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The attached book chapter is one of the most comprehensive scientific articles on the theory and background to the organisational health framework. The organisational health framework was developed in the late 1980's and early 1990's in response to the limitations that had been identified in the occupational stress literature. This chapter outlines these limitations, and then introduces the key elements of the organisational health framework.

"… the authors undertake the gargantuan task of reviewing the literature and applied findings in this area with genuine brevity. Moreover, they undertake a constructively critical overview of this topic area by suggesting, some might consider somewhat controversially, that the framework of occupational health provides a key integrative vantage point from which to view the important issues. Decrying the lack of generally accepted definitions of stress and strain in the workplace, Hart and Cooper's chapter represents nothing less than a masterclass in the intellectual construction of integrative review; most crucially much of the latter part of this chapter is dedicated to the development of a synergistic perspective – organizational health as the quintessential nodal link between stress, individual performance, and organizational performance. Far from merely reviewing the morass of individual studies into stress and strain, the authors put forward an integrative future-oriented framework upon which occupational stress research can be based, and within which stress research can be inextricably linked to individual and organizational performance." Sinangil, Viswesvaran, Ones, & Anderson (2001).

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Occupational Stress: Toward a More Integrated Framework

PETER M. HART and CARY L. COOPER

Although the stressors and strain approach has become the dominant theme in the occupational stress literature, a growing body of empirical evidence has called this approach into question. Additionally, limitations with many of the process theories of occupational stress prevent them from being fully integrated into the mainstream literature on work and organizational psychology. In this chapter we argue that these limitations can be addressed by adopting an organizational health framework. According to this framework, it is important to focus simultaneously on employee well-being *and* organizational performance. It is argued that these are determined by a combination of individual (e.g., personality and coping) and organizational (e.g., organizational climate and work experiences) characteristics. We outline a research agenda for the organizational health framework and demonstrate how it can be used to provide a stronger link between occupational stress and other areas of work and organizational psychology. We believe this approach will help to improve the relevance of occupational stress to work organizations.

Introduction

Occupational stress is a growing problem that results in substantial cost to individual employees and work organizations around the globe. The changing nature of work has placed unprecedented demands on employees, and fuelled concerns about the effect this change is having on the well-being and health of employees and their work organizations. In many large organizations, for example, the 1990s were a period of dramatic downsizing, outsourcing, and globalization. Although these changes have led to greater mobility and more flexible work arrangements for some employees, for others they have raised concerns about employment security, increased work demands, and the loss of 'connectedness' that can result from the move toward less secure forms of employment (e.g., part-time and short-term contract work). In many organizations, these changes have also been coupled with rapid technological change, and a strong push for greater efficiency, increased competitiveness, and improved customer service. Conventional wisdom suggests that it is this climate of continual change that is placing many employees under pressure and creating the types of work organizations that will produce high levels of occupational stress. This places a premium on being able to understand the causes and consequences of occupational stress, so that appropriate policies and practices can be developed to ameliorate these concerns.

In this chapter, we review the traditional approach to occupational stress that has been adopted in both research and applied settings, and call into question the core assumptions that have underpinned this approach. In particular, we believe that it is necessary to develop stronger links between the occupational stress literature and other areas of work psychology (Wright, & Croponzano, 2000a), in order to broaden our understanding of

occupational stress and demonstrate that employee well-being is central to the ongoing viability and success of work organizations.

Definitions of Occupational Stress

The starting point in this chapter should be to provide a clear, coherent and precise definition of occupational stress. Unfortunately, this is not straightforward. Despite the key words 'occupational stress,' 'work stress,' and 'job stress' being used in 2,768 scientific articles published during the 1990s, the scientific community has still not reached an agreed position on the meaning and definition of occupational stress. There has been considerable debate, for example, about whether occupational stress should be defined in terms of the person, the environment, or both (e.g., Cooper, 1998; Cotton, 1995; Quick, Murphy, & Hurrell, 1992a). This lack of coherence has led to a degree of fragmentation in the occupational stress literature, and may explain, in part, why during the 1990s only 8% of the research articles related to occupational stress were published in the leading applied psychology and management journals (see Table 5.1 for details).

The Stressors and Strain Approach to Occupational Stress

The ongoing debate about the meaning and definition of occupational stress has allowed the stressors and strain approach to become the dominant theme in the occupational stress literature (e.g., Spector, & Jex, 1998). The stressors and strain approach is based on a relatively simplistic theory that views stress as occurring when work characteristics contribute to poor psychological or physical health (Beehr, 1995). According to this approach, *stressors* refer to the work-related characteristics, events or situations that give rise to stress, and *strain* refers to an employee's physiological or psychological response to stress (Hurrell, Nelson, & Simmons, 1998). The main interest, however, is on the presumed causal relationship between stressors and strain. Cox (1978) has likened this approach to an engineering model in which environmental demands may put people under pressure, and the strain created by this pressure may place people at risk of experiencing physiological and psychological harm.

The stressors and strain approach is at the core of most recent research into occupational stress. This research has concentrated on identifying the occupational and organizational sources of stress that are related to various indices of strain (e.g., job dissatisfaction, psychological distress, burnout, and sickness absence) and, in some instances, has focused on identifying the individual (e.g, perceived control) and organizational (e.g., decision-latitude) factors that moderate the stressor–strain relationship (e.g., Quick et al., 1992a; Sauter, & Murphy, 1995). However, despite the volume of research into the stressors and strain approach, we believe that our understanding of occupational stress has not progressed that far over the past decade. Moreover, the implications stemming from this volume of research have not been fully integrated into an appropriate theoretical framework that enables us to build a strong bridge between the occupational stress literature and other areas in the management science and work psychology literatures.

Four Assumptions Underpinning the Stressors and Strain Approach

In order to put much of the recent occupational stress research into its proper perspective, it is important to understand the assumptions that have tended to underpin the stressors and strain approach. We believe that four basic assumptions characterize the stressors and strain approach, and these assumptions continue to influence most research into occupational stress. These assumptions have generally been accepted as 'givens' in the occupational stress literature and, despite contrary evidence being found in other areas of psychology, occupational stress researchers have rarely challenged or empirically tested these assumptions.

Occupational Stress Is Associated with Unpleasant Emotions

First, it is generally believed that occupational stress is associated with the aversive or unpleasant emotional states that people experience as a consequence of their work. For example, Kyriacou, & Sutcliffe (1978) defined occupational stress as the experience of unpleasant emotions, such as tension, frustration, anxiety, anger, and depression. This definition has been used extensively in the occupational stress literature (e.g., Newton, 1989), and is similar to definitions of psychological distress (Headey, & Wearing, 1992) and negative affect (Watson, 1988). Several influential theories have also reinforced this view by emphasizing the link between occupational stress and psychological strain (e.g., Beehr, & Newman, 1978; French, Caplan, & Harrison, 1982; cf. Cooper, 1998). Although some researchers draw a distinction between stress and psychological distress (e.g., Quick, Murphy, & Hurrell, 1992b), this distinction is seldom made by the lay community where occupational stress is typically associated with the negative feelings that employees have about their work (Jex, Beehr, & Roberts, 1992).

Table 5.1 *Articles published since 1990 using the key words of 'occupational stress,' 'work stress,' or 'job stress'*

Journal	Published articles
Academy of Management Journal	14
Academy of Management Review	3
Journal of Applied Psychology	22
Journal of Occupational and Organizational Psychology	70
Journal of Occupational Health Psychology	49
Journal of Organizational Behavior	32
Journal of Personality and Social Psychology	1
Journal of Vocational Behavior	24
Personnel Psychology	1
Psychological Bulletin	0
All other journals	2,552
Total	2,768

Note: The literature search was conducted on PsycLit and identified all listed articles Published from 1 January 1990 to November 1999.

Positive and Negative Reactions Are Inversely Related

The second assumption is that people experience feelings of stress at the expense of more pleasurable emotions, such as those typically associated with positive affect, psychological morale, and a sense of overall well-being (cf. Hart, 1994; Headey, & Wearing, 1992; Lazarus, & Folkman, 1984). This assumption implies, for example, that stress and morale are at the opposite ends of an occupational well-being continuum, where one rises as the other falls. This may explain why occupational well-being indices, such as morale, have received little theoretical and empirical attention in recent times (Organ, 1997). Moreover, this assumption is consistent with the fact that none of the 23 articles in an edited publication entitled *Stress and Well-Being at Work* (Quick et al., 1992a) defined the nature of the relationship between stress and well-being. It was merely assumed that stress resulted in an absence of well-being.

Stress Can Be Measured by a Single Variable

The third assumption is that stress can be expressed as a single variable. In other words, many researchers have assumed, at an operational level, that a single measure can be used to capture the concept of 'stress.' There is some debate, however, as to whether this measure should assess the objective characteristics of the environment, an individual's subjective interpretation of the environment, or an individual's psychological response to the environment. Newton (1989) has observed, for example, that response-based measures, such as those focusing on anxiety, depression, job satisfaction, or psychophysiological symptoms, are often used to assess stress in occupational settings. This approach has persisted throughout the 1990s, with many studies still using single measures, such as the Minnesota Satisfaction Questionnaire (Weiss, Dawis, England, & Lofquist, 1967) or the General Health Questionnaire (Goldberg, 1978), to assess occupational stress. To a lesser extent, other approaches have included the use of work-related event inventories (Sewell, 1983), similar to those used in the life events literature of the 1970s (e.g., Holmes, & Rahe, 1967), and the use of stressor scales to identify the stress caused by work-related factors (e.g., Hurrell et al., 1998).

Stress Is Caused Primarily by Adverse Work Experiences

The fourth assumption is that adverse work experiences (i.e., adverse characteristics, events or situations in the work environment) contribute to the personal (e.g., poor quality of work life, low job satisfaction, burnout, and lack of motivation) and organizational (e.g., increased sickness absence, stress related workers' compensation claims, poor productivity, and high turnover) outcomes normally attributed to occupational stress (e.g., Quick et al., 1992a; Sauter, & Murphy, 1995). This may explain why many occupational stress researchers focus almost exclusively on the relationship between negative work experiences (stressors) and employees' psychological outcomes, but say little, if anything, about the role played by positive experiences.

Calling the Stressors and Strain Assumptions into Question

Although these four assumptions permeate much of the occupational stress literature, they have been called into question by a growing body of empirical evidence in the work psychology (e.g., Hart, 1999), health psychology (e.g., Lazarus, & Folkman, 1984), and perceived quality of life (e.g., Headey, &

Wearing, 1992) literatures. For example, many of the theoretical developments in recent years suggest that stress cannot be located in any single variable (Lazarus, 1990), but instead, results from the interplay between a broad system of variables (e.g., Cooper, 1998).

These developments highlight that one of the major limitations of the stressors and strain approach is that it is not driven by a strong coherent theory. Instead, researchers merely attempt to identify the stressors experienced by different workgroups and then attempt to relate these to indices of strain and psychological distress (e.g., Sauter, & Murphy, 1995). Unfortunately, the mere identification of the stressors that affect employees' psychological outcomes will not help to accumulate knowledge about the causes and consequences of occupational stress. This will require a much stronger commitment to theory-based research.

