**Chapter 5**

**Moderators of Stressor-Strain Relationships**

In previous chapters, we have outlined the basic processes involved in the development of job-related strain and burnout and have discussed some of the major sources and outcomes of these affective experiences. So far, however, we have examined only the direct association between stressors and their potential outcomes and have not discussed other factors that may affect this relationship. In this chapter, we address these potential influences by considering variables that may function as moderators of the stressor-strain relationship.

A moderator is defined as a variable that “affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable” (Baron & Kenny, 1986, p. 1174). A moderator is, therefore, some third factor that exerts an influence on the zero-order correlation between two variables (see Figure 5.1). Moderator effects are typically assessed by the interaction between the predictor variable and the moderator in a hierarchical regression, where the predictor and moderator are entered first into the regression equation, followed by entry of the interaction term (predictor × moderator). This enables determination of the incremental contribution of the moderator effect once the main effects have been taken into account.

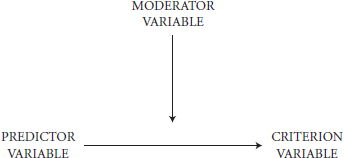
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Figure 5.1.   The Moderator Effect

As we noted earlier (see Chapter 1), various kinds of moderator variables have been identified in research on stress processes. For clarity and simplicity, we will group these variables into three categories of factors: (a) personality or dispositional, (b) situational, and (c) social. The following discussion reviews the relevance of these three categories of moderator variables.

**Personality/Dispositional Moderators**

Dispositional or personality characteristics have been of considerable interest to researchers investigating relationships between job-related stressors (e.g., excessive job demands, role conflict, role ambiguity) and indexes of strain (e.g., psychological strain, job dissatisfaction, and physiological symptoms). Based on the person-environment fit model of strain (Edwards, 1996), discussions of the influence of dispositional variables have typically concluded that there are two basic mechanisms by which personality might influence stressor-strain relationships. These mechanisms have been outlined by Cohen and Edwards (1989) and more recently by Bolger and Zuckerman (1995). Bolger and Zuckerman suggested that personality may play an important role in the stress process by influencing individuals’ exposure to stressful events, by affecting their reactivity to these events, or by both of these processes. (They also discussed how dispositional factors may influence people’s choices of coping mechanisms and the effectiveness of coping strategies. Coping strategies and behaviors are reviewed in Chapter 6 and hence will not be covered here.)

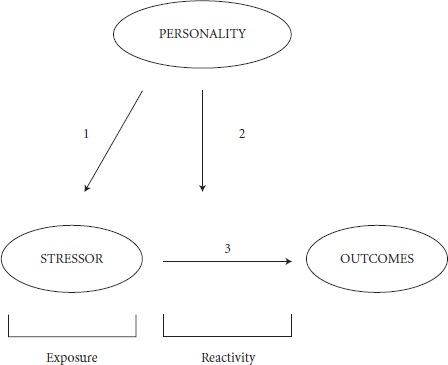


Figure 5.2.   The Differential Exposure and Reactivity Hypotheses

SOURCE: From “A Framework for Studying Personality in the Stress Process” by N. Bolger and A. Zuckerman, 1995, Journal of Personality and Social Psychology, 69, p. 891. Copyright 1995 by the American Psychological Association. Reprinted with permission.

Figure 5.2, from Bolger and Zuckerman (1995), illustrates mediating and moderating linkages between personality variables and outcomes, such as strain. (In contrast to moderator variables, a mediating variable is one that “accounts for the relation between the predictor and the criterion” (Baron & Kenny, 1986, p. 1176): That is, it provides a link between one variable and another.) According to the differential exposure perspective, personality factors may determine the extent to which individuals are exposed to certain kinds of stressful events or circumstances (Pathway 1 in Figure 5.2), which may then lead to strain (Pathway 3). For example, individuals who are high on the Type A behavior pattern may actively position themselves in situations that require ambition, drivenness, and competitive behavior; these situations, in turn, may induce greater psychological strain. Although this hypothesis is certainly plausible and worthy of investigation, there has been little effort to examine it in studies of job stress. It should also be noted that this model positions stressors, not personality factors, as the mediating variables.

An alternative, and more commonly held, view is the differential reactivity perspective, which suggests that certain dispositional variables may moderate the impact of job stressors on individuals’ affective outcomes. In Figure 5.2, this perspective is reflected in the diagonal arrow (Pathway 2) intersecting the horizontal linkages between stressors and outcomes (Pathway 3). Put simply, this means that the effects of stressors will vary depending on whether an individual is high or low on a specific personality or dispositional attribute. A large variety of personality variables have been studied in the context of the differential reactivity perspective, and these potential moderating effects are discussed in more detail below.

Before turning to specific variables, however, it is important to note that there are several mechanisms by which personality may act as a moderator variable. Prominent among these is the effect that personality has on individuals’ appraisals of situations (Cohen & Edwards, 1989). As will be noted in our discussion of coping in Chapter 6, the appraisal of a situation as threatening is a major component of the transactional model of the stress-coping process. Individuals who perceive an event or circumstance as threatening to their physical or psychological well-being are more likely to experience negative outcomes. It follows that any factor that influences the appraisal process is also likely to contribute to stressor outcomes.

Drawing on these general perspectives on the role of personality in stressor-strain relationships, stress researchers have investigated the moderating effects of specific dispositional characteristics. Our intention here is not to discuss all possible dispositions that have been identified empirically but to highlight major findings from this research and to direct attention to their implications for our understanding of stress transactions in work environments.

