temporary agency even though the work is defined by the contracting firm. The category of temporary worker also includes on-call workers and independent contractors. All of these forms of alternate work arrangements have increased in the past 30 years in direct relation to the widespread adoption of lean production methods. Most broadly these forms of work are often collectively labeled as contingent work and characterized by the absence of an expectation for long-term employment and/or uncertainty about the number of hours available for work. Houseman and Polivka (1998) reported that companies often move regular, permanent employees into flexible, impermanent jobs. They also found that regular part-time workers are more likely than regular full-time workers to change employers, become unemployed, or drop

out of the labor force. Temporary employees and on-call workers, however, have the least stable jobs.

For the most part, contingent jobs are not good for worker's mental health. In addition to the great increase in both economic and psychological insecurity that goes with employment uncertainty (Kalleberg 2009), there is good evidence that contingent jobs often contain stressful characteristics. (We note that some contingent jobs such as contracts based on professional or technical expertise can be "good" jobs that pay well and be emotionally rewarding but these are relatively a small component of contingent work.) Benach et al. (2000:1316) speculate that, "those in flexible employment may be exposed to more hazardous or dangerous work environments and may face greater demands or have lower control over the work process." Indeed, Parker et al. (2002) found that temporary work is associated with decreased decision latitude but also reduced job demands. Aronsson et al. (2002) reported that temporary workers have less decision influence in their work and less control over their working life than do permanent workers, but they did not find a direct relationship between control and psychosomatic symptoms. Kivimäki et al. (2003) showed that temporary workers have a higher overall mortality rate than permanent workers, including increased deaths from alcohol-related causes. In a meta-analysis of 27 studies, Virtanen et al. (2005) found higher psychological morbidity among temporary workers. Kim et al. (2006) reported a similar finding – nonstandard work is significantly associated with poor mental health, especially in women. Although it is probably typical that contingent jobs provide less decision latitude and fewer job demands than permanent full-time jobs, it is likely that insecurity is the most salient job characteristic of temporary jobs that is related to psychological well-being (Fullerton and Wallace 2007).

Lurking beneath these numbers and findings is the recognition that contingent workers are more likely to be young, female, black, or Hispanic and to have lower incomes (Cummings and Kreiss 2008). Hence, we need to discuss two other matters, how the labor market has been transformed by new forms of work organization and how work-life balance concerns affect the psychological reaction to new forms of work.

The Labor Market as Environment

Although the distinction is not without problems, it has been argued that organizations have now largely segmented jobs into two classes, core and periphery (Atkinson 1987; Wallace and Brady 2001). Core jobs consist of valued, expert employees whose skills are highly desirable and difficult to replace while peripheral jobs skills and workers are easily replaceable and possess less technical expertise. Core jobs are permanent. They pay well, are associated with health insurance and other benefits and they include higher degrees of decision latitude and work control. Peripheral jobs are temporary or contingent. They are associated with poor wages, lack of health insurance, and poor benefits. Both decision latitude and job demands are relatively low.

This segmentation of workers within the work organization into core and periphery corresponds well with the segmented labor market categories of primary and secondary (Kalleberg et al. 2000). That is to say, the institutional changes embodied in the ideas of new forms of work and the new deal at work have not only changed organizational structures and the organization of work but also affected the condition of the labor market (Kalleberg 2003).

Wallace and Brady (2001) suggest that the contemporary labor market reflects a polarization of work structures that is progressively eliminating “middle layers of work” that were characterized by moderate levels of authority, skill, status, and economic rewards. If, indeed, such a trend is taking place, it suggests a growing inequality of both economic and noneconomic job rewards among workers in modern work organizations. Apropos of new forms of work and the new deal at work, Hudson (2007) characterizes “the new labor market segmentation” that reflects this polarization of jobs as based on standard versus nonstandard work arrangements. Kalleberg et al. (2000) describe this segmentation in terms of good versus bad jobs.

Kalleberg et al. (2000) have established that nonstandard employment is associated with bad jobs. They find (based on data from the February 1995 Current Population Survey) that among workers age 18 and over, 31% are in some sort of nonstandard employment. They also find that nonstandard employment strongly increases workers’ exposure to bad job characteristics that are defined as low wages, lack of health insurance, and no pension benefits. Hirsch (2005) reported similar results using longitudinal data from 1995 to 2002.

The bifurcation of jobs into good and bad does not map perfectly onto the distinctions between core and periphery and/or permanent versus contingent. Kalleberg (2003) for example notes that some core jobs may be characterized by low control and autonomy while some forms of nonstandard employment such as independent contracting may be associated with high control and autonomy. Much of this variation is related to occupation. He also shows that permanent, core jobs may pay low wages and offer neither health insurance nor pension benefits. At the same time, these bad job characteristics are much more likely to be observed among nonstandard employment arrangements.

As noted above, exposure to bad job characteristics and the probability of finding employment in peripheral jobs is not random. In the new pattern of labor market segmentation it is argued that the practice of allocating jobs based on gender and race is less salient than whether the job is some form of nonstandard work arrangement or the job-seeker is an immigrant (Hudson 2007). In other words, the structuring of jobs in the modern work organization now defines the segmentation of the labor market in ways that were previously determined more by worker gender and/or race. Hudson (2007:304) found that, “Nonstandard work is the single greatest predictor of employment in both the secondary and the intermediary (vs. the primary) labor markets. This is true for both women and men.” In short, the restructuring of work and organizations that has led to the practice of numerically flexible employment practices has profoundly affected the basis on which the segmentation of the labor market rests.

The implication for understanding the origins of job stress in the new organization and associated restructured jobs and nonstandard work arrangements is the recognition that jobs in the core of the organization are more likely to have high job demand characteristics, and possibly less true decision latitude, while jobs in the periphery of the organization are less likely to provide much control over work (i.e., decision latitude). Since these job characteristics can be shown to be a consequence of labor market position based on the segmentation of core and peripheral jobs, the indirect effects of normative institutional change on job stress are now linked to the stressful characteristics of work.

It is important to note that Hudson (2007) still finds that part of the segmented labor market he describes is accounted for by gender, race, and education. Women, African Americans and Hispanics, and those with lower education levels are more likely to be employed in the secondary labor market and are thus more likely to be exposed to stressful job conditions in organizations based on their temporary or contingent job status.

As a final consideration in this chapter, then, we wish to discuss the broad entry of women into the labor force. We do this in the context of the change in the institutionally driven restructuring of organizations and jobs rather than in terms of “women’s” work or in terms of work–family conflict per se because our interest is in showing how the entry of women into the labor force has interacted with these institutional changes to affect the exposure to work stressors experienced by women, in particular.

Women and Job Stress in the Context of Institutional Change

The institutional changes we have described that are related to the restructuring of organizations and jobs in the modern organization are not the only ones that have affected organizational practice in the past 40 years. Women now participate in the labor force to a much greater extent than was true in the 1970s and the manner of their participation has also changed substantially. The changing institutional norms defining and governing gender roles have affected work organizations in a number of substantial ways. Moreover, those changes have “intersected” other institutional changes that lead to the modern organization, new forms of work, and the new deal at work.

Women, of course, have always participated in the labor force but the extent and context of that participation has varied. Women began entering the labor force in large numbers in the 1960s (although they were certainly involved in paid labor before this time) but the employment circumstances for women were substantially different. Women’s work was highly segregated and associated with the secondary labor market and poor work conditions. Women’s work paid less, provided fewer benefits, offered fewer promotion opportunities and less authority, and probably contained greater job demands (Reskin 1993; Glass 1990; Tomaskovic-Devey 1993).

Changes in the legal and social environments, the demand for workers, and economic pressures (both within organizations and among families) have resulted in greater

participation of women in the labor force, and these economic and institutional environmental changes have also helped to break down the barriers to broader occupational participation for women. "...society gave women permission to pursue nontraditional lines of work, and employers faced pressure to hire workers without regard to their sex" (Reskin 1993:263).