Moreover, the 'field' nature of most occupational stress studies means that the role of theory becomes even more crucial when trying to establish causation. In a field study, the variables of interest can rarely be manipulated experimentally. Instead, the naturally occurring covariation between these variables must be carefully examined. This requires a clearly articulated theory that describes the relationships within the system of variables under investigation. Only then will it be possible to use appropriate measures and analytic techniques to examine the adequacy of the theory within a traditional hypothesis-testing framework. As noted by Hobfoll (1989: 513), 'without a clear theoretical backdrop, it is difficult to create a true body of knowledge because there are no defined borders of theory to be challenged.' The absence of a strong theoretical framework has meant that many occupational stress studies have adopted an exploratory analytic approach, rather than a hypothesis-testing framework that allows for an empirical assessment of competing hypotheses and theoretical positions.

Process Theories of Occupational Stress

Despite the fact that a large volume of research has focused on linking stressors to strain, a growing number of process theories have been developed to provide a more coherent framework for understanding occupational stress (Cooper, 1998). Some of these theories have a strong occupational orientation (e.g., Edwards, 1992), whereas others can be readily applied to other domains of an employee's life (e.g., Hart, 1999). One thing that most process theories have in common, however, is that they are based on the transactional approach to stress.

The transactional approach treats stress as a dynamic process operating between a person and his or her environment. Although the term 'transaction' is used to emphasize the fact that stress results from the conjunction between personal and environmental variables (Cox, 1978; Lazarus, & Folkman, 1984), it is the dynamic, reciprocal nature of the relationships between these variables that distinguishes transactional models from other more static, or unidirectional theories. For example, the traditional stressors and strain approach assumes that stressors cause strain. There is no allowance for the fact that a reciprocal causal relationship may exist between stressors and strain, or that employees' levels of strain may actually cause them to experience stressors. Moreover, the reciprocity or mutual determinism that is an integral part of transactional theories serves to create a self-regulating system that is constantly striving to maintain a state of homeostasis or equilibrium (Edwards, 1992; Hart, 1999; Headey, & Wearing, 1989). This means that in order to understand occupational stress, it is necessary to understand how a system of variables relate to one another over time. Unfortunately, little is known about how occupational stress variables actually relate to one another over time, because the vast majority of occupational stress studies have been cross-sectional, rather than longitudinal in nature.

The transactional approach has led to the development of specific occupational stress theories, such as French et al.'s (1982) person–environment fit theory, which suggests that a misfit between the characteristics of an individual (e.g., abilities and goals) and his or her work environment (e.g., work demands and organizational climate) will result in psychological, physiological, and behavioral strain. Although such theories have been discussed widely in the occupational stress literature (Edwards, 1992), their specific occupational nature does not easily facilitate a more systemic view that integrates the various domains of employees' lives. More importantly, however, the theoretical emphasis placed on strain does not adequately account for the fact that people's psychological responses to their environment include both positive (e.g., well-being, positive affect, morale) and negative (e.g., ill-being, negative affect, psychological distress) dimensions (Agho, Price, & Mueller, 1992; Bradburn, 1969; Diener, & Emmons, 1985; Watson, & Tellegen, 1985), each potentially having their own unique set of causes and consequences (e.g., Costa, & McCrae, 1980; Hart, 1994; Hart, Wearing, & Headey, 1994; Headey, Glowacki, Holmstrom, & Wearing, 1985; Headey, & Wearing, 1992).

The Cognitive-Relational Approach

The cognitive-relational theory developed by Lazarus and his colleagues (e.g., DeLongis, Folkman, & Lazarus, 1988; Lazarus, & Folkman, 1984) is a transactional theory that can be applied to

all domains of a person's life, and can be used to explain the positive and negative responses that people have to their environment. Based on this approach, stress has been variously defined as a multivariate process (Lazarus, 1990) or term for an area of study (Lazarus, DeLongis, Folkman, & Gruen, 1985). However, these definitions have been criticized for being too vague and, in themselves, provide no information about the sorts of variables or relationships that should be considered important. This definitional approach contrasts with other transactional theorists, like Cox (1978) and McGrath (1970), who have defined stress as the imbalance between people's perceived environmental demands and their perceived ability to cope with these demands. Although this definition is more precise, it still fails to convey the true dynamic nature of stress.

The major contribution of the cognitive-relational theory is not the way in which it defines stress, but its introduction of the notion that the interdependent processes of *appraisal* and *coping* mediate the relationship between a person's environment and his or her adaptational outcomes. Adaptation refers to the continual interplay between appraisal and coping, and is the process through which people manage their environment to maintain an optimum level of physical, psychological and social well-being. The outcomes of this process have been operationally defined as positive and negative affect (Kanner, Coyne, Schaefer, & Lazarus, 1981), as well as anxiety, depression, perceived social competence, and general self-worth (Kanner, Feldman, Weinberger, & Ford, 1991), but may also include other indicators of psychological well-being, somatic health, and social functioning (Lazarus, 1990; Lazarus et al., 1985).

According to the cognitive-relational approach, people's experience of their environment is mediated through appraisal. Appraisal is a cognitive process through which people constantly monitor the conditions in their environment to determine whether these conditions are likely to have consequences for their well-being (referred to as *primary appraisal*), and if so, what can be done about it (referred to as *secondary appraisal*). When environmental conditions are appraised as being potentially harmful, beneficial, threatening, or challenging, people will interpret the conditions as having consequences for their well-being and, therefore, this will result in the use of coping processes (Folkman, & Lazarus, 1988).

Coping processes refer to the cognitive or behavioral efforts that people bring into play in an attempt to alter their environment (e.g., problem-focused coping) or manage their emotions (e.g., emotion-focused coping). This definition of coping has been widely accepted (Latack, & Havlovic, 1992), and emphasizes the importance of what people actually *do* to cope or deal with a stressful situation, whether it is effective or not. In other words, there is a recognition that people sometimes engage in coping strategies that may actually make matters worse.

For example, when people are confronted with a situation that is potentially harmful or threatening to their well-being they may engage in a range of coping strategies, such as logically analyzing the problem, planning what to do, and doing things that will actually address or remove the problem. These types of strategies all have a focus on dealing with the problem or situation at hand. Additionally, people may also engage in coping strategies such as denying the seriousness of the situation, trying to convince themselves that the problem will go away of its own accord, using relaxation techniques to reduce anxiety or tension, or turning to alcohol, tobacco and other substances to help manage their emotional response. Although, in some circumstances, these strategies may be beneficial in helping people to manage their emotions, they do not manage or deal with the stressful situation. Consequently, when people adopt coping strategies that focus almost exclusively on managing their emotions, the initial problem will not be addressed and may sometimes become worse.

Focusing on what people actual *do* when they attempt to cope or deal with a stressful situation is quite different from the focus that is sometimes placed on the availability of coping resources. Coping resources can be defined as any characteristic of the person or the environment that can be *used* during the coping process. For example, people's levels of self-esteem and their social support networks are resources that could be drawn upon to help them manage or deal with stressful situations (see Kahn, & Byosiere, 1992, for a review of the relationship between self-esteem, social support, and occupational stress). In some circumstances, however, people may have access to coping resources that they choose not to use. This highlights the distinguishing feature between coping processes and coping resources. Coping processes refer to what people actually do, rather than the resources that may be available to them. To further emphasize this distinction, it is sometimes helpful to use the term 'coping strategies' instead of coping processes.

The notion that people use a broad range of coping strategies when faced with stressful situations is widely accepted (further information on the types of different coping strategies can be found in Carpenter, 1992; Carver, Scheier, & Weintraub, 1989; Zeidner, & Endler, 1996). Some research suggests, however, that the extent to which one strategy is used over another varies across situations (e.g., Folkman, Lazarus, Gruen, & DeLongis, 1986), and that different types of strategies might be effective as different stages of the stressful situation unfold (e.g., Folkman, & Lazarus, 1985). This

is consistent with the view that emotion-focused strategies are effective when people have little control over the situation, particularly during the early stages of a stressful situation, and that problem-focused strategies are effective when the situation is amenable to change (Auerbach, 1989). Nevertheless, this view has not always been supported (e.g., Conway, & Terry, 1992). Others suggest that the effects of different coping strategies remain much the same, irrespective of the situation. Several studies have found, for example, that the use of problem-focused strategies tends to be adaptive or beneficial to well-being, whilst the use of emotion-focused strategies tends to be maladaptive or harmful to well-being, when used to deal with a broad range of stressful situations (e.g., Headey, & Wearing, 1990; Holahan, & Moos, 1986). Again, these findings have not always been replicated (e.g., Bolger, 1990).

These apparent discrepancies may well demonstrate the complexity of the coping process, as well as the infancy of the coping literature (Folkman, 1992). For example, there are problems associated with the conceptualization and measurement of coping (Stone, Kennedy-Moore, Newman, Geenberg, & Neale, 1992; Zeidner, & Endler, 1996), as well as an ongoing debate regarding the extent to which coping is either a trait or a state (e.g., Bolger, 1990; McCrae, & Costa, 1986; Terry, 1994). Moreover, occupational stress research has tended to focus on coping strategies that were initially identified through studies in the areas of clinical and health psychology (e.g., avoidance, denial, logical analysis, wishful thinking). It is possible, however, that in the area of occupational stress, it would be more appropriate to take a broader approach, and include job skills, training, and knowledge as part of the coping repertoire that employees can draw upon when dealing with stressful situations. Notwithstanding the need to resolve these issues, it is clear that when faced with a stressful situation, the outcome of the coping process will influence people's subsequent appraisal (referred to as *reappraisal*) of their environmental conditions (Lazarus, 1990) and, ultimately, their adaptational outcomes (Bolger, 1990). Since the effects of coping are always mediated through appraisal, however, cognition is considered the linchpin that 'actively negotiates' between a person and his or her experience of the environment (Lazarus, 1993, p. 6).

The Dynamic Equilibrium Theory of Stress

Although the cognitive-relational approach has been one of the dominant theories of stress since the early 1980s, it has been called into question for discounting the role that enduring personality characteristics (Costa, & McCrae, 1990) and emotions (Worrall, & May, 1989) play in the stress process (cf. Lazarus, 1993). The dynamic equilibrium theory of stress proposed by Hart et al. (1993, 1994; cf. Headey, & Wearing, 1989) deals with these concerns by integrating the perceived quality-of-life literature (e.g., Headey, & Wearing, 1992) with the cognitive-relational approach. According to the dynamic equilibrium theory, stress results from a broad system of variables that include personality (e.g., Costa, & McCrae, 1980) and environmental (Michela, Lukaszewski, & Allegrante, 1995) characteristics, coping processes (e.g., Bolger, 1990), positive and negative experiences (e.g., Hart, 1994; Kanner et al., 1981), and various indices of psychological well-being (e.g., Diener, 2000; George, 1996). As noted by Lazarus (1990), stress cannot be located in any one of these variables. Rather, stress occurs when a state of disequilibrium exists within the system of variables relating people to their environments, and only when this state of disequilibrium brings about change in people's normal (i.e., equilibrium) levels of psychological well-being. This suggests that stress is a relatively abstract construct that cannot be assessed directly. Instead, stress can only be understood by assessing a complex system of variables, and establishing how these variables relate to one another over time.