**Type A Behavior Pattern**

In the job stress literature, considerable attention has been focused on the Type A behavior pattern (TABP) as a predictor of strain (and strain-related outcomes). This cluster of characteristics was first identified as a potential contributor to strain-related outcomes by cardiologists Friedman and Rosenman in the 1950s (Rosenman et al., 1964) and since that time has been examined both as a direct predictor of strain and as a moderator in the chain of events between stressors and strain. Type A individuals are characterized as displaying very high levels of concentration and alertness, achievement striving (ambitiousness), competitiveness, time urgency, and aggressiveness. Further potential characteristics of this disposition include irritability (when things do not go according to plan), along with hostility and anger toward others who are perceived by the Type A individual as impeding his or her goal achievement (Lee, Ashford, & Jamieson, 1993). Individuals with a propensity toward TABP also exhibit a strong desire for personal control over their environment, and any perceived lack of control will be a source of intense frustration (Davidson & Cooper, 1980; Lee, Ashford, & Bobko, 1990).

TABP is one of the most interesting dispositional characteristics in stress research in that it may lead to both positive and negative outcomes for the individual. In a positive sense, the strong achievement motivation and desire for control may drive the individual toward very high levels of performance in the work setting, as well as producing rewards from goal achievement. Such individuals may be highly sought after by organizations and rewarded for their accomplishments. On the downside, however, there are suggestions that these achievements may come at some personal cost to the individual in terms of higher levels of psychological strain, possibly longer-term somatic complaints, and neglect of other (non-performance-related) areas of life. Similarly, the competitiveness and aggressiveness of Type A individuals may create incompatible relationships with other people in their work context. In sum, possession of Type A characteristics is a veritable double-edged sword.

Turning to the moderator hypothesis, unfortunately research findings to date have been inconsistent in demonstrating that TABP functions as a moderator of stressor-strain relationships. Theoretically, it is predicted that individuals who adopt a more “relaxed” approach to their work will experience less psychological (and perhaps physical) strain than those exhibiting Type A characteristics. Some research has confirmed this (Moyle & Parkes, 1999; Payne, 1988), but other studies have uncovered little support for a moderator effect of this variable (Burke, 1988; Edwards, Baglioni, & Cooper, 1990; Jamal, 1999). As suggested by George (1992) and by Ganster, Schaubroeck, Sime, and Mayes (1991), future investigations should examine more closely the specific components of TABP, especially the anger/hostility dimension. As indicated by Ganster et al. (1991), “Because persons scoring high on the hostility component tended to both hyperreact to a challenging stimulus and recover less quickly” (p. 165), individuals who display anger/hostility toward other people may be more prone to the adverse consequences of stressful work conditions than Type A persons who score relatively low on this dimension. Similarly, although by itself TABP does not necessarily exhibit strong moderator effects, it may interact with other variables, especially perceptions of control over the work environment (Kushnir & Melamed, 1991), to predict the degree of strain experienced in response to job stressors. These combined interactions will be examined later.

Empirical research on TABP has been plagued by controversy, particularly surrounding the measurement of this behavioral disposition. In a comprehensive review and discussion of the validity of this construct, Ganster et al. (1991) summarized some of the more serious methodological concerns about extant research on TABP. They noted that the Structured Interview (SI), the instrument developed by Friedman, Rosenman, and their colleagues (Rosenman et al., 1964) to assess Type A tendencies, is regarded as the prototype assessment device due to its relative success in predicting coronary heart disease and coronary artery disease in epidemiological studies. The SI consists of a series of behaviorally based questions that are responded to in an interview situation, where the interviewer rates interviewees on Type A dimensions. These ratings are based on the form of interviewees’ verbal responses, as well as the content of their responses. For instance, the interviewer deliberately asks (some) questions slowly and with pauses, which provides the respondent with an opportunity to interrupt before the interviewer has finished the question, thereby exhibiting one characteristic of the Type A disposition, namely verbal competition. Other behaviors that the interviewee might display during the interview, such as hostility, are also recorded. Interviews are typically audiotaped or videotaped for later review. After rating respondents on each dimension, the interviewer categorizes each respondent as fitting the broad Type A or Type B classification. In some studies, degrees of Type A or Type B disposition have been coded, rather than simply whether the person fits one or the other classification. Two or three coders (including the original interviewer) rate each respondent independently, then discuss their classifications to resolve any coding discrepancies.

Despite its widespread usage, “Inconsistent research results have led researchers to question the viability of studying global TABP as a strategy for identifying coronary-prone persons” (Ganster et al., 1991, pp. 144-145). In particular, several studies have achieved nonsignificant correlations between global TABP, as assessed by the SI, and cardiovascular health outcomes. In their research, Ganster and his colleagues identified three distinct components within the SI but found that only one of these elements—hostility toward others—was significantly associated with physiological outcomes. These findings support arguments that specific dimensions of TABP may be responsible for negative outcomes rather than the behavior pattern as a whole (George, 1992).

Similar results were obtained by Lee et al. (1993), using a different assessment device, a revised version of the Jenkins Activity Survey (JAS; Jenkins, Zyzanski, & Rosenman, 1971), which is a self-report questionnaire. Although Lee et al. focused particularly on two of the TABP elements mentioned above, achievement striving and impatience/irritability, they noted that the anger/hostility dimension of the TABP may be more strongly associated with physical illness than other components. George (1992) stated that the SI is the preferred method of assessing TABP but suggested that there is a relatively low correlation between TABP scores derived from this instrument and those obtained by other means, such as the JAS. Edwards et al. (1990) reached the same conclusion. Consequently, it is difficult to compare the results of studies that have used the SI and those using other indexes of TABP. Furthermore, TABP itself is multidimensional, and some dimensions (such as anger/hostility) may make a greater contribution than others to individuals’ affective reactions. More research is needed to ascertain the relative contributions of specific components of the Type A construct.