In addition to breaking down employment barriers and occupational segregation, the large scale entry of women into the labor force created new issues that affected the organization of work. Specifically, the work-family relationship became highly salient for both organizations and employees and, among other things, has given rise to "family-friendly" or family "flexible" organizational policies and structures (Osterman 1995; Goodstein 1994; Ingram and Simons 1995; Glass and Fujimoto 1995). It is this relationship between institutional change related to gender and institutional changes in work organization that we need to discuss, particularly as these changes affect exposure to stressful job conditions.

The issue for organizations vis-à-vis the incorporation of family friendly, flexible personnel practices is that these practices require organizational resources while neglecting them increases employee turnover and absenteeism, and raises employee stress due to work-family conflicts (Glass and Fujimoto 1995). Family-related benefits, then, are intended to give parents flexibility to manage work-related and family-related obligations. Family-related benefits include leave policies, the provision for temporary or part-time employment, and flexible scheduling options. From the perspective of employees with work schedule concerns, control over scheduling of work is a key job characteristic related to distress (Fenwick and Tausig 2001; Tausig and Fenwick 2001). However, the calculus for organizations is more complicated. The question for organizations is whether family flexible policies increase productivity and reduce employee turnover. And this is not the only consideration. Changing social norms related to gender (social institutional norms) have also created a growing normative expectation that organizations should help their employees manage work-family issues (Ingram and Simons 1995). It is this intersection of social institutional norms and norms about the organization of work that requires some understanding.

Indeed, several authors have attempted to relate adoption of family friendly work policies to the institutional and environmental conditions of organizations. Both Goodstein (1994) and Ingram and Simons (1995) have suggested that adoption of family friendly policies by work organizations is conditional and based on institutional pressures, resource dependence considerations, and strategic consideration. These authors make use of Oliver's (1991) outline of strategic responses to institutional change to argue that organizations adopt family-friendly policies to the extent that doing so is responsive to specific pressures that are relevant to organizational survival and success. So, for example, the argument is that organizations assess the relevance of normative beliefs about the obligation of organizations to facilitate gender equality and the alleviation of work-family conflict (Lyness and Kropf 2005), and they take into account their dependence on women employees (Glass and Estes 1997), the visibility of their gender and family-related policies, the perceived legitimacy that adoption of such policies accords, the extent to which other organizations have already adopted such policies, and the perceived

costs of not adopting these policies in order to determine the importance of instituting family-friendly policies (Goodstein 1994; Ingram and Simons 1995).

Two of these considerations are most relevant in the context of the current discussion of changes that characterize the modern organization: dependence on women employees (i.e., the proportion of women in the organization) and the costs of not adopting these policies. More specifically, these considerations are directly relevant to the functional and numerical flexibility of the modern organization. It turns out, for example, that the proportion of women employees in an organization is not predictive of adoption of family-friendly policies (Glass and Fujimoto 1995; Ingram and Simons 1995) but where those women are assigned (i.e., in core positions) does predict adoption. How then is adoption of work–family policy related to the presence of HPWO characteristics in the modern organization and how is the adoption related to job stress?

Osterman (1995) directly links the adoption of work–family programs to high commitment work systems. He argues that new forms of work (i.e., work in self-managed teams) must foster high levels of employee commitment in order to operate successfully and that work–family programs represent one mechanism for deepening employee commitment. Indeed, he found that organizations with high-commitment work systems were more likely to have adopted work–family programs. He also notes that the variable measuring the percentage of the core labor force that is female is predictive of work–family programs though his data also indicated that this is probably because of the professional and technical composition of those making up the core of employees. Miller (1992—reported in Glass and Estes 1997) found that when women were employed in professional and managerial positions, they were more likely to receive work–family benefits. This suggests that the adoption of work–family programs in HPWO organizations represents a strategy for retaining core workers and so it is related to functional flexibility of the modern organization (Davis and Kalleberg 2006).

The emphasis on core, well-trained workers also suggests that peripheral, part-time, contingent, and lower-paid workers are not likely to have work–family programs available to them. Part-time employment is often a default work–family strategy adopted by many women (in particular) to balance work and family demands. Almost by definition, peripheral employees have weaker commitment to the organization. They receive fewer benefits (as well as lower pay) which is justified by this low level of commitment. But, of course, the irony is that peripheral workers are more likely to be female and might benefit considerably from participation in work–family programs.

We view core–periphery functional and numerical flexibility as being prior to work–family programs so that the effects of work–family programs on exposure to job stress are a function of position in the organization. In the core, women (and men) in higher status positions are more likely to have work–family programs available but such programs do not appear to modify job conditions or have a direct effect on job stress. In the periphery, women in lower status positions will have little control over their work (including the ability to make adjustments to work schedules or to access extended leave benefits) and so may be vulnerable to job stress based on

low decision latitude and not specifically because of the absence of work–family programs that improve control over work schedules (Whitehouse and Zetlin 1999). The findings of Berg et al. (2003) are consistent with this interpretation. They report that high-performance work practices are related to worker perceptions that the organization is helping them achieve work–family balance.

The difference for women, of course, is that the degree of sex segregation in the workplace is decreasing so that women are more likely to occupy core professional and managerial positions where they may have better access to family-friendly work policies. Hudson (2007) noted that sex and race are now less relevant factors for allocating workers to inferior jobs than they had been in the past. Instead, he shows that nonstandard work is the single most important predictor of employment in the secondary labor market (bad jobs). Women in nonstandard work situations are more likely to be employed part-time (many for family-related reasons) and the quality of those jobs is related to job stress but it is the nonstandard nature of the job and not its gendered nature that is related to distress.

Summary

The modern organization that represents a shift in the institutional norm describing the rational organization is designed to be flexible in terms of production (functional) and personnel (numerical). As such, this new organizational norm has also transformed the labor market by creating two classes of employees that are defined by their relationship to work organizations: permanent and nonstandard, temporary or contingent workers. There has also been a shift in the institutionalized norms related to gender such that more women are now in the labor force and there has been a reduction in the sex segregation of jobs (Tomaskovic-Devey et al. 2006). The intersection of these two institutional changes has generated family-friendly or flexible organizational policies that are principally addressed to core workers. These policies may well reduce the strain of managing work and family life demands but the policies have probably not affected job conditions and so have little effect on job-related stress. This implies that women (especially) who work in jobs without access to family-friendly work policies are more likely to experience stress because of work–family conflicts and the inability of women to control work schedules in addition to any stress related to specific job conditions.

In this chapter we have explored the notion that institutional factors both directly and indirectly affect the job structures that are associated with job stress. As it happens, a good way to see these relationships is to observe the consequences of institutional change. Both the normative institutional criteria for organizing work and the participation of women in the labor force have undergone significant permanent change in the past 30–40 years and by tracing these to specific changes in the organization of work, the structure of organizations, and changes in labor markets, we have shown how institutional factors are linked to job stress.

Despite the proliferation of new forms of work that are rhetorically described as empowering workers and enlarging their scope of authority and decision-making,

the demand–control explanation for job stress appears to be applicable to many of these new job forms (i.e., new job forms are neo-Fordist, rather than post-Fordist). In some instances, new forms of work increase employee decision latitude and allow the worker to define her/his own levels of job demands and decision-making. Such job conditions should reduce job stress. But there is also considerable evidence that some of the putative advantages of new forms of work are not experienced in fact. Some restructured jobs in HPWOs reflect reduced levels of real decision-making, limits on decision latitude due to group pressures, and high levels of demand. Those jobs may lead to more job stress. At the same time, the new deal at work (i.e., the changing terms of the social relationship between the employee and the employer) coupled with the routine use of numerically flexible employment practices has expanded the sources of job stress to include employment precarity/insecurity and reduced access to organizational resources.

The modern organization consists of a set of favored core workers for whom wages, benefits, health insurance, and family-friendly work policies are likely to be good. The organization also maintains flexibility in the market place by maintaining jobs for peripheral workers that are defined by their impermanence, low wages, low level of benefits, absence of health insurance, and lack of family-friendly policies – bad jobs that are associated with job stress.