Drawing on a considerable body of empirical evidence, it is argued that separate positive and negative affectivity paths underpin the relations that link the stable (trait) and situational (state) components of these variables (Hart et al., 1995; cf. George, 1996). The terms positive and negative affectivity refer to the general emotional orientation that appears to underpin these variables. It has been shown, for example, that the enduring personality constructs of neuroticism and extraversion are related to life experiences (Headey, & Wearing, 1989; Magnus, Diener, Fujita, & Pavot, 1993), coping processes (Bolger, 1990; McCrae, & Costa, 1986), and perceived quality-of-life indices (Costa, & McCrae, 1980). Different patterns of association often emerge, with neuroticism correlating more strongly with negative life experiences, emotion-focused coping, and indices of psychological distress (e.g., negative affect), while extraversion correlates more strongly with positive experiences, problem-focused coping, and indices of well-being (e.g., positive affect).

These findings demonstrate that neuroticism and extraversion are more than a mere methodological nuisance (Spector, Fox, & Van Katwyk, 1999; Williams, Gavin, & Williams, 1996). They are an informative and important part of the process that enables people to interpret and respond to their environment. Since neuroticism and extraversion are almost completely stable over long periods of time (Costa, & McCrae, 1989), it follows, as a logical consequence of their links with life experiences, coping processes, and indices of psychological

well-being, that these constructs must also exhibit a degree of temporal stability that can be predicted on the basis of a person's personality characteristics (Hart, 1999; Headey, & Wearing, 1989; Staw, & Ross, 1985). This implies that each of these constructs has a stable (equilibrium) and situational (change from equilibrium) component.

Moreover, enduring personality characteristics determine, in part, the psychological meaning that a person may ascribe to an event (Brief, Butcher, George, & Link, 1993). This does not mean that people's subjective experience of their environments and their coping processes are necessarily benign or mere reflections of personality. Several studies have shown that coping processes (e.g., Bolger, 1990), life experiences (e.g., Headey, & Wearing, 1989), and daily work and nonwork experiences (e.g., Hart, 1999) make additional contributions to psychological well-being.

The dynamic equilibrium theory has important implications for the way in which occupational stress is viewed. For example, it is commonly believed, by researchers and the lay community alike, that police are among the most stressed of all occupational groups (e.g., Gaines, & Jermier, 1983); a view that is intuitively appealing given the dangerous and unsavory aspects of police work that are portrayed in the media. According to the dynamic equilibrium theory, however, a police officer may dislike some aspects of their work, such as attending a fatal road accident or dealing with traumatized victims, but this does not necessarily mean that the tasks are, in themselves, stressful. When confronted with these 'unsavory' aspects of police work, an officer may report feeling anxious or find it difficult to cope with the experience. Given that stress is sometimes viewed as an imbalance between perceived demands and the ability to cope with those demands (Cox, 1978; Lazarus, 1990; McGrath, 1970), and often assessed in occupational settings with anxiety or other psychological distress measures (Newton, 1989), these experiences would generally be considered stressful. The dynamic equilibrium theory of stress suggests, however, that these scenarios cannot be construed as 'stressful' unless the experiences represent a deviation from the officer's normal pattern of experiences *and* they bring about change in his or her equilibrium levels of psychological well-being. It is a reasonable and normal reaction for police, as with any other occupational group, to report feeling uncomfortable or express difficulty with some aspects of their work. This, in itself, however, is not sufficient to infer that a police officer is experiencing stress or that police work is necessarily stressful. In fact, there is some evidence to suggest that the levels of psychological well-being among police officers are generally more favorable than those reported for other occupational groups (Hart et al., 1995) and, like many other occupational groups, police officers' levels of psychological well-being are determined more by nonwork, rather than the work domains of their lives (Hart, 1999).

Toward an Organizational Health Framework

One of the key strengths of the dynamic equilibrium theory of stress is that it can be applied to all domains of an employee's life. This has considerable benefit, for example, in helping to guide research into the relationship between the work and nonwork domains of employees' lives (e.g., Hart, 1999). However, one of the main limitations of an occupational stress theory that applies to all domains of an employee's life, is that it can become incidental to the mainstream work psychology literature. In other words, it may lead to occupational stress being viewed as a topic that is primarily concerned with general health issues, rather than a topic that is integrally linked to the ongoing viability and profitability of work organizations. This is a serious problem facing many of the approaches to occupational stress, and we believe that one of the ways to address this problem is to focus more attention on the concept of organizational health.

The concept of organizational health differs from many of the traditional approaches to occupational stress in two important ways. First, it emphasizes the need to simultaneously focus on employee well-being and an organization's 'bottom-line' (Cox, 1992; Griffin, Hart, & Wilson-Evered, 2000). By 'bottom-line' we mean the performance of an organization in terms of its financial, social, and environmental responsibilities. Ultimately, its performance in these areas will affect its ongoing health and viability as a business or work organization. A fundamental requirement for most organizations that wish to improve their 'bottom-line,' however, is the need to develop appropriate structures and processes that will reduce occupational stress and, at the same time, enhance employee satisfaction and performance. From this viewpoint, the organizational health perspective recognizes the fact that having happy and satisfied employees is of little value to an organization unless employees are also performing efficiently and productively. Likewise, having an efficient and productive organization is of little value if this is achieved at the expense of employee well-being. Although this view is intuitively appealing, research and practice in the area of occupational stress has rarely focused simultaneously on employee well-being *and* organizational performance (cf. Wright, & Cropanzano, 2000b).

Second, the organizational health perspective recognizes that employee well-being and organizational performance are both influenced by a

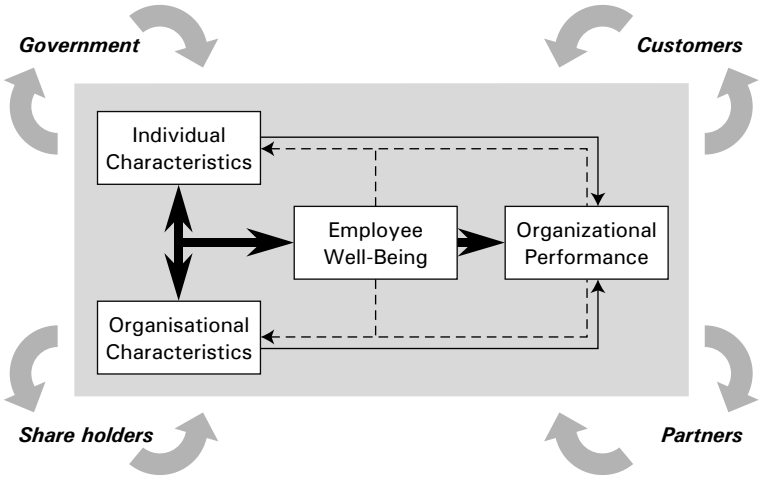

Figure 5.1 *A heuristic model of organizational health*

combination of individual and organizational characteristics. This view is consistent with a range of studies that have linked personality (e.g., Barrick, & Mount, 1991), coping processes (e.g., Judge, Thoresen, Pucik, & Welbourne, 1999), organizational climate (Michela et al., 1995), and work experiences (e.g., Hart et al., 1995), to various indices of psychological well-being and performance. In fact, a range of different individual and organizational characteristics has been included in the major process theories of occupational stress (e.g., Cooper, 1998). The emphasis placed on organizational characteristics, however, means that the organizational health perspective requires the development of multilevel approaches to occupational stress. This is an important departure from traditional approaches to occupational stress, given that it is typically conceptualized at the individual level of analysis.

The organizational health approach to occupational stress is shown diagrammatically in Figure 5.1. As indicated by this diagram, we believe that individual and organizational factors contribute to employee well-being, which in turn, contributes to organizational performance. Individual and organizational characteristics also have a direct link to organizational performance. The model also allows for a number of reciprocal relationships or feedback loops. For example, there is a reciprocal relationship between individual and organizational characteristics. By 'organizational characteristics' we mean both the objective aspects of an organization's environment (e.g., resources and structure), as well as employees' subjective experience of that environment (e.g., organizational climate and work experiences). By 'individual characteristics' we mean those factors that are typically associated with individual differences among employees, such as their personalities and coping processes, as well as their individual attitudes and behaviors. Given these broad definitions, it is reasonable to assume that there would be some reciprocity in the relationship between individual and organizational characteristics (e.g., Headey et al., 1985).

It is also necessary to include feedback loops from employee well-being and organizational performance to individual and organizational characteristics. For example, the cognitive-relational theory of stress uses the concepts of primary, secondary, and reappraisal to explain the continual interplay between how a person might feel at any given point in time, and the way in which they will perceive and respond to their environment (Lazarus, & Folkman, 1984). Moreover, it is quite feasible that an organization's performance will influence the quality of its work environment, as well as the attitudes and behaviors of its employees.

The organizational health model shown in Figure 5.1 also shows that the relationship between individual and organizational characteristics on the one hand, and employee well-being and performance on the other, operates in a broader context. The nature of this broader context varies, depending on the level of analysis that is applied to the core elements of the model. For example, if the core elements of the model were applied to a particular work team, then the policies and practices of the wider organization will form part of the context in which the work team must operate. If the core elements of the model were applied to the organization as a whole, however, then other factors, such as government policies, regulatory authorities, and the marketplace, will make up the broader context in which the organization operates. At another level

again, if the core elements of the model were applied to a series of organizations or occupational groups in a particular country, then factors, such as ethnicity, culture, and globalization, become an important part of the context in which these organizations or occupational groups operate.

One of the pitfalls with the model shown in Figure 5.1 is that it can be seen as providing an overly simplistic view of occupational stress. However, we believe that it is important to distinguish between macro and micro approaches to the study of occupational stress. The main strength of the organizational health model shown in Figure 5.1 is that it provides a broad (i.e., macro) theoretical framework that can be used to guide research and practice in the area of occupational stress. For example, this model has been used extensively over the past decade to guide the development of policies and programs aimed at reducing occupational stress and improving performance in a wide variety of Australian private and public sector organizations (e.g., Griffin et al., 2000; Hart, Griffin, Wearing, & Cooper, 1996). Similar work has also occurred in other countries and cultural settings (Murphy, & Cooper, 2000; Williams, & Cooper, 1994).

Moreover, the organizational health framework can be used to guide theory-driven research that (a) helps to unify the different, and often competing, approaches to the study of occupational stress, (b) encourages the development of stronger links between the study of occupational stress and other areas of work psychology, and (c) leads to occupational stress research that demonstrates a clear link to 'bottom-line' performance and, therefore, has greater relevance to work organizations. This framework also enables research to be conducted at a very broad (i.e., macro) or relatively specific (i.e., micro) level. For example, it is possible to address broad research questions about the relationships among the four core elements shown diagrammatically in Figure 5.1, or to focus on any one of these elements and address questions such as the one recently posed by Kasl (1998) about the need to develop a taxonomy of relevant organizational characteristics.

Although the organizational health approach to occupational stress was first introduced during the late 1980s (Cox, 1988), the concept has received relatively little empirical attention. For example, a search of the PsycLit database showed that only 48 scientific articles have been published during the 1990s and indexed with the term 'organizational health.' There have also been relatively few books published on the topic (cf. Cooper, & Williams, 1994; Murphy, & Cooper, 2000). Nevertheless, there has been considerable research in the occupational stress, quality of life, and broader work psychology literatures that can be used to inform our current understanding of the organizational health model, and identify the key issues that need to be addressed in future research.