Perhaps even more importantly, however, there is a need for clearer conceptualization of the role of Type A behavior in the stress process. As noted above, researchers need to clarify the conditions under which positive and negative consequences occur for Type A individuals and whether these consequences apply to all Type A persons or only to certain subgroups, such as those scoring high on anger and hostility. In addition, George (1992) noted that although TABP was not associated with psychological strain or distress, Type A persons do appear to be at risk in terms of physical health problems. This suggests that TABP does not necessarily have across-the-board negative consequences and that further teasing out of its effects on a range of psychological and physiological reactions is needed.

**Negative Affectivity**

In an overview of dispositional factors, work-related strain, and health, Semmer (1996) discussed the concept of vulnerable versus resilient personality, noting that several personality variables may function as vulnerability or resilience factors. One variable that may be viewed as a component of vulnerability is negative affectivity (NA), a construct that overlaps to some extent with neuroticism (Bolger & Zuckerman, 1995; George, 1992) and that reflects a relatively stable predisposition to experience low self-esteem and negative emotional states (Watson & Clark, 1984). According to Semmer, persons who are high on NA are more inclined to experience psychological strain and other negative outcomes in their work setting. NA may therefore increase individuals’ susceptibility to the effects of stress-inducing environments (Parkes, 1990).

Spielberger, Gorsuch, and Lushene (1970) were perhaps the first to suggest that NA may operate as a moderator of stressor-strain linkages. From their perspective, NA serves to attenuate correlations between stressors and psychological strain, such that individuals high on NA will exhibit a stronger relationship between stressors and outcomes than their counterparts with low NA. Watson and his associates, however, have argued that NA is generally unrelated to reactivity to stressors and that high-NA individuals uniformly report greater strain (distress) over a range of both stressful and nonstressful situations (Watson & Clark, 1984; Watson & Pennebaker, 1989). Over the past 15 years or so, there has been considerable debate, therefore, about whether the effects of NA on strain are direct or indirect, and it would seem that the role of NA in the stress-coping process is complex.

Recent papers by Spector and his colleagues have further elucidated the ways in which NA might influence stressor-strain relationships. Spector, Zapf, Chen, and Frese (2000), for instance, have outlined six possible mechanisms for these effects:

1. The symptom perception hypothesis, an explanation favored by Watson and Pennebaker (1989), is that individuals high on NA tend to have a negative “view of the world.” In a job situation, they tend to perceive (and hence report) the environment as containing a high level of stressors. In other words, according to this view, NA directly influences (the perception of) stressors, rather than the relationship between stressors and strains.
2. An alternative to the above is that high-NA individuals may exhibit a heightened response to stressors because they are more sensitive to the impact of stressors. Given the same environmental conditions, these people will show more strain than their low-NA counterparts. As with the symptom perception hypothesis, the hyper-responsivity mechanism suggests that the effect of NA is direct (rather than moderating) but is on strain rather than on stressors themselves.
3. The differential selection perspective is that high-NA individuals are more likely to be located in jobs that are “stressful.” There is some supportive evidence for this hypothesis (e.g., Spector, Fox, & van Katwyk, 1999), but an explanation for the selection mechanism is not entirely clear. It may be that high-NA people choose work that is low in autonomy and job scope (Spector, Jex, & Chen, 1995), conditions that research has demonstrated are conducive to strain. Alternatively, Kohn and Schooler (1983) proposed that individuals displaying high NA are less attractive as applicants for better jobs that are more complex and hence that they are less likely to be selected for these positions, but to date there has been no systematic investigation of this proposition.
4. Another possible explanation is that by their behavior high-NA individuals actually create stressors. Spector et al. (2000) have labeled this the stress creation mechanism. For instance, negative feelings about life in general may spill over into a person’s verbal and nonverbal behaviors, hence inducing negative reactions from colleagues and leading to a conflictual social environment. This explanation may be especially relevant, therefore, to the effects of social stressors in the workplace. The end result would be similar to that predicted by the symptom perception hypothesis, even though these two predictions posit different mechanisms.
5. Transitory mood, which is affected by job conditions, may also have a substantial influence on individuals’ reactions to stressors and their experience of strain. This suggests that high levels of stressors cause workers to feel anxious, upset, or frustrated, and that these fluctuations in mood result in their reporting higher strain, as well as elevated levels of NA. From this perspective, NA is an outcome of mood rather than a potential cause of strain.
6. Finally, consistent exposure to stressors may itself induce high levels of negativity or exacerbate existing levels of this disposition. This causality hypothesis suggests that although NA is typically conceived as a stable trait, job conditions can have an influence on dispositions, including NA.

Spector et al. (2000) discussed empirical evidence that lends some support for each of the above perspectives, thereby illustrating that the role of NA in the stress process is by no means simple and that observed relationships of NA with stressors and strains may be explained by various mechanisms. In sum, no single explanation for the effects of NA is likely to encapsulate the full influence of this variable. As noted by Spector et al., further investigations of its potential moderating influence should use multiple measures of stressors and strains and longitudinal and quasi-experimental research designs that enable more explicit differentiation between possible mechanisms.