Women's large scale entry into the workforce has changed the way that women are involved in the workplace and how they are exposed to job stress. Prior occupational segregation based on sex exposed women to job stress because women's work was generally high in job demands and low in decision latitude. The restructuring of work and work organizations, coupled with the changing social definitions of women, has changed the nature and sources of job stressors for women. To the extent that they become core employees (reflecting less sex segregation in the workplace), women are likely to find work more satisfying and less stressful and to also have good access to family-friendly work policies. However, numerically flexible work policies created by organizations to control labor costs and to enable them to be responsive to changing economic conditions have affected women's employment options so that they are often found in peripheral, impermanent jobs (often on an involuntary basis) that are defined by their insecurity (especially) and other "bad" characteristics.

Institutional environments change, and when they do organizations, labor markets, and employees change. And these changes have implications for job stress because many of the parameters of work also change. As such, understanding job stress requires that we assess the way that institutional conditions and change affect job structures that are related to job stress.

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Chapter 7

Work and Mental Health in Social Context

In this chapter, we summarize our sociological model for understanding the work–job stress relationship. Moreover, we want to show how this model makes contributions to the way we can understand the sociology of labor markets and economic attainment, the social determinants of health (health disparities), and the sociological stress process. We are interested in creating opportunities for sociologists and organizational psychologists who often study topics within narrow bounds to recognize the broader application of the knowledge they generate and the possibilities for informing the work of one another (Fenwick and Tausig 2007). We think we have shown that the sociological study of economic attainment is the study of health attainment and that the sociological study of health is the study of economic attainment.

What we have done here is to work with bits and pieces of theory and empirical evidence to craft a plausible explanation for the way that economic and social structures and processes affect a set of job conditions that are reliably shown to cause stress and stress-related ill health. In doing so, we have created openings to understand how labor market processes affect noneconomic work outcomes (Kalleberg and Sørensen 1979), how social statuses affect exposure to health risks (Link and Phelan 1995), and how stress processes work through social structures (Pearlin 1989, 1999).

Work and Job Stress

The study of job stress emerged from the domain of organizational psychology where it is defined as a subjective reaction to environmental conditions (Caplan et al. 1975). Such studies have documented widespread job stress and have implicated a variety of job conditions (or their combination) that can explain the proximal origins of work-related distress (Karasek 1979; Johnson and Hall 1988; Bakker and Demerouti 2007). The results of this research can be used to redesign jobs, add elements to jobs that moderate stressful job characteristics, or to help individual

workers cope with their subjective experience of distress. From this perspective, job stress has been medicalized as “the twentieth century disease” and as a “world wide epidemic” (Tangri 2003).

By and large, the model of job stress proposed by Karasek (1979) – the demand–control model – has dominated the research on work and stress. Jobs that contain high levels of demands and afford low levels of decision latitude are stressful. This stress has been related to cardiovascular disease, mental disorder, and other forms of morbidity and even mortality. Additional workplace conditions such as co-worker social support, job security, and access to organizational resources have also been shown to contribute to perceptions of stress and distress (Johnson and Hall 1988; Burgard et al. 2009; Bakker and Demerouti 2007). Although there is some debate about the exact way that job demands and decision latitude are jointly related to job stress, the bulk of research finds a consistent relationship between job conditions and stress/distress (de Lange et al. 2003; Van Der Doef and Maes 1999). In short, work is often stressful.

But, there are limits to what this approach to studying job stress can explain. Notably, this explanation does not account for the origins of the job conditions that are associated with job stress. Job conditions are assumed to be given and unchanging. Moreover, the psychological model that is focused on individual reactions to job conditions makes it less likely that researchers will investigate common sources of stress exposure that might be associated with recessions, occupations, or worker social attributes, for example. The focus on the individual implies that job redesign can remove stressful work conditions or that individuals can take personal steps to offset feelings of stress/distress. The individual-level explanation for job stress results in important limitations both in terms of the theoretical and empirical understanding of job stress and in terms of our ability to understand how to change work conditions that we know are so costly to both businesses and individuals.

For example, in the second half of 2010, there was concern about the slow rate of employment increase in the United States as the economy struggled to emerge from a severe recession. There were also concerns about the types of jobs that were becoming available. New jobs were being created in industries that typically pay poorly and there was evidence that jobs that were considered “middle-skill, middle-wage” were disappearing in favor of low wage jobs (Luo 2010). At the same time, jobs in the technology sector – high skill, high wage – were not increasing as might be expected. Many jobs were apparently being duplicated overseas at lower cost (Rampell 2010). The point here is straightforward; we need to understand how macroeconomic and social processes affect the labor market and the jobs that are available to workers in order to understand the relationship between job conditions and job stress.

Kalleberg and Sørensen (1979:351) have argued that, “Since the majority of people in industrial society obtain income and other rewards in exchange for work, labor market processes form the central mechanisms of social distribution in industrial society.” We have noted that this comment has been documented largely by examining how labor market processes affect wages, pensions, and material benefits. But we have also argued that “other rewards” might plausibly be interpreted to include noneconomic characteristics of jobs such as levels of job demands and decision latitude that are predictors of job stress. Hence, much of what we have discussed here was intended to show that the sociological approach

to understanding labor markets does indeed provide a way to understand some of the psychological outcomes of labor market processes (i.e., the social distribution of psychological outcomes).

Of course, labor market structures also change and their effects are not always felt directly by individuals as occupational attainment – they may be felt emotionally. Labor market conditions change as the result of macroeconomic conditions and changes in social institutional norms and legal and political environments. Work organizations and jobs also change independently from labor market processes because they are embedded in other organizational and institutional environments.

The influence of these broad environmental factors on work and work-related mental health has become particularly evident in the past several decades. The constructs of globalization, out-sourcing, downsizing, 24/7 economy, contingent employment, family-friendly workplaces, and post-Fordism/neo-Fordism have been used by researchers to document environmental change relevant to work and work conditions. Labor market processes now allocate workers to new forms of work based on a new deal at work. And, although there is a debate about whether these forms and deals are really all that new, it is surely the case that work and its meaning for workers has changed. It is equally clear to us that a more comprehensive model of the relationship between work and mental health requires the inclusion of these multiple levels and contexts.

According to Sweet and Meiksins (2008:165), “There is little evidence that the new economy is moving in a direction that will ensure that everyone has opportunities to engage in meaningful work, will earn a comfortable income, or will have the resources to construct satisfactory lives outside of work. On the contrary, employer practices and institutional arrangements continue to sustain – and sometimes even deepen – the chasms that separate workers from opportunity.” Since we argue that the same factors affect the psychological outcomes of employment, the argument also applies to well-being.

For this reason, we have adopted and adapted a sociological model (Kalleberg and Sørensen 1979) of the labor market as a means for explaining the origins of job stress. In doing so, we have described a model that predicts job-related stress and ill health and, simultaneously, we have elaborated sociological labor market models. According to Kalleberg and Sørensen (1979:351) the analysis of the labor market ... “permits an understanding of the way macro forces associated with the economy of a society and elements of social structure impinge on the micro-relations between employers and workers...” In a substantial sense, this is exactly what the conceptualization of our job-stress model does. We have applied this approach for understanding the outcomes of the labor market in terms of income and job benefits to the noneconomic outcomes of labor markets that we define to include job stress.