Structure of Employee Well-Being

One of the first issues that must be addressed in order to understand the organizational health framework is to develop a coherent model that defines the components and structure of employee well-being. It is necessary, for example, to develop a model that includes cognitive and affective components, positive and negative components, as well as individual and group components. By understanding how each of these components relates to the broader construct of employee well-being, we will be in a much better position to develop and test theories about the causes and consequences of organizational health.

With some notable exceptions (e.g., Burke, Brief, George, Roberson, & Webster, 1989), the structure of employee well-being has received little empirical attention in the occupational stress and work psychology literatures. Quality-of-life researchers, however, have long been interested in the structure of psychological well-being (e.g., Diener, 2000), and their efforts can be used to inform our understanding of employee well-being. In the quality-of-life literature, for example, it is generally accepted that psychological well-being includes both affective and cognitive components. The affective component is often characterized by the two broad dimensions of positive and negative affect (Watson, 1988), whereas the cognitive component is associated with life satisfaction and satisfaction with various life domains (Pavot, & Diener, 1993).

Since the early work of Bradburn (1969), perceived quality-of-life researchers have made a distinction between the positive and negative dimensions of psychological well-being. Strong empirical support has been found for the notion that a person's emotional experience can be explained by the two conceptually independent dimensions of positive and negative affect (Agho et al., 1992; Diener, & Emmons, 1985; Headey, & Wearing, 1992; Watson, & Tellegen, 1985). Positive affect is a pleasurable emotional state characterized by terms such as enthusiasm, energy, mental alertness, and determination, whereas negative affect refers to the subjective experience of distress and includes emotional states such as anger, anxiety, fear, guilt, and nervousness (Watson, 1988).

Although job satisfaction has sometimes been equated with positive affect (e.g., Edwards, 1992), a growing number of work-related studies have called this view into question and support the quality-of-life literature. For example, Agho et al. (1992) found that job satisfaction was distinct from dispositional measures of positive and negative affect. Brief, & Roberson (1989) investigated the extent to which three different measures of job satisfaction were affectively or cognitively laden, and found that one of the most commonly used job satisfaction questionnaires, the Minnesota

Satisfaction Questionnaire (Weiss et al., 1967), was predominantly cognitive in nature. More recently, Hart (1994, 1999) found empirical support for the notion that people make a judgment about their overall levels of job satisfaction by weighing up their good and bad experiences. These findings are consistent with the fact that job satisfaction is typically measured on scales that range from 'extremely dissatisfied' to 'extremely satisfied', and as such, embrace both positive and negative dimensions.

The tendency for people to respond more toward the positive end of job satisfaction scales may have tempted some researchers to equate job satisfaction with positive affect (e.g., Edwards, 1992). Job satisfaction, however, is actually an umbrella construct that refers to the summary judgments that employees make about how satisfied they are with their positive and negative experiences. Given that job satisfaction differs conceptually and empirically from positive affect, it is not appropriate to distinguish between psychological distress and job satisfaction when investigating the positive and negative dimensions of employees' well-being. The bipolar nature of job satisfaction means that it will be confounded to some extent with measures of psychological distress, rather than forming an independent positive dimension. A more appropriate distinction can be made between psychological distress and morale.

Smith (1966) has referred to morale as a group phenomenon that exists when there is persistence and energy, enthusiastic striving, cohesion, and cooperation. Although morale is often viewed as a group phenomenon, a growing number of researchers recognize that the individual experience of morale is psychologically more meaningful (Doherty, 1988; Evans, 1992; Lazarus, & Folkman, 1984). Taking this phenomenological approach, Hart, Wearing, Conn, Carter, & Dingle (2000) defined morale as the energy, enthusiasm, team spirit, and pride that employees experience as a result of their work. These adjectives mirror Smith's description of morale, and are similar to those used by Watson (1988) in defining positive affect. In terms of our understanding about the structure of employee well-being, the concepts of psychological distress and morale can be considered analogous to positive and negative affect, in that they represent the aversive and pleasurable emotional states that people experience as a result of their work (Hart, 1994). Accordingly, we believe that the concepts of job satisfaction, psychological distress, and morale form a three-dimensional model of employee well-being that is consistent with the views held in the quality-of-life literature.

In terms of developing a coherent model of employee well-being, however, it is important to focus attention on the appropriate level of analysis. For example, George (1990) introduced the concept

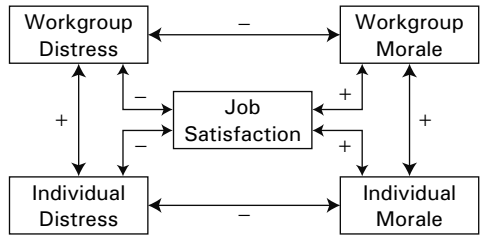

Figure 5.2 *A model of employee well-being ('+' indicates a positive relationship; '–' indicates a negative relationship)*

of group affective tone. This was based on the premise that between-group differences could be found in employees' aggregate levels of affect. However, George's approach to group affective tone was largely a methodological one, in which individual affect scores were aggregated to provide a group level variable. This means that group affective tone was merely an aggregation of how the individual employees in a workgroup actually felt.

At a conceptual level, however, we believe that it is the experience of group affective tone that is more meaningful to employees. In other words, rather than merely aggregating the way in which individual employees feel in themselves, group affective tone should be conceptualized as an employee's experience of the emotional tone of his or her particular workgroup. As demonstrated by Griffin et al. (2000), for example, it is meaningful to distinguish between the levels of energy and enthusiasm that individual employees actually feel in themselves, and the extent to which they believe there is a sense of energy and enthusiasm among their workgroup. Although this means that employees in the same workgroup could experience group affective tone differently, we expect that it would operate much more like a group level variable (i.e., greater between-group variance) than would a simple aggregation of individual employees' levels of affect. From this perspective, it is possible to conceive of psychological distress and morale as operating at two levels of analysis (e.g., Hart et al., 1996). This is shown diagrammatically in Figure 5.2.

As shown in Figure 5.2, we believe that occupational well-being has five core components. First, there are individual morale and individual distress, which operate at the individual level of analysis, and are akin to definitions of positive and negative affect. Second, there are workgroup morale and workgroup distress, which operate more at the group level of analysis, and refer to employees' experience of the workgroup's positive and

negative emotional tone. Although these are not entirely group-level variables, we would expect to find considerably more between-group variation in workgroup distress and workgroup morale, than we would in individual distress and individual morale (cf. Van Yperen, & Snijders, 2000). Moreover, we would expect the individual and workgroup variables to have different causes and consequences. For example, we would expect team- and workgroup-oriented variables (e.g., organizational climate) to have a stronger influence on workgroup distress and morale, but individual difference variables (e.g., personality) to have a stronger influence on individual distress and morale. Third, job satisfaction is a cognitively oriented variable that reflects employees' judgments about how satisfied they are with their current work situation. This component of employee well-being is viewed as a summary judgment that results from the positive and negative emotional experiences associated with an employees work. It also reflects employees' individual experiences and their experience of the workgroup's emotional tone.

Organizational Characteristics

The distinctions we have made in our proposed model of employee well-being between the cognitive and emotionally laden variables, the positive and negative emotionally oriented variables, as well as between the individual and group-level variables, can also be applied to the way in which we think about organizational characteristics. For example, a long-standing criticism of the occupational stress literature is that there has been a reliance on emotionally laden constructs when investigating the relationship between organizational stressors and psychological distress (Brief, Burke, George, Robinson, & Webster, 1988; Kasl, & Rapp, 1991). This criticism could, in part, be dealt with by focusing on the cognitively oriented construct of organizational climate (Schneider, 1990). This raises questions, however, about the nature of the relationship between organizational climate and organizational stressors.

Turning first to the concept of *stressors*, this is an emotionally laden concept that reflects the attributions employees make about the source of their distress. Stressors can refer to a wide variety of environmental conditions or situations that affect the well-being of employees (Hurrell et al., 1998). When completing a stressors scale, for example, employees are typically asked to consider a number of organizational or job characteristics and to rate the level of distress that has been associated with each characteristic (e.g., Karasek, Brision, Kawakami, Houtman, Bongers, & Amick, 1998; Williams, & Cooper, 1998). The vast majority of occupational stress studies have focused on chronic stressors. These can be defined as the sources of distress that persist over long periods of time (e.g., problematic leadership styles, communication difficulties, conflict with coworkers, and difficulties balancing home and work life). Although the concept of daily hassles has typically been viewed differently (Wheaton, 1994), recent evidence suggests that daily work hassles also tend to be enduring over time and, therefore, operate much like chronic stressors (Hart, 1999). Other common approaches to the concept of stressors have included a focus on acute, critical or traumatic events (e.g., Anshel, Robertson, & Caputi, 1997; Sewell, 1983), and an emphasis on concepts such as role ambiguity, role conflict, and role overload (e.g., Beehr, 1995; Jackson, & Schuler, 1985). Moreover, a distinction has often been made between the generic stressors that are relevant to most occupational groups and the stressors that are peculiar to the occupational group under investigation (Hart et al., 1994).

The different approaches to the conceptualization of stressors share one thing in common. They all focus on the negative work experiences that are believed to influence employee well-being. This common theme fails to recognize, however, that positive experiences also play a role. According to the cognitive-relational theory of stress, for example, employees can appraise their environmental conditions or situations in either positive (i.e., potentially beneficial to well-being) or negative (i.e., potentially harmful to well-being) terms (DeLongis et al., 1988; Lazarus, & Folkman, 1984). This view is consistent with several studies in the quality-of-life literature showing that positive and negative life events make independent contributions to people's overall levels of psychological well-being (e.g., Headey, & Wearing, 1989).

The role of positive work experiences has received little empirical attention in the occupational stress literature. Nevertheless, there is some evidence to suggest that positive and negative work experiences are largely uncorrelated, and contribute differently to employee well-being. It has been found, for example, that negative work experiences tend to contribute to indices of psychological distress, but not to morale, whereas positive work experiences tend to contribute to morale, but not to psychological distress (Hart, 1994; Hart et al., 1995). It has also been found that positive and negative work experiences contribute independently, and sometimes equally, to employees' levels of job satisfaction (Hart, 1999). These results demonstrate the importance of taking into account both positive and negative experiences when investigating the determinants of employee well-being.

Another theme that is common to the different conceptualizations of stressors, is that an emphasis has often been placed on organizational experiences

(e.g., Hurrel et al., 1998; Sauter, & Murphy, 1995). This may reflect the fact that general organizational experiences, such as those associated with leadership, coworker relations, decision making, and goal setting, are relevant to employees in most work organizations. It may also reflect the view, however, that organizational experiences influence employee well-being much more than stressors that are peculiar to the job or occupational group under investigation. This view has even been supported in reputedly high-stress occupations such as police work (e.g., Hart et al., 1995) and teaching (e.g., Borg, 1990), which highlights the central role of organizational climate (e.g., Griffin et al., 2000; Hemmingway, & Smith, 1999; Michela et al., 1995).

Organizational climate refers to the perceptions that employees have about the way in which their organization functions (James, & McIntyre, 1996). As noted by Griffin et al. (2000), this means that organizational climate has two components. It involves the organizational structures and processes that are part of everyday organizational activity, as well as individual employees' perceptions of these activities. We believe that one of the key differences between organizational climate and organizational stressors, however, is that perceptions of organizational climate do not have an emotional overtone. In other words, organizational climate is not related to how people feel about their organizational experiences. It is merely a judgment or description about what is happening in the organization (Hart et al., 2000). This is why we believe that organizational climate is a cognitively, rather than emotionally oriented variable.