Further complicating this debate is the issue of common-method variance. Because stressors, psychological strain, and NA are frequently all assessed via self-report questionnaires, it is possible that NA serves as a confounding variable in the relationship between stressors and strain (Chen & Spector, 1991). This possibility was explored in research by Brief, Burke, George, Robinson, and Webster (1988), Parkes (1990), and Schaubroeck, Ganster, and Fox (1992). Brief et al. (1988) found that observed relationships between a composite index of stressors and various strain indicators were inflated by NA, suggesting that this variable may be a “nuisance factor” in studies of job stress. Some support for this argument was obtained by Parkes (1990), who noted that the variance in strain explained by work environment factors was reduced after controlling for NA, although the stressor-strain relationship remained statistically significant. In contrast, Chen and Spector (1991) and Jex and Spector (1996) reported that NA accounted for little variance in the association between stressors and affective (psychological) strain.

Using confirmatory factor analysis, Schaubroeck et al. (1992) concluded that although NA may significantly attenuate the effects of job stressors, there is no reliable evidence that it measures a factor in common with indexes of strain or work stressors. These authors suggested that Watson and Pennebaker’s (1989) symptom perception hypothesis (that high-NA individuals are more prone to report symptoms of strain) provides a better explanation than the confounding-variable hypothesis for observed relationships between NA and strain. They also noted that although their findings suggest that NA does not necessarily predispose individuals to physical health problems, more systematic investigation is needed of the etiological role of this variable in stress research. In addition, it is important to determine which specific strain variables are influenced by NA, as it is apparent that not all stress-related outcome criteria are affected by this dispositional factor (Chen & Spector, 1991).

**Hardiness**

The construct labeled as hardiness in the 1970s by Kobosa (1979) is a further variable falling under the rubric of vulnerability/resilience factors that has been hypothesized to moderate the effects of environmental stressors on individuals’ experience of strain and ill health. Kobosa characterized the “hardy personality” as one that encompasses high levels of commitment or involvement in day-to-day activities, the perception that one has control over life events, and a tendency to view unexpected change as a challenge rather than a threat to well-being. Gentry and Kobosa (1984) argued that hardiness “mitigates the potentially unhealthy effects of stress and prevents the organismic strain that often leads to illness” (p. 99).

Although this construct would appear to be highly salient to strain reactions, there has been relatively little investigation of its role in job stress. Kobosa and her colleagues’ research on the impact of hardiness on strain in general found that hardy persons tended to report fewer illnesses and higher levels of general well-being (e.g., Kobosa, 1982), although some other studies have failed to replicate this finding (see Allred & Smith, 1989). It has been suggested that the positive link between hardiness and health arises because hardy individuals have more adaptive cognitions concerning stressors than do their less hardy counterparts and that these cognitions are reflected in lower levels of physiological arousal under conditions that might be stressful (Allred & Smith, 1989).

Direct investigations of the relationship between hardiness and indicators of strain, including physiological measures, have not consistently confirmed a stress-buffering effect of hardiness (Benishek & Lopez, 1997). For instance, Allred and Smith (1989) assessed both cognitive and physiological responses of high- and low-hardiness individuals in a challenging situation that presented either high or low threat to their self-concept. There was some evidence that hardy persons experienced less psychological strain than their nonhardy counterparts, but no moderating effect of hardiness was obtained with respect to physiological outcomes, a finding that calls into question the presumed linkage between hardiness and physical health. Roth, Wiebe, Fillingham, and Shay (1989) obtained self-ratings of health symptoms from their respondents but also failed to demonstrate that hardiness either was directly associated with self-reported health or moderated the impact of stressful life experiences on illness ratings. These authors suggested that hardiness may affect health indirectly, in perhaps two ways: “Hardy individuals may simply experience fewer negative life events, or [they] may possess a cognitive style such that troubling life events are interpreted less negatively” (p. 140). However, neither of these propositions explains why hardiness might exert such effects.

More recently, Benishek and Lopez (1997) examined gender differences in frequency and severity of “life stress” scores and examined the moderating influence of hardiness on the relationship between life stressors and self-reported health in men and women. This study identified a hardiness buffering effect only in male respondents. The researchers suggested that men may be more likely to use hardiness-related problem-focused coping strategies that override the deleterious impact of stressors in their lives, whereas women (who reported higher levels of neuroticism in this study) may be more likely to use emotion-focused coping that addresses the consequences rather than the stressors themselves. Further work is needed to confirm this speculation.

Measurement issues may partially explain the lack of consistent evidence for a buffering effect of hardiness. Hull, van Treuren, and Virnelli (1987) commented that “there now exist nearly as many ways to measure hardiness and its subcomponents as there are people conducting research on the topic” (p. 521). In her original research, Kobosa (1979) used several instruments to assess the three components of hardiness (commitment, control, and challenge), including measures of alienation from self and work, external locus of control, powerlessness, and a scale assessing a sense of security. An abridged 20-item measure developed by Kobosa was used in some later studies, and others (including Benishek & Lopez, 1997) have used a 36-item scale also developed by Kobosa. Rhodewalt and Zone (1989), for example, used the 20-item version to assess the role of hardiness in the linkage between life changes, depression, and physical health among female college students in the United States. These authors drew several conclusions from their findings, but two of particular interest in the present context were that (a) hardiness is closely associated with NA and (b) the appraisal of life changes, rather than hardiness per se, moderates the impact of stressful life changes on levels of depression and health. Framed in terms of the transactional model of stress coping, these findings suggest that hardy and nonhardy individuals engage in different appraisal processes when they encounter potentially stressful life events.