Contributions to the Sociological Study of Labor Markets

The sociological study of labor markets has largely focused on wages and benefits as the outcomes of labor market processes and research is often limited to studying these outcomes at the occupation level. Although there have been calls to “bring

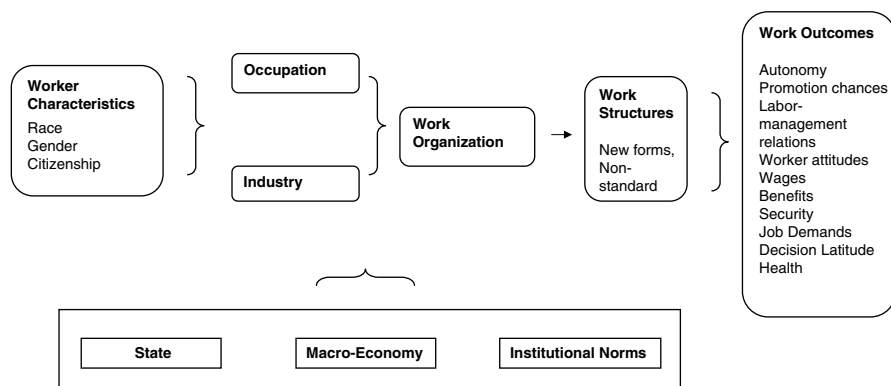


Fig. 7.1 Elaborated sociology of labor markets model with economic and non-economic outcomes

workers and firms back into” the analysis of labor markets, research has largely focused on the material benefits of work at an analytic level where workers and employers are not readily sighted. Yet, as Hudson (2007) notes, dual labor market theory speculates that the notion that good jobs are associated with the primary labor market and that bad jobs are associated with the secondary labor market is also intended to explain some noneconomic outcomes of work including quality of working conditions, labor turnover (job security), chances for promotion, autonomy, and complexity. These noneconomic outcomes of labor market processes can be seen as dimensions of work that bring workers into the analytic model. And, although it is speculated that all of these job attributes are bundled together with the economic outcomes of labor market processes, there is substantially less documentation of this speculation in the sociology of labor markets research literature.

The model we have developed can be used to make the relationships between the dual labor market and these other job outcomes explicit. In doing so, we have extended the sociology of labor markets model to include the “micro-relations” between employers and employees, which has always been an ambition of the theory (Kalleberg and Sørensen 1979). Figure 7.1 describes the elements of the supply-side of the labor market process as it allocates workers to jobs with both material and nonmaterial outcomes.

The model makes the relationship between the labor market and work organizations explicit, thereby also “bringing the firm back in” to the understanding of the way labor markets function. As we have noted, firms are the proximate context for the way that workers experience their work. It is in firms that occupations are translated into jobs. The precise and specific characteristics of “work” are determined here. It is at the level of the firm that specific decisions are made by management regarding the locus of decision-making authority (decentralization, hierarchy) and the amount of control exerted by the organization on work process (formalization). Organizations also make specific decisions about work process in terms of the use of contingent forms of labor, the use of nonstandard employment practices, layoffs,

and the extent to which employees have control of their work activities. The model makes it clear that decisions about the way the organization is structured and about the way that work is offered within organizations are both functions of the characteristics of workers and the job opportunity structures represented by the occupational and industrial structure. Further, all of this takes place in the context of laws and regulations that govern the way employers go about hiring (for example, anti-discrimination laws), how their labor is used (e.g., collective bargaining agreements, fair employment standards, regarding hours, pay and benefits, OSHA rules), the general state of the overall economy that tightens or expands job opportunities, and institutional norms that define the way that an organization might appear in order to legitimate the way it functions.

Finally, the model “brings the worker back in” by suggesting that work outcomes can be conceptualized as collective or individual, and as economic or noneconomic. The outcomes that such a model can explain go beyond the typical outcomes of wages and benefits to include well-being-related job conditions, political relationships (labor management relations), and health.

The value of this synthetic model for those who study labor markets is both its systematic description of the labor market process and also its extension to noneconomic outcomes. Our focus on the job conditions of demand and control as the proximate cause of job stress within the sociological context of the economy, labor markets, social institutions, and worker social statuses expands the subject matter of labor market studies to include health outcomes.

Those who are studying health are studying a process that accounts for economic inequality, which includes the role of labor markets. Those who study the structure and behavior of labor markets are, or should be, studying health. Theories of labor markets and occupational mobility point out that workers who start their “careers” in secondary labor markets generally remain there because those jobs do not provide training, skills, and experience that would enable the workers to move into better, primary labor market jobs. What is neglected in this literature are the health limitations imposed on many workers in secondary markets. Aside from being low-paying and dead-end jobs, these are more stressful jobs – more demands, less job control, less social support, and often more dangerous. As a result, workers in secondary markets face greater health risks and disabilities, and overall a lower stock of what could be termed “health capital.” As with lower “human capital,” health limitations would further limit their potential mobility into primary labor market jobs.

The Sociological Model of Job Stress

In Chapter 1, we began discussing the problem of job stress and where it comes from by talking about the way that individuals experience their work (i.e., by summarizing the research of occupational psychologists). We have now seen that the explanation is far more complex and that it requires us to take the social context into

account in order to understand the particular work conditions encountered by workers in their jobs. Our synthesis of the related research literatures has lead us to recognize the importance of labor markets for explaining job conditions and we have implicitly interpreted the demand–control model as a stress-process model. Hence, we are now in a position to discuss the implications of our sociological model of job stress for the “social conditions as fundamental causes of disease” model (Link and Phelan 1995) that explains health inequality and the sociological stress-process model that also links social context to illness (Pearlin 1989).

Contributions to the Explanation of Social Determinants of Health

By bringing macroeconomic, institutional, labor market and meso-level organizational structures into the study of the relationship between social structure and mental health, we contextualize the study of the sociology of mental health. It is one thing to note that positions in social structures affect health risks and resources, and another to connect this observation to the political economic explanations that have been described by other sociologists to explain the same general phenomenon: the unequal distribution of rewards in society. That is, we view health as an unequally distributed social resource.

If the specific focus of our work is to better understand the relationship between work and mental health, our conceptual model also has implications for several more general theoretical explanations of the relationships between social institutions and well-being. Just as we have suggested that the model of health outcomes we have developed can be usefully adapted to study occupational and wage attainment, that model can also provide insight into the sociological explanation of illness. Indeed, that is the central thrust of this work.

As we suggested in Chapter 1, our conceptual model for the origins of job stress allows us to consider in some detail the mechanisms that link social inequality to distress. We argue, for instance, that social statuses such as gender, race/ethnicity, citizenship, and SES are directly related to labor market participation that leads to jobs that may be stressful. In making this argument we think that we contribute to the sociological theoretical model that has been developed to account for the relationship between social status and health, and the social conditions as fundamental causes of disease explanation (Link and Phelan 1995).

The observation that individual and aggregate health status varies systematically by social status characteristics such as socioeconomic status, gender, and race/ethnicity is core to the sociological study of health and illness. Health disparities that are related to status have been explained as outcomes of selection processes, as a function of individual life styles and behaviors, as a function of physical environmental conditions, and as a function of differential access to health care (Hertzman et al. 1994). The sociomedical model that such explanations represent, however, emphasizes the social antecedents of illness and not the consequences of social organization (Aneshensel 2005; Aneshensel et al. 1991). Aneshensel, Rutter, and

Lachenbruch argue that the *sociological* explanation for health disparities emphasizes how normative social arrangements generate health-damaging conditions. This view is substantially articulated by Link and Phelan (1995) as the “social conditions as fundamental causes of disease” explanation. The theory allows us to understand health conditions as a normal (not pathological) outcome of social organization. And, “the subject of inquiry is the structural factor... disorder...is not the object of explanation in and of itself” (Aneshensel 2005:223).

The “fundamental causes” explanation of disease differs in several important respects from the sociomedical or social epidemiological explanations of disease that also associates social status with health. First, it is focused on social status as a “distal” antecedent of illness rather than as a proximal cause of illness like life styles associated with social status. Second, the effects of social status on health are not associated with a particular disease or medical condition. Third, the fundamental causes explanation is intended to account for collective rather than individual health outcomes. That is, the theory does not account for individual risk of illness but for degrees of risk that are shared among persons because they occupy a particular position in a social structure. Whether or not a particular person has a specific illness or a particular general health status, he or she is at relative risk of experiencing a certain level of health by virtue of the social structural positions he/she occupies. The theory is focused on social arrangements (i.e., social structures) as they affect health.

The general argument is that social statuses are ways of describing the social distribution (structure) of risks and resources – including health risks and resources – in a social system. Social status, for example, can affect exposure to risks such as stressors (Pearlin 1989; Turner and Marino 1994; Turner et al. 1995). Social status is also related to resources such as social support and coping resources that can be used to modify the impact of experienced risks or to reduce the likelihood that risks will occur in the first place (Turner and Marino 1994; House et al. 1988).