Moreover, organizational climate can be used at the individual and group levels of analysis (Schneider, 1990). It is reasonable to expect that the focus on organizational structures and processes will mean that organizational climate has clear between group differences. This is consistent with the view that individual difference variables, such as personality, will have a stronger influence on organizational stressors than on perceptions of organizational climate. This is largely due to the fact that the concept of organizational stressors has a strong emotional overtone, and considerable evidence suggests that this emotional component is influenced, to a large extent, by personality characteristics, such as neuroticism (e.g., Costa, & McCrae, 1990).

Given that there are meaningful differences between organizational climate and organizational stressors, we believe that it is important to include both in the study of occupational stress (e.g., Hemingway, & Smith, 1999). It is also important, however, to focus on employees' positive *and* negative emotionally laden experiences. Accordingly, we believe that there are three core components that underpin employees' organizational experiences, and that each of these components will relate differently to indices of employee well-being. Although there has been substantial research into the role of negative emotionally laden experiences (i.e., stressors), relatively little research has been conducted into the role of positive emotionally laden experiences and organizational climate. Moreover, little has been done to establish a taxonomy of the types of organizational experiences that should be included as part of these three core constructs (Kasl, 1998).

Personal Characteristics

There are a number of different personal characteristics that are relevant to the organizational health model shown in Figure 5.1. For example, a large volume of literature exists about the direct, indirect, and moderating effects that coping (e.g., Cartwright, & Cooper, 1996; de Rijk, Le Blanc, Schauefeli, & de Jonge, 1998), locus of control (e.g., Spector, 1998), hardiness (Cox, & Ferguson, 1991), Type A Behavior (e.g., Ganster, 1987; Lee, Ashford, & Jamieson, 1993), and self-esteem (Jex, & Elacqua, 1999) have on the stressors and strain relationship (Kahn, & Byosiere, 1992). One area that has received little empirical attention, however, is the role of the Big Five personality characteristics (Costa, & McCrae, 1989). The Big Five has become a dominant theme in the personality literature, and provides an integrated framework that can be used to examine the role that dispositional factors play in determining organizational health. The Big Five refers to the personality characteristics of neuroticism, extraversion, openness, agreeableness, and conscientiousness. In the occupational stress literature, there has been considerable interest in the role of neuroticism (also known as dispositional negative affectivity, Costa, & McCrae, 1990) and, to a lesser extent, extraversion, but there has been very little interest in the role of openness, agreeableness, and conscientiousness.

Neuroticism refers to a person's tendency to focus on the negative aspects of themselves and his or her environment (Costa, & McCrae, 1989). It has also been referred to as a mood-dispositional dimension that reflects a person's tendency to experience negative emotions (Watson, 1988). It is not surprising, therefore, that strong relationships have been found between neuroticism and other variables, such as coping, negative work experiences (i.e., stressors), and various indices of psychological distress (e.g., Hart et al., 1995; Moyle, 1995). The strength of these relationships has raised concerns about whether neuroticism is merely a methodological nuisance or really has substantive effects (Burke et al., 1993; Spector et al., 1999; Williams et al., 1996). This is a difficult question that is still yet to be resolved. Nevertheless, it is

important to control for neuroticism in any studies that are concerned with establishing the relationships between negative emotionally laden variables (Brief et al., 1989; Costa & McCrae, 1990). This is necessary to ensure that reported relationships do in fact exist, and are not merely a methodological or substantive artefact of neuroticism or dispositional negative affectivity.

Extraversion refers to a person's tendency to be active, talkative, person-oriented, optimistic, fun-loving, and affectionate (Costa, & McCrae, 1989). In general terms, it can be characterized by three related, but separate components. These include the extent to which a person prefers to engage in social interaction (e.g., gregariousness), the extent to which a person is predisposed to display interpersonal warmth (e.g., empathy), as well as the extent to which a person tends to have a positive outlook and experience positive emotions (e.g., positive affectivity). This does not mean, however, that extraversion and dispositional positive affectivity are the same constructs. Although positive affectivity is a component of extraversion, extraversion is considered to be a much broader construct that includes aspects of gregariousness and interpersonal warmth.

As noted earlier in this chapter, a considerable body of research in the quality-of-life literature has shown that extraversion is related to problem-focused coping, positive life experiences, and indices of psychological well-being (e.g., Headey, & Wearing, 1989; Magnus et al., 1993). Similar results have also been found in occupational stress studies (Hart, 1999; Hart et al., 1995; cf. George, 1996). Overall, this body of evidence suggests that extraversion should be included as a matter of routine in occupational stress studies that are concerned with establishing the relationships between positive emotionally laden variables. As with the negative affectivity literature, however, a question remains as to whether the influence of extraversion is methodological or substantive in nature.

The role of agreeableness, openness, and conscientiousness in determining employee well-being is less clear. It is possible to theorize about potential relationships, but the paucity of empirical evidence means that it is difficult to argue a firm position. For example, agreeableness refers to a person's predisposition to be compliant and cooperative, as well as being someone who is easy to get along with (Costa, & McCrae, 1989). Accordingly, people who tend to be more agreeable may experience less conflict with their supervisors and coworkers. If this were the case, it is likely that they would experience a more positive organizational climate, fewer interpersonal stressors and, ultimately, better levels of well-being (Michela et al., 1995).

Employees who are high on openness tend to be open to new ideas and experiences (Costa, & McCrae, 1989). This may predispose them to participate in meetings or volunteer to serve on committees. However, employees who are high on openness also tend to be dreamy and artistic. In some contexts, these attributes may not be valued or may even be actively discouraged. In these circumstances, employees who exhibit more openness behaviors may feel uncomfortable and withdraw from work situations that involve meetings or committees. This may result in less favorable views about organizational climate and, subsequently, poorer levels of well-being.

There is some evidence to suggest that conscientiousness is more likely to be related to performance than to employee well-being (Barrick, & Mount, 1991; Miller, Griffin, & Hart, 1999). However, this could be due to the fact that employee well-being has generally been equated with job satisfaction and psychological distress. By including the concept of morale in definitions of employee well-being, it may be possible to find stronger links with conscientiousness. Employees' enthusiasm for their work is one of the key components of morale (Hart et al., 2000; Organ, 1997). Moreover, conscientiousness refers to a predisposition to be dutiful, dedicated, thorough, and persistent (Costa, & McCrae, 1989). It is possible that employees who display these characteristics are more likely to be enthusiastically engaged in their work.

It is apparent that the Big Five personality characteristics are likely to play an important role in the organizational health framework shown in Figure 5.1. Some characteristics, such as neuroticism and extraversion, are more likely to influence employee well-being, whereas other characteristics, such as conscientiousness, are more likely to contribute to organizational performance. Nevertheless, there is relatively little empirical evidence in the occupational stress literature about the role of the Big Five personality characteristics. Moreover, it is not known whether the Big Five personality characteristics provide additional predictive power, or merely account for the effects of other personality constructs such as Type A Behavior, locus of control, and self-esteem, in determining employee well-being.

Organizational Performance

In terms of the organizational health framework, the notion of organizational performance should be considered quite broadly. Relatively few occupational stress theories have explicitly addressed the relationship between employee well-being and performance, with most theories focusing on ill-health as the ultimate outcome (e.g., Cooper, 1998). It is generally assumed, however, that ill-health

results in substantial cost to work organizations through sickness absence, medical expenses, and lost productivity. These potential outcomes of occupational stress are highly relevant to the organizational health framework, because they can have a substantial affect on an organization's 'bottom-line.' Human resources often account for a large part of an organization's cost structure in delivering its products and services, and any substantial increase in these costs can adversely affect the ongoing viability and profitability of the organization. Unfortunately, there is relatively little empirical evidence in the occupational stress literature to demonstrate a causal relationship between employee well-being and the types of outcomes that affect the 'bottom-line' of work organizations.

A promising area of research that may help to provide a stronger link between employee well-being and performance is the work currently being undertaken in the area of contextual performance. Contextual performance refers to the discretionary behaviors that are not formally required of employees, but are necessary for the overall success of the organization (e.g., Motowidlo, & Van Scotter, 1994). These behaviors are related to the concepts of prosocial organizational behavior (Brief, & Motowidlo, 1986) extra-role behavior (Katz, & Kahn, 1978), and organizational citizenship behavior (Bateman, & Organ, 1983), and include activities such as volunteering to carry out tasks, cooperating with coworkers, exerting effort, and promoting the organization to others. These behaviors are under the volitional control of employees, and are likely to be influenced by employees' levels of morale (George, & Brief, 1992). This suggests that rather than trying to establish a link between psychological distress and performance, it will be more fruitful to explore the link between performance and morale.

Accordingly, by integrating the concepts of psychological distress, job satisfaction, and morale into a broader model of employee well-being, it may be possible for occupational stress researchers and practitioners to demonstrate a strong link between employees' levels of well-being and organizational performance (cf. Wright, & Cropanzano, 2000b). This link may best be achieved, however, by focusing on a broad range of organizational performance indicators, including discretionary behaviors such as contextual performance, as well as behaviors that are directly related to the cost of human resources (e.g., sickness absence, turnover, medical expenses, and legal compensation claims for stress-related injury). In this way, researchers and practitioners will be better placed to demonstrate that occupational stress plays an important role in determining the overall success of work organizations.

Testing the Organizational Health Framework

There are many different ways in which research into the organizational health framework can be carried forward. One possible way is through the research model shown in Figure 5.3. Although this model integrates many of the key variables that have been discussed throughout this chapter, it is not meant to represent an exhaustive list of occupational stress variables, nor do we intend it to reflect all of the variables that are considered central to the organizational health framework. Its main purpose is to serve as a heuristic model that illustrates how we can generate and test competing hypotheses about organizational health.

The model draws on the cognitive-relational (e.g., Lazarus, & Folkman, 1984) and dynamic equilibrium (e.g., Hart, 1999) theories of stress, as well as our earlier discussion about the structure of employee well-being and organizational experiences. The traditional stressors and strain approach is also embedded within this model, but in its most elementary form, can be explained by just two of the 16 variables (i.e., negative work experiences and distress). This demonstrates how limiting the stressors and strain approach has become in helping us to understand the causes and consequences of occupational stress.