In summary, although the concept of hardiness and its proposed impact on the experience of strain has intuitive appeal, to date evidence to support its effects has been somewhat disappointing, partly perhaps because of the different measurement approaches adopted in research. Also, as noted by Allred and Smith (1989), a possible (negative) overlap between hardiness and neuroticism (and perhaps NA) may confound empirical findings. Furthermore, there have been suggestions that the hardiness construct is too global and that further research should examine the three specific components more closely (Hull et al., 1987; Roth et al., 1989), especially the commitment component. At this point, there is a lack of substantive evidence that hardiness per se demonstrates a consistent moderating effect on either psychological well-being or physical health. Its influence may in fact be due to other mechanisms, especially the forms of appraisal undertaken by individuals confronting stressors. A tighter specification of the theoretical construct and a more systematic approach to its measurement are needed to enhance our understanding of this interesting concept.

**Self-Esteem and Self-Efficacy**

In their 1989 review of moderator effects, Cohen and Edwards concluded that data on the buffering effect of self-esteem were inconclusive. However, several studies since then have suggested that self-esteem or self-efficacy may play a significant role in the stress process. Although self-esteem and self-efficacy are not identical constructs, in their most generalized expressions they are virtually indistinguishable (Semmer, 1996), and the explanation for their effects is the same. For the present purpose, therefore, we have integrated the discussion of these two variables.

Ganster and Schaubroeck (1995) noted that the growing evidence that certain dispositional variables may protect individuals from the adverse consequences of stressors can be explained by Brockner’s (1988) behavioral plasticity hypothesis. Behavioral plasticity refers to the degree to which a person is affected by external factors. Brockner argued that persons with high self-esteem are less susceptible to environmental events than their low-self-esteem counterparts. Conversely, low-self-esteem persons are more reactive to adverse conditions (such as role stressors) because they react more to external cues. There are three major reasons for this. First, low-self-esteem individuals are more likely to experience uncertainty about the correctness of their thoughts and emotional reactions and hence to rely more upon social cues. Second, they seek social approval by conforming (attitudinally and behaviorally) with others’ expectations. Third, they tend to be more self-critical and permit negative feedback on one area of their behavior to generalize to other dimensions of their self-concept.

Support for the plasticity hypothesis has come from studies conducted by Mossholder, Bedeian, and Armenakis (1981) and Pierce, Gardner, Dunham, and Cummings (1993). Mossholder et al. (1981) found that self-reports of role stressors (ambiguity and conflict) were negatively related to job satisfaction (for ambiguity) and supervisor ratings of performance (for conflict) among low-self-esteem nurses but not among high-self-esteem nurses in a hospital setting. Pierce et al. (1993) investigated the moderator effects of organization-based self-esteem and again observed that relationships between role stressors and employee responses (satisfaction and performance) were more pronounced among low-self-esteem employees.

However, neither of these studies explicitly focused on physical health or psychological strain. As noted by Ganster and Schaubroeck (1995), the Mossholder et al. (1981) and Pierce et al. (1993) findings support the plasticity hypothesis but do not actually explain its relevance to health outcomes. Ganster and Schaubroeck suggested that self-esteem might influence individuals’ choice of coping strategies and that low-self-esteem persons are apt to be more passive copers due to a lack of confidence in their ability to influence their environment. In their study of the buffering effect of self-esteem on the relationship of role conflict and ambiguity with somatic complaints among fire officers, Ganster and Schaubroeck found an interaction between role conflict and self-esteem, with low-self-esteem employees displaying a significant relationship between perceptions of role conflict and somatic complaints. Self-esteem did not moderate the impact of role ambiguity, which Ganster and Schaubroeck suggested may have been less salient for this occupation.

Three studies that have examined self-efficacy, rather than self-esteem, were reported by Jex and Gudanowski (1992), Schaubroeck and Merritt (1997), and Zellars, Perrewe, and Hochwarter (1999). For instance, Schaubroeck and Merritt (1997) obtained data indicating that job self-efficacy may play an important role in reducing the cardiovascular consequences of job-related strain. Their research extended Karasek’s (1979) job demands-control model of job-related strain (see page 135) by examining two-way interactions between job demands and self-efficacy, along with three-way interactions of demands × control × efficacy. Both these interaction terms significantly predicted systolic and diastolic blood pressure, and the demands × efficacy two-way interaction also predicted diastolic (but not systolic) pressure. Schaubroeck and Merritt concluded that self-efficacy influences the interaction effect of job demands and control on blood pressure, such that “when people are confident in their abilities, having control mitigates the stress consequences of demanding jobs” (p. 750). They also suggested that “high control combined with high job demands had negative health consequences among those reporting lower self-efficacy” (p. 750).

Jex and Gudanowski (1992) distinguished between “individual” self-efficacy, the person’s beliefs about whether he or she is capable of performing, and “collective” self-efficacy, the individual’s assessment of his or her group’s collective ability to perform relevant tasks. Interestingly, they found that individual self-efficacy displayed no mediating or moderating effects in stressor-strain relationships, whereas collective self-efficacy moderated the effects of one stressor (number of work hours) on job satisfaction, anxiety, and turnover intentions, although the percentage of variance accounted for by moderator effects was relatively small in each case (3%-4%).

More recently, Zellars et al. (1999) also obtained evidence that collective self-efficacy—that is, perceptions that the group or team has the capacity to meet challenges confronting it—reduced burnout among nurses, especially in respondents who were high in NA. These researchers found that, for high-NA nurses, working in an efficacious group appeared to mitigate the effects of situational stressors (role ambiguity, conflict, and overload) on emotional exhaustion. From their findings, Zellars et al. concluded that “steps to improve group cohesion may benefit high-NA individuals through decreased burnout levels” (p. 2264). They also noted that confidence in the group’s ability to coordinate its activities may lead to greater persistence in the face of challenging situations and hence higher performance levels.