It is also central to the fundamental causes explanation that, “Because a fundamental cause involves access to broadly serviceable resources, it influences (1) multiple risk factors and (2) multiple disease outcomes” (Link and Phelan 1995:87). This understanding flows from the general perspective in which social status is distal to specific illnesses. It is essential to understand that specific pathways to specific illnesses can change (for example, sanitation can be improved) while the social gradient in morbidity and mortality does not change because the fundamental cause of illness (social status) has not been altered by installing sewers. While exposure to pathogens related to poor sanitation might be reduced, the social gradient in health will remain because changing that form of exposure does not change the socially structured differences in access to resources. This general consideration suggests that elucidating specific pathways to specific illnesses does not help to understand the fundamental causes of illness. Specific pathways can change but the social gradient remains. For example, during the Fordist era, causes of job stress were related to the stable but bureaucratic nature of work. The most stressful jobs were those with high job demands but little control or decision latitude over one’s job. One’s position in the organizational hierarchy determined the stressfulness of the job, primarily based

on differences in job control: the higher up the hierarchy, the greater the control and the lower the stress. The jobs with the greatest stress were the less skilled blue collar, service, and clerical jobs. The jobs with the lowest stress were professionals and managers. In the post- neo-Fordist era, with the flattening of organizational hierarchies and the spread of self-managing work teams, the demand–control pathway between occupational status/class and stress may be less significant. Rather, access to standard employment versus contingent employment appears to be the new pathway, and job and financial insecurity associated with nonstandard employment the primary source of stress. But the evidence suggests that the same occupations – professionals and managers – have the most assured access to standard employment, while the same unskilled blue collar, white collar, and service jobs are still most likely to have to settle for nonstandard employment. The source of stress and the pathways may have changed, but the fundamental causes remain, which we have argued have mainly to do with difference in occupational control over labor markets and class differences in organizational authority and control over the labor process.

At the same time, Link and Phelan note that we must understand the context of risk at the individual level (how the social context affects individual exposure to risk) and in some respects this implies elucidating general and persistent pathways between social status and risk. Contextualization involves “asking what it is about people’s life circumstances that shapes their exposure to... risk factors” (Link and Phelan 1995:85). In our case, we have suggested that social status is linked to labor market participation that, in turn, puts workers at risk of exposure to stressful work conditions. Indeed, we argue that the dual, segmented labor market is a manifestation of social status and that considering how the labor market affects exposure to job-related stress is a useful addition to the fundamental causes argument precisely because it shows how social status is related to risk. Labor market structure is a direct expression of social status and acts as a fundamental context for understanding how normative social arrangements generate health-damaging conditions (Aneshensel et al. 1991).

The consequences of social status characteristics for the way one may participate in the labor market illustrate how social inequality “causes” health disparities as they arise in the context of the day-to-day activities of individuals who differ by social status characteristics. That is, we argue that the fundamental cause of work-related distress can be linked to social status (Link and Phelan 1995). And it is central to that argument that health disparities do not arise because of “life style” differences or risk behaviors per se but from the systematic differences in the distribution of social resources that can be used to avoid risk and to deal with risk. Thus, the general explanation for health disparities is linked to the systematic differences in exposure and vulnerability to stressors at work that is related to social status. In our argument, systematic variations in the way that workers are exposed to job stress (and the consequences of job stress) are related to social status and can be used, in part, to explain health disparities based on social status.

This argument can also be usefully expanded beyond the context of work. The general hypothesis is that social status affects exposure to risk and the availability of resources to avoid or cope with risk exposure in day-to-day social life. The exam-

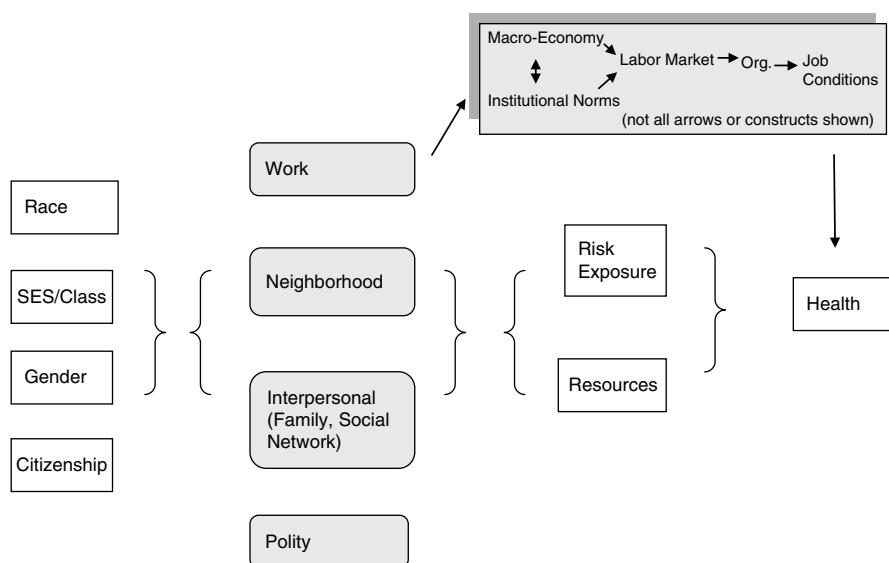


Fig. 7.2 Elaborated model (*shaded*) of the social status as fundamental causes of disease argument

ple of work suggests that this is one context of day-to-day social life in which exposure to risk is stratified. There are at least three other general social contexts that define day-to-day social experience: neighborhood, family and social networks, and polity. Social status makes a difference for disease risk because it conditions participation in these social institutions or contexts. Each social context embodies exposure to risks, availability of resources, and implications for health/illness. While this argument is recognized in articulations of fundamental cause principles (Phelan et al. 2010), we believe it deserves more systematic investigation based on a model such as we have developed. Figure 7.2 is an attempt to illustrate this point and to suggest that the fundamental causes of disease argument might usefully be elaborated by more formally accounting for socially structured participation in social institutions as they represent “normative social arrangements that can generate health-damaging conditions.”

In Fig. 7.2, we interpose broad social institutional contexts (shaded portions) that collectively (though perhaps, incompletely) represent the day-to-day contexts in which individuals experience life and encounter and deal with risks. A number of authors (House 2001; Robert and House 2000) have noted that the relationship between social factors and inequalities in health appears to be explainable by differences in exposure and vulnerability to psychosocial risk factors. And, although they allude to work, family, and neighborhood as sources of exposure and vulnerability, they do so without a systematic sociological explanation for how differential exposure and vulnerability arise in these contexts.

Thus, it is helpful to know that risk and resources arise and change as a function of social, economic, and political processes. Williams and Collins (2001), for example, explain that residential segregation restricts employment opportunities for African Americans, affords access to only low-paying jobs, and restricts access to role models of stable employment and social networks. Moreover, they point out that these restrictions evolve from organizational decision-making regarding restructuring, relocation, and downsizing that can be related to the neighborhood location of the business. In short, this explanation of neighborhood effects on health incorporates the social context in a sociologically systematic way to account for the observed association between neighborhood segregation and risk exposure – exactly as we propose.

Apart from the type of social structural explanation proposed by Williams and Collins (2001) for the effects of residential racial segregation on health, much research on how contexts such as neighborhood affect health does not explain how neighborhood disorder arises in the first place or how it changes. Rather, the research typically suggests pathways by which the specific social context (neighborhoods, for example) affects individual behavior or psychological responses (Ross and Mirowsky 2009). While this is extremely important research, it only partly illuminates the relationship between social status and health. In our explanation of the way that work affects health, we have focused on the socio-economic-political structural mechanisms that create the context in which individuals encounter risks and employ resources, and we have emphasized that these structures reflect the normal, routine conditions encountered by individuals, in part, because of their location in social status hierarchies.