The model suggests that organizational climate plays a central role in determining employee well-being (Griffin et al., 2000; Michela et al., 1995). This reflects the view that employees will engage in coping processes when exposed to the conditions and situations in their organizational environments. Moreover, the organizational environment and employees' coping processes will influence the way in which employees appraise their work experiences in positive or negative terms (Hart et al., 1995). This is consistent with Lazarus's (1990) view that coping processes influence people's reappraisal of their environmental conditions, and that measures of positive and negative experiences (e.g., hassles and uplifts; Hart, 1999) reflect these reappraisals, rather than the initial conditions or situations that triggered the coping response. It is the organizational environment, as well as employees' positive and negative experiences associated with this environment that, ultimately, influences employee well-being (Hemingway, & Smith, 1999). The model also reflects the positive and negative affectivity paths that are typically thought to underpin the relationships between neuroticism, emotion-focused coping, negative work experiences, and distress, on the one hand, and extraversion, problem-focused coping, positive work experiences, and morale, on the other (e.g., Costa, & McCrae, 1980; Hart, 1999; Headey, & Wearing, 1992; cf. George, 1996). Although no specific links

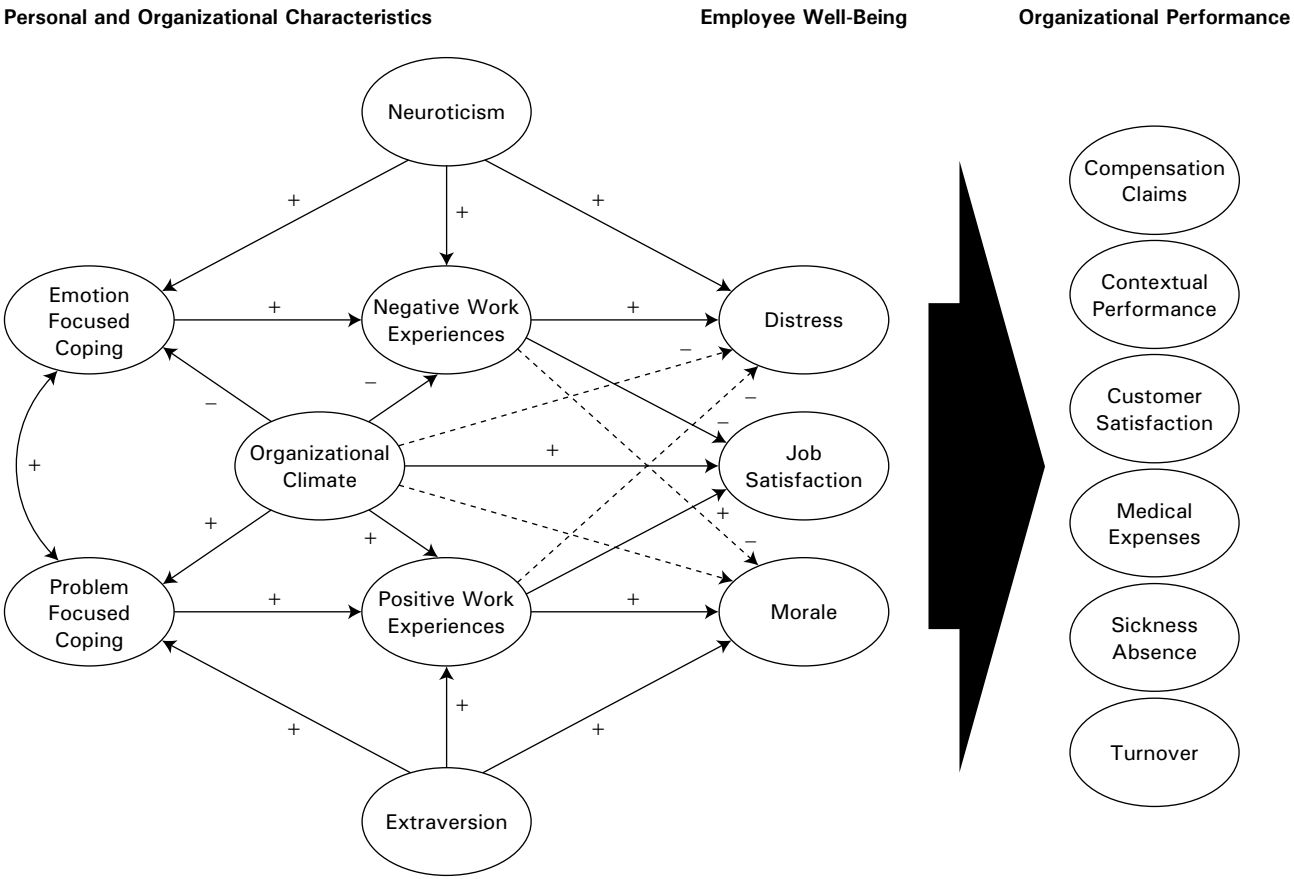

Figure 5.3 *Example of an organizational health research model ('+' indicates a positive relationship; '−' indicates a negative relationship. Dotted lines indicate possible relationships that are expected to be comparatively weak.)*

to organizational performance have been specified, the model allows for this possibility. Based on our discussions throughout this chapter, the following propositions can be made about this model.

P1: Employee well-being includes both cognitive and emotional components, with the emotional component being further divided into separate positive and negative dimensions.
P2: The emotional component of employee well-being operates at the individual and workgroup levels of analysis.
P3: Employee well-being influences organizational performance.
P4: Positive and negative work experiences operate independently to determine employees' levels of well-being, with negative work experiences having a stronger influence on distress and positive work experiences having a stronger influence on morale.
P5: Positive and negative work experiences contribute equally to job satisfaction.
P6: Organizational climate contributes equally to employees' positive and negative work experiences.
P7: Organizational climate operates at the individual and workgroup levels of analysis.
P8: Coping processes partially mediate the relationship between organizational climate and employee's positive and negative work experiences.
P9: Emotion-focused coping contributes to negative work experiences and problem-focused coping contributes to positive work experiences.
P10: Employees will engage in both emotion-focused and problem-focused coping processes to manage or deal with the conditions and situations in their organizational environment.
P11: Neuroticism contributes to emotion-focused coping, negative work experiences, and distress, whereas extraversion contributes to problem-focused coping, positive work experiences and morale.
P12: Neuroticism, extraversion, and organizational climate will exhibit more temporal stability than coping processes, positive and negative work experiences, and indices of employee well-being.
P13: Employee well-being, positive and negative work experiences, and coping processes will have both stable (i.e., equilibrium) and situational (i.e., deviations from equilibrium) components.
P14: Employees' equilibrium levels of well-being can be explained by enduring personality characteristics, such as neuroticism and extraversion, and enduring characteristics of the organizational environment, as well as by their equilibrium patterns of work experiences and coping processes.
P15: Employees' normal (i.e., equilibrium) levels of well-being can change, either positively or negatively, if a change occurs in their normal patterns of work experiences and coping processes.
P16: Stress occurs when there is a state of disequilibrium between employee well-being, work experiences, coping processes, and enduring personal and organizational characteristics, provided that this state of disequilibrium brings about change, either positively or negatively, in the employee's normal levels of well-being.
P17: Stress cannot be expressed as a single variable.
P18: It is a normal and inevitable part of daily work life for employees to experience some degree of distress, and to dislike certain conditions and situations in their environment, but this does not necessarily mean that they are experiencing stress.
P19: Day-to-day fluctuations in employee well-being, work experiences, and coping processes are a normal part of day-to-day work life, and do not, in themselves, imply that an employee is stressed.

These propositions reflect a particular theoretical position that has been taken in relation to the model shown in Figure 5.3. We acknowledge, however, that in many cases alternate viewpoints can be argued. Also, we have not referred to other variables that we believe are important in helping us to understand occupational stress, nor have we addressed the potential moderating and interaction effects that may apply to this system of variables. It is our intention, however, that these propositions illustrate one potential starting point for theory-driven research that lends itself to a traditional hypothesis-testing approach. Moreover, these propositions highlight a number of methodological issues that have often been raised in relation to the study of occupational stress.

Methodological Considerations

First, the heuristic model shown in Figure 5.3 highlights the need for more large-scale studies in the area of occupational stress. The number of variables included in this model means that it could only be investigated with relatively large samples. Although it would be possible to examine different sections of the model in isolation, this would raise the possibility of a major limitation. One of the major concerns with nonexperimental methodologies is that it is often difficult, even with longitudinal data, to establish what is a causal, rather than spurious, relationship (Kessler, & Greenberg, 1981). This is particularly true when self-report measures are used to

investigate variables that have some degree of conceptual overlap. In part, this is the problem that has underpinned much of the concern that has been raised about the negative affectivity bias in occupational stress research (e.g., Brief et al., 1988). Although not completely eliminating the problem, by including all relevant variables in a given study it is possible to minimize this limitation.

Second, in addition to using large samples of employees, consideration must be given to the hierarchical structure of the sample. A number of propositions refer to the possibility of considering variables at different levels of analysis. In order to investigate these propositions, it is necessary to sample sufficient workgroups to provide the necessary power for the planned analyses, as well as sampling sufficient employees within each workgroup to provide accurate estimates of the workgroup variables. This often involves the use of cluster sampling designs (e.g., Van Yperen, & Snijders, 2000), which is an approach not often used in the occupational stress literature. The lack of cluster sampling designs is probably due to the fact that the vast majority of occupational stress studies have focused on the individual level of analysis. Moreover, analyzing data at different levels of analysis will require occupational stress researchers to make more use of hierarchical linear modeling techniques (e.g., Klein, & Kozlowski, 2000).

Third, many of the propositions about the heuristic model cannot be investigated with cross-sectional data. Some propositions imply causal relations among the variables shown in the model, whereas other propositions refer to issues of stability and change. These propositions can only be investigated with longitudinal data that is obtained from the same employees at different points in time (e.g., Hart, 1999; Kessler, & Greenberg, 1981; Schaubroeck, Ganster, & Kemmerer, 1996). Moreover, the analysis of longitudinal data, particularly when a large system of nonexperimental variables is involved, ideally requires the use of mathematical modeling procedures, such as structural equation analysis (e.g., Byrne, 1998).

Fourth, the model shown in Figure 5.3 is concerned with the relations among a large system of variables. Accordingly, the proper investigation of these relations will require the use of regression-based statistical procedures, such as multiple regression analysis (e.g., Cohen, & Cohen, 1983), structural equation analysis (e.g., Byrne, 1998), and hierarchical linear modeling analysis (e.g., Klein, & Kozlowski, 2000). These techniques will provide much greater insight into the nature of a relationship than can typically be obtained from procedures such as the analysis of variance. The value in using regression-based techniques also applies to the investigation of any moderating and interaction effects that may exist among the variables shown in Figure 5.3. Analysis of variance often requires the variables under investigation to be collapsed (e.g., dichotomized), and this can result in the loss of valuable information. Accordingly, it is often best to use the full range of information available on a set of variables, and to focus on reporting the strength of relationships and the amounts of variance explained by different effects, rather than reporting the results of significance tests that merely show whether or not an effect is present.

Fifth, an investigation of the model shown in Figure 5.3 requires that careful attention be paid to the issue of construct validity. There is a degree of conceptual overlap among many of the variables shown in the model. This type of conceptual confounding has been a source of much criticism in the occupational stress literature (e.g., Burke et al., 1993), and has led some methodologists to call for the use of more 'objective' measures (e.g., Kasl, 1987). It is hard to avoid the fact, however, that occupational stress resides largely in the subjective experience of employees. Nevertheless, the differences among some of the variables shown in Figure 5.3 are based on subtleties in the way they operate over time or across levels of analysis.

For example, neuroticism and distress are both concerned with negative affectivity. The difference between these variables, however, lies in the fact that neuroticism refers to dispositional negative affectivity, whereas distress refers to situational negative affectivity. From an empirical point of view, this can be demonstrated by showing that other situational variables contribute to distress, once the effects of neuroticism have been taken into account, and that neuroticism and distress differ in terms of the temporal stability that can be observed in these variables over time. Likewise, organizational climate and organizational work experiences have a degree of conceptual overlap and, therefore, should be moderately correlated. The key differences between these variables, however, are the extent to which one is more cognitively, rather than emotionally laden, and the extent to which they operate at the individual or workgroup levels of analyses. These differences can be empirically tested. Although we acknowledge the difficulties that these subtle differences may pose in selecting or developing appropriate measures, it is important for occupational stress researchers to pay greater attention to construct validity in order to avoid the methodological criticisms that have often been targeted at the occupational stress literature.