In summary, the above evidence would appear to contrast with Cohen and Edwards’s (1989) conclusion about the role of self-esteem or generalized self-efficacy in the stress process. Clearly, additional research is needed to confirm these initial findings, but there would appear to be a sound case for the plasticity hypothesis that beliefs about the self and one’s abilities may function as effective buffers against the adverse effects of stressful job conditions, particularly role stressors. The mechanisms by which this buffering occurs require further delineation. As noted by Ganster and Schaubroeck (1995), self-esteem or self-efficacy may influence the coping strategies used to combat stressors, with low-self-esteem individuals selecting less effective coping behaviors. This hypothesis has yet to be tested directly in empirical research.

**Other Dispositional Variables**

In addition to the variables outlined above, several other dispositional factors have been implicated as potential moderators of the relationship between job stressors and psychological strain. The buffering effects of two of these variables will be reviewed briefly.

*Optimism*

Despite their generally cautious appraisal of the stress-moderating effects of personality variables, Cohen and Edwards (1989) indicated that optimism, along with feelings of personal control and self-esteem or self-efficacy, might function as a “superordinate” moderator: that is, one that reflects the essence of other dispositional factors. Optimism refers to a “conviction that the future holds desirable outcomes, irrespective of one’s personal ability to control those outcomes” (Marshall & Lang, 1990, p. 132). An optimistic orientation to life may derive from various sources (including luck), but it can be distinguished from mastery or control over specific circumstances or outcomes (e.g., control over one’s work environment) in that it constitutes a global expectation that there is a high probability of desirable outcomes occurring, irrespective of one’s own actions.

Dispositional optimism has been found to exert a positive effect on personal adjustment, life satisfaction, and overall well-being (see Scheier & Carver, 1992, for a review of this literature). As with the other variables summarized above, one likely mechanism for this effect is via the selection of coping strategies, which we review in Chapter 6. Several studies have illustrated, for example, that optimists have more positive appraisals of stressors and engage different strategies for coping with stressful situations (Chang, 1998).

Given the suggestion raised by Cohen and Edwards over 10 years ago that optimism may represent a superordinate moderator, it is surprising that there has not been more systematic exploration of the optimism construct in studies of job-related strain. Recent investigations of this construct have tended to sample student populations (e.g., Chang, 1998; Lee et al., 1993) rather than employees in work settings. One of the few studies of occupational groups (Marshall & Lang, 1990) failed to find evidence of an independent direct effect of optimism on depression among women professionals; a possible moderating effect on depression was not explored in this study.

*Locus of Control*

Locus of control (LOC) is another dispositional factor that may play a role in the stress-coping process, although again there has not been a great deal of empirical research recently on the potential moderating influence of this variable on stressor-strain relations. LOC differs from perceived control (over the work environment) in that the former refers to a generalized expectancy of having control over life events and hence is a dispositional construct, whereas the latter reflects a person’s perception of control in specific circumstances and can vary across situations. Due to these differences in nature and function, our view is that, although the two variables clearly may be interrelated, perceived control should be classified as a situational variable rather than as a personality disposition. (We discuss perceived control in the next section of this chapter.)

From their review of research carried out in the 1970s and 1980s, Cohen and Edwards (1989) concluded that there is “tentative support for locus of control (as measured by the Rotter scale) as a buffer of the relationship between life events stress and psychological strain” (p. 259). An example of research conducted along these lines is a study reported by Perrewe (1987), who found that individuals with high external LOC experienced less anxiety and strain as a result of low perceived control over their work environment than did those with high internal LOC.

Payne (1988) also reviewed research on the buffering role of LOC, noting that evidence for moderator effects was mixed. As with optimism, most studies of LOC have been conducted outside occupational settings and have focused on strain from life events. Payne suggested, however, that moderator effects found in these studies frequently can be explained by the overlap between LOC and other constructs, such as NA and neuroticism. More recently, Semmer (1996) has noted that research on LOC in organizational contexts has also generated inconclusive findings. Methodological problems in the measurement of LOC, including lack of convergence between various measures of this construct (see Cohen & Edwards, 1989), coupled with conceptual overlap between LOC and other dispositional constructs, have seriously undermined researchers’ efforts to demonstrate consistent relationships between this factor and indicators of strain.

To conclude this discussion of personality moderators of the stressorstrain relationship, although there is some evidence that certain dispositional variables may buffer the impact of stressors on individuals’ experience of strain (either psychological or physical), the conclusion drawn by Cohen and Edwards (1989) that this evidence is by no means persuasive would still seem to apply. A few dispositional factors, such as self-esteem or self-efficacy and possibly optimism, have shown promise in this regard, but further organizationally based studies are needed to confirm the effects of these variables. As mentioned above, one serious issue, both conceptually and methodologically, is the extent of overlap between various personality constructs. Several authors have commented on the possible confounding of effects due to lack of conceptual differentiation and measurement redundancy between variables such as optimism, self-esteem, NA, and neuroticism. Unless we can demonstrate that these constructs exert distinct influences on strain, the search for unique moderator effects will continue to produce ambiguous findings.

At another level, one might question whether the examination of moderator variables using cross-sectional research designs has deflected attention away from more central issues in job stress research, particularly exploration of the dynamic transactional stress-coping process. In brief, cross-sectional designs may not capture the dynamic interplay between dispositional variables and stress-coping behaviors. Hence, although variables such as those referred to above may have an important buffering effect, their exact role may not be clearly identified in studies that measure stressors and strain at a single time point.