Figure 7.2 then, shows how the argument we have made about work and health can be understood as it is related to the fundamental causes theory. Because social status characteristics have implications for occupation and labor market participation, individual exposure to risk and resources is conditioned by the intersection of social status and work conditions. This logic can clearly be extended to consider other social institutional contexts that broadly affect exposure to risk and access to resources. People live in neighborhoods that structure exposure to risks and resources partly determined by SES and race. Indeed, there is a substantial research literature on how neighborhood context affects health and well-being (Aneshensel and Sucoff 1996; Hill et al. 2005; Williams and Collins 2001; Ross and Mirowsky 2009). Interpersonal relations are also conditioned by social status. This construct is also intended to incorporate access to social networks and social resources that are explicitly implicated by Link and Phelan (1995) and that we also know are stratified (Huang and Tausig 1990; Campbell et al. 1986; Lin 2001). Polity refers to the legal environment as it facilitates or creates legal differences in access to resources, particularly power and authority that vary by social status (Gamson 1968). There are relationships between social institutional categories too. Getting a job depends, in some part, on who you know and who you know is affected by social status. Hence, labor market participation is indirectly determined by the way that social status affects interpersonal resources. What we are suggesting is that the fundamental causes argument can be expanded without violating any of the original assumptions made by Link and Phelan (1995), particularly those that are intended to avoid reifying specific pathways to illness.

Our suggestion is that the consequences of social status are substantially realized in the context of social institutions that may be regarded as mediators of risk exposure and socially valued resources. The consequence of social status is that it substantially determines the experiences of individuals as they interact with various social institutions in their daily lives. In turn, therefore, we need to understand how social institutions distribute resources and risk. This suggestion extends the way that we use sociological explanations to account for health and health disparities. It clarifies how social structures act as instruments for the distribution of social resources within the social conditions as fundamental causes of disease explanation.

Contributions to the Sociological Study of the Stress-Process Model

The social conditions as fundamental causes of disease argument can be thought to subsume studies of the sociological study of stress processes. Link and Phelan (1995) frequently refer to risks in terms of stressors and resources in terms of social support. Indeed, the stress-illness literature is conceptualized in terms of exposure to risk and vulnerability to its consequences. Nevertheless, the sociological stress model is not identical to the social conditions as fundamental causes model and so we want to discuss the implications of our argument for elaborating that theory.

The “sociological” study of the stress process (Pearlin 1989:241) examines the ways in which, “...well-being is affected by the structured arrangements of people’s lives and the repeated experiences that stem from those arrangements.” As Pearlin (1989) points out, most studies of stress begin with the experience of a stressor and then trace the consequences for the individual. But this approach can be seen to provide a limited understanding of the stress process for exactly the same reasons we argue there are limits to the typical way we understand job-related stress. The realization that exposure to stressors is not random, and that exposure is systematically related to positions in social structures such as social class, race and ethnicity, and gender, affirms the notion that understanding the stress process is advanced by formally incorporating context into the theory.

Figure 7.3 shows an elaborated (shaded portions) depiction of the stress-process model. The basic stress-process model is extracted from the one depicted by Turner (2010). Like the fundamental causes model, the stress-process model places social statuses in a distal position relative to health outcomes. It is more specific than the fundamental causes argument because it focuses on stress exposure and social and personal resources as they mediate or moderate stress exposure and so other forms of risk and resources such as access to information or power are not included as they are in the fundamental causes argument. Nevertheless, the similarities in the two models, is also clear. Both models reflect the argument that social statuses structure exposure to health risks as well as resources. Both models lack specifics as to how social status actually produces risk or stress exposure. Both models make it difficult

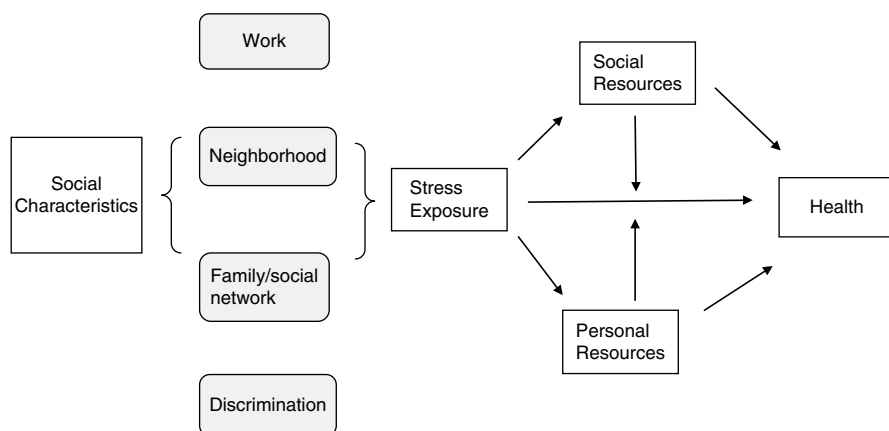


Fig. 7.3 Elaborated model (*shaded*) of the stress-process model

to understand exactly how status differences produce risk or stress exposure, particularly in social context. Without, then, repeating our previous argument, we simply suggest that the sociological stress process is elaborated by interposing social institutions as socially structured mediators of stress exposure.

It is probably the case that the sorts of stressors mediated by interactions with social institutions are largely chronic and/or cumulative. To use the example of work, job conditions, although they can change in the longer term, are probably best thought of as chronic stressors – the daily grind. The relationship between labor markets and job conditions suggests that the stressors may also be cumulative.

We do want to point out the similarities and differences in Figs. 7.2 and 7.3. First, for the stress-process model we have identified discrimination as a socially structured institutional factor that affects stress exposure and resources rather than polity. We mean discrimination to include both interpersonal experiences of discrimination and forms of institutional discrimination, whether they are formally stated or functions of informal organizational practice. We have made this change from Fig. 7.2 to acknowledge the substantial findings on the role that discrimination plays in the stress process (Williams et al. 1997, 2003).

Like the model in Fig. 7.2, the stress-process model should be read to include substantial interactions between social institutions that generate stressors. This would include promotion discrimination in the workplace (discrimination and work structures) as well as work–family conflict (family as an institution and work structures).

Schieman et al. (2009) developed a compatible model to explain work–nonwork interference which is conceived as a stressor that is ultimately related to health. Schieman, Milkie, and Glavin use the job demand–resources model (Bakker and Demerouti 2007) to account for the occurrence of work–nonwork interference. In their model, the stressor represented by work–nonwork interference is a function

of job-related resources and demands that are related to social statuses, precisely as we have suggested in our general model predicting stress related to demands and decision latitude. The study well-illustrates what we think is the value of contextualizing the stress process in terms of social institutions such as work and family that represent the manner in which individuals are exposed to stressors through the social arrangements in which they are embedded.

Aneshensel (2010) also proposes a stress model of neighborhood and mental health. That model relates neighborhood characteristics, especially socioeconomic disadvantage, to neighborhood disorder, a stressor. Further, she invokes the theoretical account offered by Wheaton and Clark (2003) that emphasizes the cumulative mediating effect of ambient neighborhood stress in childhood on early adulthood mental health as an illustration of one pathway by which neighborhood socioeconomic disadvantage leads to mental health problems for residents of a neighborhood. It is these sorts of elaborations of what goes on in social institutions that improve our sociological explanation of health/illness. Aneshensel (2010:47) observes that, “the proper specification of individual-level social class effects on mental health requires the consideration of the interdependence between individual and contextual components of social class.” This perspective is also echoed by Avison (2010) with respect to the family as a social institutional context.

In our model, we have worked backward from the notion of job stress to the organizational, institutional, and macroeconomic and social contexts that account for that stress in order to articulate a sociological account of job stress. It is clear that others have thought along similar lines with regard to neighborhoods, families, and discrimination (Williams and Collins 2001; Schieman et al. 2009; Williams et al. 2003). Although the elaboration of structural explanations for stressful experiences is not as well-developed for some social contexts, it makes sense to more formally make social institutions explicit contexts for describing the stress process by incorporating such notions into models such as we have done in Fig. 7.3. The sociological stress process can usefully include consideration of the effects of social institutional/organizational context on the origins of stressors and social resources.