Concluding Remarks

The organizational health framework provides considerable flexibility and scope for developing our understanding of occupational stress. Moreover,

it provides a broad theoretical framework that can be used to integrate the different approaches to occupational stress, and emphasizes the need for occupational stress research to become more aligned with the wider work psychology literature. As suggested by the organizational health framework, it is also important for occupational stress researchers and practitioners to adopt a much broader perspective than the traditional stressors and strain approach, and to demonstrate that a link exists between occupational stress and an organization's 'bottom-line' performance. By adopting this broader approach, it will be possible to develop and test more coherent theories that enable us to understand the complex dynamics that underpin occupational stress. Ultimately, we believe that sustained improvements can only be brought about by using this broader approach to develop effective strategies and policies for managing stress in work organizations.

References

Agho, A.O., Price, J.L., & Mueller, C.W. (1992). Discriminant validity of measures of job satisfaction, positive affectivity and negative affectivity. *Journal of Occupational and Organizational Psychology*, *65*, 185–196.

Anshel, M.H., Robertson, M., & Caputi, P. (1997). Sources of acute stress and their appraisals and reappraisals among Australian police as a function of previous experience. *Journal of Occupational and Organizational Psychology*, *70*, 337–356.

Auerbach, S.M. (1989). Stress management and coping research in the health care setting: an overview and methodological commentary. *Journal of Consulting and Clinical Psychology*, *57*, 388–395.

Barrick, M.R., & Mount, M.K. (1991). The Big Five Personality Dimensions and job performance: a meta-analysis. *Personnel Psychology*, *44*, 1–25.

Bateman, T.S., & Organ, D.W. (1983). Job satisfaction and the good soldier: the relationship between affect and employee 'citizenship'. *Academy of Management Journal*, *26*, 587–595.

Beehr, T.A. (1995). *Psychological stress in the workplace*. London: Routledge.

Beehr, T.A., & Newman, J.E. (1978). Job stress, employee health, and organizational effectiveness: a facet analysis, model, and literature review. *Personnel Psychology*, *31*, 665–699.

Bolger, N. (1990). Coping as a personality process: a prospective study. *Journal of Personality and Social Psychology*, *59*, 525–537.

Borg, M.G. (1990). Occupational stress in British educational settings: a review. *Educational Psychology*, *10*, 103–126.

Bradburn, N.M. (1969). *The structure of psychological well-being*. Chicago: Aldine.

Brief, A.P., Burke, M.J., George, J.M., Robinson, B.S., & Webster, J. (1988). Should negative affectivity remain an unmeasured variable in the study of job stress? *Journal of Applied Psychology*, *73*, 193–198.

Brief, A.P., Butcher, A.H., George, J.M., & Link, K.E. (1993). Integrating bottom-up and top-down theories of subjective well-being: the case of health. *Journal of Personality and Social Psychology*, *64*, 646–653.

Brief, A.P., & Motowidlo, S.J. (1986). Prosocial organizational behaviors. *Academy of Management Review*, *11*, 710–725.

Brief, A.P., & Roberson, L. (1989). Job attitude organization: an exploratory study. *Journal of Applied Social Psychology*, *19*, 717–727.

Burke, M.J., Brief, A.P., & George, J.M. (1993). The role of negative affectivity in understanding relations between self-reports of stressors and strains: a comment on the applied psychology literature. *Journal of Applied Psychology*, *78*, 402–412.

Burke, M.J., Brief, A.P., George, J.M., Roberson, L., & Webster, J. (1989). Measuring affect at work: confirmatory analyses of competing mood structures with conceptual linkage to cortical regulatory systems. *Journal of Personality and Social Psychology*, *57*, 1091–1102.

Byrne, B.M. (1998). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS*. Mahwah, NJ: Lawrence Erlbaum.

Carpenter, B.N. (Ed.) (1992). *Personal coping: theory, research, and application*. Wesport, CT: Praeger.

Cartwright, S., & Cooper, C.L. (1996). Coping in occupational settings. In M. Zeidner, & N.S. Endler (Eds.), *Handbook of coping: theory, research, applications* (pp. 202–220). New York: John Wiley.

Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, *56*, 267–283.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, New Jersey: Lawrence Erlbaum.

Conway, V.J., & Terry, D.J. (1992). Appraised controllability as a moderator of the effectiveness of different coping strategies: a test of the goodness of fit hypothesis. *Australia Journal of Psychology*, *44*, 1–7.

Cooper, C.L. (Ed.). (1998). *Theories of organizational stress*. New York: Oxford.

Cooper, C.L., & Williams, S. (Eds.) (1994). *Creating healthy work organizations*. Chichester: John Wiley.

Costa, P.T. Jr., & McCrae, R.R. (1980). Influence of extraversion and neuroticism on subjective well-being. *Journal of Personality and Social Psychology*, *38*, 668–678.

Costa, P.T., Jr., & McCrae, R.R. (1989). *NEO PI/FFI Manual Supplement*. Odessa, FL: Psychological Assessment Resources.

Costa, P.T. Jr., & McCrae, R.R. (1990). Personality: another 'hidden factor' in stress research. *Psychological Inquiry*, *1*, 22–24.

Cotton, P. (1995). *Psychological health in the workplace: understanding and managing occupational stress*. Carlton, Australia: The Australian Psychological Society.

Cox, T. (1978). *Stress*. London: Macmillan.

Cox, T. (1988). Organizational health. *Work and Stress*, *2*, 1–2.

Cox, T. (1992). Occupational health: past, present, and future. *Work and Stress*, *6*, 99–102.

Cox, T., & Ferguson, E. (1991). Individual differences, stress and coping. In C.L. Cooper, & R. Payne (Eds.), *Personality and stress: individual differences in the stress process*. New York: John Wiley.

DeLongis, A., Folkman, S., & Lazarus, R.S. (1988). The impact of daily stress on health and mood: psychological and social resources as mediators. *Journal of Personality and Social Psychology*, *54*, 486–495.

De Rijk, A.E., Le Blanc, P.M., Schauefeli, W.B., & de Jonge, J. (1998). Active coping and the need for control as moderators of the job demand-control model: effects on burnout. *Journal of Occupational and Organizational Psychology*, *71*, 1–18.

Diener, E. (2000). Subjective well-being: the science of happiness and a proposal for a national index. *American Psychologist*, *55*, 34–43.

Diener, E., & Emmons, R.A. (1985). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, *47*, 1105–1117.

Doherty, J. (1988). Psychological morale: its conceptualisation and measurement. The Doherty Inventory of Psychological Morale (DIPM). *Educational Studies*, *14*, 65–75.

Edwards, J.R. (1992). A cybernetic theory of stress, coping and well-being in organizations. *Academy of Management Review*, *17*, 238–274.

Evans, L. (1992). Teacher morale: an individual perspective. *Educational Studies*, *18*, 161–171.

Evans, M.G. (1969). Conceptual and operational problems in the measurement of various aspects of job satisfaction. *Journal of Applied Psychology*, *53*, 93–101.

Folkman, S. (1992). Making a case for coping. In B.N. Carpenter (Ed.), *Personal coping: theory, research, and applications* (pp. 31–46). Westport, CT: Praeger.

Folkman, S., & Lazarus, R.S. (1985). If it changes it must be a process: study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology*, *48*, 150–170.

Folkman, S., & Lazarus, R.S. (1988). The relationship between coping and emotion: implications for theory and research. *Social Science & Medicine*, *26*, 309–317.

Folkman, S., Lazarus, R.S., Gruen, R.J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, *50*, 571–579.

French, J.R.P., Jr., Caplan, R.D., & Harrison, R.V. (1982). *The mechanisms of job stress and strain*. London: John Wiley.

Gaines, J., & Jermier, J.M. (1983). Emotional exhaustion in a high stress organization. *Academy of Management Journal*, *26*, 567–586.

Ganster, D.C. (1987). Type A behavior and occupational stress. In J.M. Ivancevich, & D.C. Ganster (Eds.), *Job stress: from theory to suggestion* (pp. 61–84). New York: Haworth Press.

George, J.M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology*, *75*, 107–116.

George, J.M. (1996). Trait and state affect. In K.R. Murphy (Ed.), *Individual differences and behavior in organizations* (pp. 145–171). San Francisco: Jossey-Bass.

George, J.M., & Brief, A.P. (1992). Feeling good–doing good: a conceptual analysis of the mood at work-organizational spontaneity relationship. *Psychological Bulletin*, *112*, 310–329.

Goldberg, D. (1978). *Manual for the general health questionnaire*. Windsor: National Foundation for Educational Research.

Griffin, M.A., Hart, P.M., & Wilson-Evered, E. (2000). Using employee opinion surveys to improve organizational health. In L.R. Murphy, & C.L. Cooper (Eds.), *Health and productive work: an international perspective* (pp. 15–36). London: Taylor & Francis.

Hart, P.M. (1994). Teacher quality of work life: integrating work experiences, psychological distress and morale. *Journal of Occupational and Organizational Psychology*, *67*, 109–132.

Hart, P.M. (1999). Predicting employee life satisfaction: a coherent model of personality, work and nonwork experiences, and domain satisfactions. *Journal of Applied Psychology*, *84*, 564–584.

Hart, P.M., Griffin, M.A., Wearing, A.J., & Cooper, C.L. (1996). *Manual for the QPASS survey*. Brisbane: Public Sector Management Commission.

Hart, P.M., Wearing, A.J., Conn, M., Carter, N.L., & Dingle, R.K. (2000). Development of the School Organizational Health Questionnaire: a measure for assessing teacher morale and school organizational climate. *British Journal of Educational Psychology*, *70*, 211–228.

Hart, P.M., Wearing, A.J., & Headey, B. (1993). Assessing police work experiences: development of the Police Daily Hassles and Uplifts Scales. *Journal of Criminal Justice*, *21*, 553–572.

Hart, P.M., Wearing, A.J., & Headey, B. (1994). Perceived quality of life, personality and work experiences: construct validation of the Police Daily Hassles and Uplifts Scales. *Journal of Criminal Justice and Behavior*, *21*, 283–311.

Hart, P.M., Wearing, A.J., & Headey, B. (1995). Police stress and well-being: integrating personality, coping and daily work experiences. *Journal of Occupational and Organizational Psychology*, *68*, 133–156.

Headey, B., Glowacki, T., Holmstrom, E., & Wearing, A.J. (1985). Modelling change in perceived quality of life. *Social Indicators Research*, *17*, 267–298.

Headey, B., & Wearing, A.J. (1989). Personality, life events, and subjective well-being: toward a dynamic equilibrium model. *Journal of Personality and Social Psychology*, *57*, 731–739.

Headey, B., & Wearing, A.J. (1990). Subjective well-being and coping with adversity. *Social Indicators Research*, *22*, 327–349.

Headey, B., & Wearing, A.J. (1992). *Understanding happiness: a theory of subjective well-being*. Melbourne: Longman Cheshire.