**Situational Moderators: Perceived Control Over the Environment**

Among the situational variables that may buffer the impact of stressors (such as work demands, role ambiguity, and role conflict) on the extent of psychological strain experienced by workers, one that has received considerable attention is the degree of autonomy or control that individuals can exert over their work environment.

As explained earlier, we discuss perceived control as a “situational” factor because it reflects individuals’ perceptions of their specific (work) environments rather than cross-situational dispositional beliefs. In other words, perceived autonomy or control has more to do with environmental characteristics (i.e., whether the situation permits individual control) than with beliefs about control in general (e.g., generalized LOC). Nevertheless, the interplay between specific control perceptions and global control beliefs should not be overlooked.

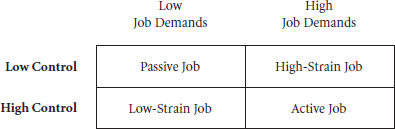
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Figure 5.3.   Karasek’s Job Demands-Control Model

SOURCE: Reprinted with permission of Academy of Management, P.O. Box 3020, Briarcliff Manor, NY 10510-8020. Effects of Stressful Job Demands and Control of Physiological and Attitudinal Outcomes in a Hospital Setting (Figure 1), Fox, Dwyer and Ganster, Academy of Management Journal 1993, 36(2), p. 291. Reproduced by permission of the publisher via Copyright Clearance Center, Inc.

Most research in the last 20 years on the possible stress-moderating effects of control has been based upon Karasek’s (1979) job demands-control model, also known as the demands-discretion model or simply the decision latitude model (Fox, Dwyer & Ganster, 1993). This framework has been comprehensively described and critiqued in several recent publications (see, e.g., Fox et al., 1993; Jones & Fletcher, 1996; Schaubroeck & Merritt, 1997) and hence will be outlined only briefly here.

Figure 5.3 demonstrates the basic elements of the Karasek model. His fundamental proposition is that although excessive work demands may clearly be associated with higher levels of psychological strain and even physiological health outcomes (such as cardiovascular disease; Kristensen, 1996), the impact of these demands may be offset by the perception that one has control over important aspects of the work environment. Indeed, highly challenging or demanding work combined with high control is considered by Karasek to indicate an “active” job that has beneficial outcomes for individuals. At the other extreme, jobs that have low demands and low levels of control (e.g., repetitive assembly line work) create strain and are referred to by Karasek as “passive” jobs.

The logic underlying the demands-control model is clearly described by Fox et al. (1993). The reason that high work demands are stressful is that they create anxiety about job performance and the personal consequences of not completing work in a specified time frame. In Karasek’s theory, this anxiety can be ameliorated if workers (a) have the power to make decisions on the job (decision authority) and (b) can use a variety of skills in their work (skill discretion). Typically, researchers have combined these two factors into one construct, variously referred to as decision latitude or control. (We would note in passing that decision authority and skill discretion have much in common with elements of the job characteristics model of job design proposed by Hackman & Oldham, 1976, which underlies the bulk of research conducted on the impact of work restructuring or redesign on employees’ attitudes and behaviors.)

It might be thought that actual control is essential for Karasek’s argument, and much of his early epidemiological research was based on the assumed degree of control held by various occupational groups. One criticism of this line of research, however, is that it contains no direct measurement of the amount of control that different occupations may actually exert in their jobs. Recently, more attention has been given to workers’ perceptions of control, on the assumption that, irrespective of objective levels of control, the extent to which individuals believe they have control is a major determinant of their affective responses, such as job satisfaction and strain (Schaubroeck & Merritt, 1997; Spector, 1986; Yoon, Han, & Seo, 1996).

Other theoretical accounts of the role of control in the stress process mirror the basic tenets of Karasek’s model. For instance, Fletcher’s (1991) catastrophe model suggests that “strain results when there is a lack of balance in the demands and constraints placed on a person in relation to the supports available to that person” (Jones & Fletcher, 1996, p. 34). Having a high level of autonomy or control in one’s work is considered to be a “support” that may reduce the impact of job demands. Similarly, control is a significant element in Warr’s (1987) vitamin model of stress in that it enables the person to make adjustments in his or her environment that can offset the aversive consequences of work stressors. Interestingly, however, Warr’s vitamin model implies a curvilinear relationship between the extent of control and well-being: Too much control can be damaging for the person, just as too little control is harmful. Increased control may imply additional responsibility for outcomes, and for some individuals this added responsibility may be a burden rather than a challenge (Spector, 1998).

There is growing consensus among researchers that appropriate levels of control over the environment are important for workers’ well-being and even their physical health (Fox et al., 1993; Kristensen, 1996; Sutton & Kahn, 1987), and considerable evidence has accumulated to indicate that control (or perceived control) is significantly associated with these outcomes (Jones & Fletcher, 1996). However, the critical issue for the present discussion is whether control functions as a moderator of the relationship between job demands (stressors) and individuals’ affective and physiological outcomes (strains). Unfortunately, evidence relating to this question is not clear-cut. From their own research, Karasek and his colleagues argued that job demands and control have interactive effects on worker well-being. As noted above, however, some of this epidemiological research did not measure extent of control directly but rather inferred levels of control from occupational classification. It is not possible to gauge whether these inferences always accurately reflected the amount of control that workers actually possessed.