In such studies it would be most helpful to understand how economic conditions and social norms (institutional mythologies), for example, affect the likelihood that a family will consist of dual wage-earners, how socially acceptable certain family configurations are thought to be, or how these conditions and norms may generate stressors (i.e., we need to develop multi-contextual sociological explanations for the origins of stressors like work–family interference). We know, for example, that stagnating family incomes drive more household members into the labor market (assuming there are jobs to be had). In turn, increased labor participation among family members creates stressors related to work–nonwork interference. And, of course, women’s labor force participation is partly due to changes in social norms about the role of adult females. To understand the sociological consequences of stressors and resources, we need to understand where stressors come from, how and why they change, and then how they affect health outcomes. It would help if a basic model for incorporating such explanations was applied across studies investigating one or another social institution’s effects on stress. If such studies used a model

common to the understanding of the way that various social institutional contexts affect stress, it would improve the coherence of studies across social institutions. Thus, while it is clear that sociologists understand that social institutions provide a context for the experience of stress and the availability of resources, this notion is inconsistently applied and incompletely described in the absence of a model that explicitly incorporates them.

Contributions to the Study of Job Stress

If job stress is the epidemic of the twentieth (and twenty-first) century (Tangri 2003), and the personal and economic costs of job stress are high, then what is the potential for our model to address this epidemic and its associated costs?

Our model makes it clear that addressing the epidemic of job stress is not as simple as redesigning features of a particular worker's job or introducing elements such as quality circles (QCs) into an organization. Although job redesign efforts are sometimes described as attempts to "humanize" the workplace, implementation by particular organizations is almost always closely tied to productivity concerns, changeable markets, and threats to profits, that is, external economic conditions (Karasek 1990; Rinehart 1986; Hurrell and Murphy 1996).

Job redesign programs may aim to reduce the stressful characteristics of jobs but those efforts are less likely to succeed if the origins of stressful jobs are mostly outside of the organization itself. Assessments of job redesign programs that have introduced Total Quality Management (TQM) or QC programs as remedies for low productivity, job dissatisfaction, and absenteeism generally report discouraging results in terms of these objectives (Bond and Bunce 2001; Rinehart 1986; Hurrell and Murphy 1996; Karasek 1990; Brenner et al. 2004) (but see Kelly et al. 2011 for an exception). It may well be the internal focus of these redesign efforts that reduces the likelihood of success for these programs precisely because external factors are relevant for understanding what forms of work organization are sustainable.

Since the 1970s, the US economy has changed from a "Fordist" to a "post" or "neo" Fordist production system, including a shift from manufacturing to service industries, a shift from blue collar to white collar occupations, greater demographic diversity in the labor force, and increasing contingent employment. Effects of these changes on extrinsic job rewards have been extensively documented, including growing income inequality. This is the result of an increasingly "polarized" occupational structure: more high-skilled, high-paying professional, managerial, and technical jobs, on the one hand, and more low-skilled, low-paying service-sector jobs, on the other hand. This has been accompanied by the loss of the jobs in the middle: the well-paying manufacturing jobs that most characterized the "Fordist" system. In contrast, there has been far less research regarding the effects of these changes on the psychological well-being of workers, and especially on the nature and distribution of job stressors. Some research has focused on the consequences of growing income polarization and increased "precarity" of work on financial stress and

increased job insecurity. But how has the organization of jobs changed in ways that would make doing one's job more or less stressful?

On the one hand, there are reasons to expect that levels of job stressors have increased since the 1970s. There is evidence that "post/neo Fordism" has intensified work. Flatter organizational structures and "lean" production systems have reduced information, equipment, and coworkers to help workers meet demands, while pushing more responsibility for organizing production onto the workers themselves. This has the potential of increasing time pressures and other psychosocial job demands while reducing coworker and supervisor support and other resources for coping with work intensification.

However, there is also evidence that "post/neo Fordism" has the potential of reducing job stressors. The occupational shift from low-skilled manufacturing workers to high skilled professional, managerial, and technical workers implies an increase in the percentage of occupations requiring more autonomy and skill complexity/discretion. This trend is furthered by the increasing need for "symbolic analysts" and "functional flexibility" (multiple job skills) among workers in a growing number of HPWOs throughout the economy – including manufacturing. And, while the growth of contingent employment has increased both income inequality and job insecurity, there is evidence that contingent employment reduces job demands and in some cases increases autonomy – e.g., consultants who may be able to choose which jobs to take on and when.

The current recession (2008–2010) can be seen as an engine that accelerates this long-term shift. Employers are upgrading their technologies of production, reducing the number of middle skill–middle wage jobs, and using global resources (i.e., outsourcing) to reduce costs even before they intend to increase hiring. Workers who lost their jobs during the recession will find a different terrain when they return to the labor market. When, therefore, we attempt to address the epidemic of job stress, these recent changes clearly need to be considered, even if they might also be seen as intractable or deterministic vis-à-vis job redesign at the organizational level.

Limits

Ironically, implicating macroeconomic conditions and change, labor markets, social institutions, and political entities and organizations in the production of job stress is exactly why the sociological model of job stress might have limited effects on "humanizing" the workplace. The more complete understanding of the antecedents of stressful job conditions is essential to developing solutions to the problem but moves the solutions into social, economic, and political realms where change is slow or unlikely. If a recessionary economy might increase job-related stress by causing organizations to restructure jobs to decrease decision latitude and increase job demands for example, then the solution to exposure to stressful work conditions suggested in our model would be to eliminate recessions! At the same time, there is

limited value in pursuing interventions that are “powerfully influenced by factors left untouched by the intervention” (Phelan et al. 2010:S37).

It seems important, therefore, to locate our model in theoretical “space” and to discuss the empirical issues that arise in trying to work with the model. The plausibility of our model notwithstanding, it is very difficult to empirically test many of the propositions and relationships that our model suggests. We are concerned generically with explicating the effects of social structures and organization on mental health. In order to develop this explanation, we have been very careful to work with consistent definitions of each structural variable so that the hypothesized relationships between constructs are also clear and consistent.

Theoretical Concerns

The first issue to discuss is the extent to which we mean our explanation of job stress to be exclusively a function of structure. Our explanation for individual reactions to work conditions does not include individual personality, personal history, perceptions, or the possibility that workers can act in their specific work context to change work conditions. Indeed, the question of the relationship between structure and personal agency is one that needs to be discussed in a schema that purports to “bring the worker back into” the theoretical explanation of job-related stress.

Sewell (1992:2) raises the concern that, “structural or structuralist arguments tend to assume a far too rigid causal determinism in social life.” Thoits (2006:311), in her discussion of personal agency in the stress process, notes that the aim of stress research has been to show that “inequalities in mental health are socially produced and are thus explained in large part by social forces.” She goes on to say that the sociological mission “is to demonstrate that social statuses, social structures, and social situations have consequences for mental health that cannot be reduced to genetics, biology, or psychology.” And, to some extent, the concern that sociological analysis is too rigidly deterministic may be seen by some as rendering sociological investigations useless in the practical matter of improving health (or in the present case, work conditions related to health) (Link 2003).

It is, of course, a distinguishing characteristic of sociology as an intellectual discipline that it deals with groups of people and not individuals as the unit of analysis. There should also be no doubt that our application of sociological principles of analysis substantially enlarges the way we can now think about the issue of job stress and its psychological consequences for workers. Sewell (1992) partly characterizes social structures as ways of organizing resources and we have shown that the possession and use of resources are important ways in which workers are exposed to risk and can deal with it. Link (2003) suggests that knowledge of people’s contextual circumstances has been shown to explain individual behavior and thus can be used to modify that behavior. Thoits (2006) argues that self selection and social selection processes interact with social structures to provide individuals with the ability to exercise personal agency so that structures can be seen to create opportunities for action. The same social structures and social processes that put

people at different levels of risk to health threats also provide access to supportive resources including the capacity to act in ways that minimize the effects of stressors on health. In our model, social statuses affect entry into labor markets and occupations that result in acquiring jobs that provide both economic and noneconomic resources that are available to individuals. In short, then, our model, based on explaining the structural determinants of job conditions, includes the distribution of the personal resources that individuals can use to cope with stressors.

Sewell (1992) also notes that the notion of structure makes it difficult to deal with change. One definition of structure implies that structures are rigid and unchangeable. This notion would preclude both the possibility of personal agency and of more collective change. Our model clearly does not assume rigidity of structures. Indeed, in the development of our argument we have used change to uncover the importance of structures as they affect job conditions. Structures can be seen as dynamic themselves, leading to dynamic change in day-to-day circumstances and behavior and emotional outcomes. This, indeed, is the core of our argument about how social statuses affect mental health outcomes through the interaction of social status with social institutions and organizations.