Hemmingway, M.A., & Smith, C.S. (1999). Organizational climate and occupational stressors as predictors of withdrawal behaviours and injuries in nurses. *Journal of Occupational and Organizational Psychology*, *72*, 285–299.

Hobfoll, S.E. (1989). Conservation of resources, a new attempt at conceptualizing stress. *American Psychologist*, *44*, 513–524.

Holahan, C.J., & Moos, R.H. (1986). Personality, coping and family resources in stress resistance: a longitudinal analysis. *Journal of Personality and Social Psychology*, *51*, 389–395.

Holmes, J.H., & Rahe, R.H. (1967). The Social Readjustment Rating Scale. *Journal of Psychosomatic Research*, *5*, 335–357.

Hurrell, J.J., Jr., Nelson, D.L., & Simmons, B.L. (1998). Measuring job stressors and strains: where we have been, where we are, and where we need to go. *Journal of Occupational Health Psychology*, *3*, 368–389.

Jackson, S.E., & Schuler, R.S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Decision Processes*, *36*, 16–78.

James, L.R., & McIntyre, M.D. (1996). Perceptions of organisational climate. In K. Murphy (Ed.), *Individual differences and behavior in organisations* (pp. 416–450). San Francisco: Jossey-Bass.

Jex, S.M., Beehr, T.A., & Roberts, C.K. (1992). The meaning of occupational stress items to survey respondents. *Journal of Applied Psychology*, *77*, 623–628.

Jex, S.M., & Elacqua, T.C. (1999). Self-esteem as a moderator: a comparison of global and organization-based measures. *Journal of Occupational and Organizational Psychology*, *72*, 71–81.

Judge, T.A., Thoresen, C.J., Pucik, V., & Welbourne, T.M. (1999). Managerial coping with organizational change. *Journal of Applied Psychology*, *84*, 107–122.

Kahn, R.L., & Byosiere (1992). Stress in organizations. In M.D. Dunnette, & L.M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 3, pp. 571–650). Palo Alto, CA: Consulting Psychologists Press.

Kanner, A.D., Coyne, J.C., Schaefer, C., & Lazarus, R.S. (1981). Comparison of two modes of stress measurement: daily hassles and uplifts versus major life events. *Journal of Behavioural Medicine*, *4*, 1–39.

Kanner, A.D., Feldman, S.S., Weinerger, D.A., & Ford, M.E. (1991). Upflits, hassles, and adaptional outcomes in early adolescents. In A. Monat, & R.S. Lazarus (Eds.), *Stress and coping: an anthology* (pp. 158–181). New York: Columbia.

Karasek, R., Brisson, C., Kawakami, N., Houtman, I., Bongers, P., & Amick, B. (1998). The Job Content Questionnaire (JCQ): an instrument for internationally comparative assessments of psychosocial job characteristics. *Journal of Occupational Health Psychology*, *3*, 322–355.

Kasl, S.V. (1987). Methodologies in stress and health: past difficulties, present dilemmas, future directions. In S.V. Kasl, & C.L. Cooper (Eds.), *Stress and health issues in research methodology* (pp. 307–318). New York: Wiley.

Kasl, S.V. (1998). Measuring job stressors and studying the health impact of the work environment: an epidemiologic commentary. *Journal of Occupational Health Psychology*, *3*, 390–401.

Kasl, S.V., & Rapp, S.R. (1991). Stress, health and well-being: the role of individual differences. In C.L. Cooper, & R. Payne (Eds.), *Personality and stress: individual differences in the stress process* (pp. 269–284). Chichester: Wiley.

Katz, D., & Kahn, R.L. (1978). *The social psychology of organizations* (2nd ed.). New York: Wiley.

Kessler, R.C., & Greenberg, D.F. (1981). *Linear panel analysis: models of quantitative change*. New York: Academic Press.

Klein, K.J., & Kozlowski, S.W.J. (Eds.) (2000). *Multilevel theory, research, and methods in organizations: foundations, extensions, and new directions*. San Francisco: Jossey-Bass.

Kyriacou, C., & Sutcliffe, J. (1978). A model of teacher stress. *Education Studies*, *4*, 1–6.

Latack, J.C., & Havlovic, S.J. (1992). Coping with job stress: a conceptual evaluation framework for coping measures. *Journal of Organizational Behavior*, *13*, 479–508.

Lazarus, R.S. (1990). Theory-based stress measurement. *Psychological Inquiry*, *1*, 3–13.

Lazarus, R.S. (1993). From psychological stress to the emotions: a history of changing outlooks. *Annual Review of Psychology*, *44*, 1–21.

Lazarus, R.S., DeLongis, A., Folkman, S., & Gruen, R. (1985). Stress and adaptational outcomes, the problem of confounded measures. *American Psychologist*, *40*, 770–779.

Lazarus, R.S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Lee, C., Ashford, S.J., & Jamieson, L.F. (1993). The effects of Type A behavior dimensions and optimism on coping strategy, health, and performance. *Journal of Organizational Behavior*, *14*, 143–157.

Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: a longitudinal analysis. *Journal of Personality and Social Psychology*, *65*, 1046–1043.

McCrae, R.R., & Costa, P.T., Jr. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality*, *54*, 385–405.

McGrath, J.E. (Ed.) (1970). *Social and psychological factors in stress*. New York: Holt, Rinehart and Winston.

Michela, J.L., Lukaszewski, M.P., & Allegrante, J.P. (1995). Organizational climate and work stress: a general framework applied to inner-city schoolteachers. In S.L. Sauter, & L.R. Murphy (Eds.), *Organizational risk factors for job stress* (pp. 61–80). Washington, DC: American Psychological Association.

Miller, R., Griffin, M.A., & Hart, P.M. (1999). Personality and organizational health: the role of conscientiousness. *Work and Stress*, *13*, 7–19.

Moran, E.T., & Volkwein, J.F. (1992). The cultural approach to the formation of organizational climate. *Human Relations*, *45*, 19–47.

Motowidlo, S.J., & Van Scotter, J.R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, *79*, 475–480.

Moyle, P. (1995). The role of negative affectivity in the stress process: tests of alternative models. *Journal of Organizational Behavior*, *16*, 647–670.

Murphy, L.J., & Cooper, C.L. (Eds.) (2000). *Health and productive work: an international perspective*. London: Taylor & Francis.

Newton, T.J. (1989). Occupational stress and coping with stress: a critique. *Human Relations*, *42*, 441–461.

Organ, D.W. (1997). Toward an explication of 'morale': in search of the m factor. In C.L. Cooper, & S.E. Jackson (Eds.), *Creating tomorrow's organizations: a handbook for future research in organizational behavior* (pp. 493–504). Chichester: John Wiley.

Pavot, W., & Diener, E. (1993). Review of the Satisfaction With Life Scale. *Psychological Assessment*, *2*, 164–172.

Quick, J.C., Murphy, L.R., & Hurrell, J.J., Jr. (1992a). *Stress and well-being at work: assessments and interventions for occupational mental health*. Washington, DC: American Psychological Association.

Quick, J.C., Murphy, L.R., & Hurrell, J.J., Jr. (1992b). Preface. In J.C. Quick, L.R. Murphy, & J.J. Hurrell, Jr. (Eds.), *Stress and well-being at work: assessments and interventions for occupational mental health* (pp. ix–x). Washington, DC: American Psychological Association.

Sauter, S.L., & Murphy, L.R. (1995). *Organizational risk factors for job stress*. Washington, DC: American Psychological Association.

Schaubroeck, J., Ganster, D.C., & Kemmerer, B. (1996). Does trait affect promote job attitude stability? *Journal of Organizational Behavior*, *17*, 191–196.

Schneider, B. (Ed.) (1990). *Organizational climate and culture*. San Francisco: Jossey-Bass.

Sewell, J.D. (1983). The development of a critical life events scale for law enforcement. *Journal of Police Science and Administration*, *11*, 109–119.

Smith, K.R. (1966). A proposed model for the investigation of teacher morale. *Journal of Educational Administration*, *4*, 143–148.

Smith, K.R. (1976). Morale: a refinement of Stogdill's model. *Journal of Educational Administration*, *14*, 87–93.

Spector, P.E. (1998). A control theory of the job stress process. In Cooper, C.L. (Ed.), *Theories of organizational stress* (pp. 153–169). New York: Oxford.

Spector, P.E., Fox, S., & Van Katwyk, P.T. (1999). The role of negative affectivity in employee reactions to job characteristics: bias effect or substantive effect? *Journal of Occupational and Organizational Psychology*, *72*, 205–218.

Spector, P.E., & Jex, S.M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal Conflict at Work Scale, Organizational Constraints Scale, Quantitative Workload Inventory, and Physical Symptoms Inventory. *Journal of Occupational Health Psychology*, *3*, 356–367.

Staw, B.M., & Ross, J. (1985). Stability in the midst of change: a dispositional approach to job attitudes. *Journal of Applied Psychology*, *70*, 469–480.

Stone, A.A., Kennedy-Moore, E., Newman, M.G., Greenberg, M., & Neale, J.M. (1992). Conceptual and methodological issues in current coping assessments. In B.N. Carpenter (Ed.), *Personal coping: theory, research, and applications* (pp. 15–30). Westport, CT: Praeger.

Terry, D.J. (1994). Determinants of coping: the role of stable and situational factors. *Journal of Personality and Social Psychology*, *66*, 895–910.

Van Yperen, N.W., & Snijders, T.A.B. (2000). A multilevel analysis of the demands-control model: is stress at work determined by factors at the group level or the individual level? *Journal of Occupational Health Psychology*, *5*, 182–190.

Watson, D. (1988). Intraindividual and interindividual analyses of positive and negative affect: their relation to health complaints, perceived stress, and daily activities. *Journal of Personality and Social Psychology*, *54*, 1020–1030.

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin*, *98*, 219–235.

Weiss, D.J., Dawis, R.V., England, G.W., & Lofquist, L.H. (1967). *Manual for the Minnesota Satisfaction Questionnaire*. Minneapolis: University of Minnesota.

Wheaton, B. (1994). Sampling the stress universe. In W.R. Avison, & I.H. Gotlib (Eds.), *Stress and mental health: contemporary issues and prospects for the future* (pp. 77–114). New York: Plenum.

Williams, S., & Cooper, C.L. (Eds.) (1994). *Creating healthy work organizations*. Chichester: John Wiley.

Williams, S., & Cooper, C.L. (1998). Measuring occupational stress: development of the Pressure Management Indicator. *Journal of Occupational Health Psychology*, *3*, 306–321.

Williams, L.J., Gavin, M.B., & Williams, M.L. (1996). Measurement and nonmeasurement processes with negative affectivity and employee attitudes. *Journal of Applied Psychology*, *81*, 88–101.

Worrall, N., & May, D. (1989). Towards a person-in-situation model of teacher stress. British *Journal of Educational Psychology*, *59*, 174–186.

Wright, T.A., & Cropanzano, R. (2000a). The role of organizational behavior in occupational health psychology: a view as we approach the new millennium. *Journal of Occupational Health Psychology*, *5*, 5–10.

Wright, T.A., & Cropanzano, R. (2000b). Psychological well-being and job satisfaction as predictors of job performance. *Journal of Occupational Health Psychology*, *5*, 84–94.

Zeidner, M., & Endler, N.S. (1996). *Handbook of coping*. New York: John Wiley.