We now turn to a consideration of the theoretical issues related to the construction of a model that invokes multiple levels of aggregation and conceptual units. In order to understand job-related stress and subsequent psychological consequences for workers, we have argued that we need to be able to answer the question of where those stressful conditions come from. Theoretically we argue that this answer entails considering constructs that are specified at different levels of abstraction. Moreover, the constructs are mostly structural and collectively suggest that structures determine stressful job conditions and reactions to those conditions. Contextualizing the psychological risk represented by work conditions requires us to specify aggregate and collective constructs as well as to posit the way that higher level constructs affect individual behavior.

Sociologists are comfortable with abstractions that represent aggregate or contextual levels, that is, that represent “structural effects” on individual behavior or conditions. However, using such abstractions to explain individual behavior does carry the potential for mis-specifying relationships or actual processes (Rousseau 1985; Blalock 1984; Schwartz 1994). Indeed, there is a great deal of literature regarding the theoretical, methodological, and analytic concerns related to contextual, cross-level, or multilevel thinking (Blalock 1964, 1984; Rousseau 1985; Klein et al. 1994; Schwartz 1994; Diez-Roux 1998).

Our model actually contains a variety of aggregate or collective constructs that each requires careful specification. It is possible to aggregate individual conditions or responses that are then thought to represent an “average” condition or response (e.g., an occupational characteristic). It is also possible to conceptualize aggregate indicators as reflecting something beyond the sum of individual conditions or responses (e.g., an organization). A contextual construct might arise independently from individual conditions or responses (e.g., neighborhood pollution level or social institutional norms). In turn, the theoretical and methodological issue is the proper specification of cross- or multilevel relationships, proper measurement, and analysis (Rousseau 1985).

Perhaps the concern that is most frequently raised about cross-level research is the possibility that one will make incorrect causal inferences from group data to individual behavior, the “ecological” fallacy. So, for example, we might incorrectly infer that the general phenomenon of downsizing raises a specific worker’s insecurity. Schwartz (1994) argues that the ecological inference problem can be generalized as a validity problem. As such, the central concern is construct validity that turns on the conceptual plausibility of the way that a higher level construct is argued to be related to an individual level construct and the ability to specify the link between the contextual and the individual constructs. This specification is precisely what we have been developing here and why we do not believe that our model inherently contains an ecological bias or construct validity problem. This, however, is not to say that specific studies based on our model might not lead to misspecifications but, if this occurs it will be based on research design, measurement, or analytic issues.

So, what kinds of designs, what kinds of measures, and what kinds of analytic techniques might be appropriate for evaluating the model?

Design Concerns

Our conceptual scheme is multilevel, and thus its ultimate evaluation is dependent on obtaining, measuring, and testing relations among data at multiple levels: (1) “macro” social and economic; (2) “meso” organizational; and (3) “micro” individual. Macro and micro level data are available to researchers in the forms of Census and Labor Department indicators and social surveys, respectively. This was a strategy used by Fenwick and Tausig (1994) and Tausig and Fenwick (1999) to examine the effects of macroeconomic structure and change on worker well-being. They combined data on individual workers with occupational unemployment levels linked to each individual worker to generate a multilevel analysis of the way unemployment rates (and rates of change) affected job conditions and felt distress.

Meso-level data (i.e., organizational data) is both rare and difficult to collect. We simultaneously require information about the macro-level, meso-level, and individual level to more fully evaluate our model because we hypothesize that part of the effect of macroeconomic or social institutional structure or change goes “through” the organization while some is felt directly by the individual worker. The problem has been recognized by the National Institute of Occupational Safety and Health (NIOSH) (USDHHS 1996) and by the National Science Foundation, which funded a number of studies to develop a methodology for collecting multilevel data that would be representative of both individual workers and of employing firms. Based on “hyper-network,” or “multiplicity sampling” techniques, a multistage sampling strategy of “going up the ladder” was developed by Spaeth and O’Rourke (1996). In the first step, individual respondents in a probability sample provide information on characteristics of their jobs *and* they identify the establishment where they work. In the second step, the work organization information is used to contact organizational members who are in positions to be knowledgeable about relevant structural

characteristics of the work establishment. The advantage of this type of data structure, where there is one worker respondent per organization, is that ordinary least squares regression techniques can be applied without mis-estimating standard errors. However, the technique does not allow researchers to distinguish within-context from between-context variance. In this sense, analysis of data collected using this technique are multilevel but not contextual. Most importantly data collected using this design can be collected for representative samples of workers employed in a representative sample of organizations.

At least two multilevel data sets containing individual and organizational data have been developed using the method described above. In both 1991 and 2002, the technique was employed within the General Social Survey (GSS) and the linked National Organizational Survey (NOS). With data sets such as the GSS-NOS that contain direct measures of organizational structures which are linked to individual level job conditions, we can examine the specific organizational characteristics that are affected by macroeconomic changes and that, in turn, lead to restructuring of individual level positions and activities. With organizational level measures available, we can also track how differences in organizations' institutional environments affect stressful work conditions.

The model we propose is also longitudinal and longitudinal data would provide crucial information on how the structural dynamics of social and economic change affect job conditions and therefore, workers over time. While we currently lack panel data based on the GSS-NOS design, some analyses of data that permit us to examine changes in job conditions and changes in distress utilize panel or repeated measures designs (Tausig et al. 2005). To our knowledge, only one set of panel data, the Quality of Employment 1972–1977 surveys, has been utilized to evaluate longitudinal arguments. Indeed, because a major recession occurred between 1972 and 1977 a serendipitous natural experiment allowed us to assess the effect of that recession on job conditions and mental health (Tausig and Fenwick 1999). Clearly, more contemporary surveys are needed to test the longitudinal arguments in the model. Surveys, such as the GSS and the National Study of the Changing Workforce conducted by the Families and Work Institute (Bond et al. 1997, 2002), often repeat items from survey to survey overtime but samples are independent, that is, they are not panel designs. Nevertheless, such repeated measures designs do allow us to characterize change at aggregate levels.

The Utility of the Model

While we could argue that the central concern of this book is simply to make a case for the plausibility of a multilevel model of job stress, our intent is also to address two important social problems: job stress and health disparities. As we noted in the beginning of this work, job stress is wide-spread and exacts a high human and economic toll. How can our model help address this problem? Second, we have shown that exposure to job stress is not random or uniform across work and workers.

Hence, we argue that part of the explanation for health disparities observed at the population level may be related to differential exposure to job stress.

Our model emphasizes the effects of both large structures and distal influences on individual level conditions and stress outcomes. As such, actors who seek to change conditions at a micro-level might find our results to be relatively useless precisely because our emphasis is beyond their control or ambition. Indeed, Karasek's (1979) seminal paper that outlined the demand–control model is subtitled “implications for job redesign.” This is to say that Karasek assumed that either reducing job demands or increasing decision latitude was a change that could be made in the immediate work environment and would lead to a decrease in job strain. Our prediction and the few studies that have empirically assessed job redesign programs (Rinehart 1986; Karasek 1990; Hurrell and Murphy 1996; Bond and Bunce 2001; Brenner et al. 2004) suggest that this approach will be relatively ineffective if the change programs do not account for meso- and macro-level factors.

This does not mean, however, that our effort is in vain from a utilitarian view (Link 2003; Phelan et al. 2010; Thoits 2010). First, there is the notion of “the production of understanding” (Link 2003) that suggests that theory and research that has “truth” value has utilitarian value. Link (2003) notes that sociological theory and research has influenced the way policy makers and others think about social problems even when those actors are not aware that they have been influenced. Second, workers do have “agency” (Sewell 1992; Thoits 2006), and a better understanding of the origins of a work-related phenomenon such as job stress will increase the likelihood that action results in effective change. The obvious historical example is the establishment of industrial unions. Certainly, action that is uninformed of an understanding of the phenomenon that is the subject of action has a reduced likelihood of success. This consideration alone justifies our effort.

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