In addition, some studies did not analyze interaction effects statistically, and “critics have concluded that the epidemiological evidence mostly seems to support an additive model of demands and control rather than an interactive one” (Fox et al., 1993, p. 292). Whereas Fox and her colleagues obtained significant interactions between workload (measured both subjectively and objectively) and perceived control on both job satisfaction and blood cortisol levels, other studies have not demonstrated a moderator effect for control (e.g., Melamed, Kushnir, & Meir, 1991; O’Driscoll & Beehr, 2000; Schreurs & Taris, 1998), and still others have obtained mixed results. For instance, Tetrick and LaRocco (1987) found an interactive effect on job satisfaction but not psychological well-being; Perrewe and Ganster (1989) observed interactive effects on anxiety but not job satisfaction or physiological arousal; and Parkes, Mendham, and von Rabenau (1994) obtained demand × discretion interactions on job satisfaction but not somatic symptoms. Overall, therefore, research has not generated definitive conclusions about the moderating influence of the control variable.

Two fairly recent studies indicate that clearer specification of the control variable may be needed to obtain the expected interaction with job demands. Wall, Jackson, Mullarkey, and Parker (1996) noted that measurement of decision latitude is frequently based on Karasek’s (1979) original conceptualization of this variable, “which represents a much broader construct than that of job control” (p. 157). In particular, it includes issues such as the opportunity to learn new things, show creativity, and experience variety, all of which seem to be more related to job scope than to control per se. Failure to confirm the demands-control model may therefore be attributed, at least partially, to inappropriate assessment of one of the critical elements of the model. Wall et al. (1996) developed a more focused measure of perceived job control, explicitly tailored to the job demands experienced by respondents in their study. From their investigation, Wall and his colleagues concluded that “where a more clearly descriptive measure of demands is used in conjunction with a more focused measure of control” (p. 162), the likelihood of demonstrating the expected interaction effect is increased, although they did caution that the amount of variance accounted for by this interaction was relatively small (around 1%), which is not atypical in field research of this kind.

Sargent and Terry (1998) have also argued that use of a global index of control may mask the impact of some forms of control. They suggested that control over some areas (such as the pace and organization of work, and scheduling) may be more central than control over other areas (e.g., resource allocation, organizational decisions). Following Cohen and Wills (1985) and Wall et al. (1996), Sargent and Terry proposed that there must be a match between the specific demands and the type of buffer for a stress-buffering effect to be observed. Their results revealed some support for this prediction, suggesting that the effects of job demands were moderated by high levels of task control but not by the other (more peripheral) aspects of control.

From these studies, it is clear that more precise specification of job demands and control variables is needed and that global measures of autonomy or control that combine a variety of different areas of control may not display the buffering effects predicted by the demands-control model. Other investigations also suggest that additional variables may themselves moderate the moderator effect. For example, Westman (1992) found that the moderating effect of decision latitude on the job stressor-strain relationship was itself moderated by the individual’s position within a banking organization. A three-way interaction of role conflict × decision latitude × level significantly predicted psychological strain (although not job dissatisfaction). Specifically, employees at lower levels of the organizational hierarchy were more affected by lack of decision latitude. Westman suggested that this might be because employees at higher levels (i.e., managers) had greater resources to cope with role conflict. Interestingly, however, level within the organization showed no significant moderator effect in relation to role ambiguity, which may indicate that role conflict better represents the “demand” component of Karasek’s model.

At the job level, the amount of information that employees are provided about job procedures and events (e.g., changes) within their organization may attenuate the moderating effects of control. Jimmieson and Terry (1998) hypothesized that the stress-buffering influence of (behavioral) control on employee adjustment would be more evident at high than at low levels of information access. In their study, there was no evidence of a moderating effect for behavioral control, but contextual information served as a buffer for employees who perceived that they did not have behavioral control. In other words, the negative effects of having low behavioral control over the work environment could be compensated for by access to job-related information, such as information about job procedures and changes occurring within the organization.

Dispositional variables may also be relevant in the context of the demand-control model. Schaubroeck and Merritt (1997), for example, identified self-efficacy as a moderator variable that may determine whether job control has a positive or negative influence on the relationship between job demands and strain. Their data on employee self-reports of blood pressure indicated that the combination of high job demands and high control had negative health consequences among employees who reported low self-efficacy, which suggests that increasing the level of control may be effective only when individuals experience high levels of mastery on the job. Schaubroeck and Merritt concluded from their findings that interventions to enhance job self-efficacy “may be as important to reducing the cardiovascular consequences of job stress as efforts to enhance control” (p. 738).

Finally, it is important to examine the relevance of cultural factors for the effects of control on job-related strain. Most research on the demands-control model has implicitly assumed that individual control over one’s job is an important issue for workers and has not directly assessed the amount of control desired (as opposed to possessed). There may well be individual differences in the relevance and meaningfulness of autonomy and the extent of control that is desired (Schwalbe, 1985; Spector, 1998). Furthermore, almost all studies of the demands-control model have been conducted in the United States or European countries, which are characterized as having an individualistic culture (Hofstede, 1980). It is likely that personal control over the environment is more salient in such societies than in countries whose cultures are more collectivistic.

In a study that directly examined this proposition, Xie (1996) explored the cross-cultural generalizability of Karasek’s demands-control model to the People’s Republic of China, comparing results obtained from this collectivistic culture with findings reported in the literature. Data from her Chinese respondents showed significant interaction effects between demands and decision latitude on anxiety and health problems, although not on depression and job satisfaction. These findings parallel those obtained in Western cultures and are broadly consistent with predictions from the demands-control model, suggesting that this model may be applicable across cultural boundaries. It would be of interest, however, to investigate whether a sense of collective (or group/team) control over the work environment is more salient than individual autonomy in some circumstances, especially for people in collectivistic societies. If so, researchers should delineate the conditions under which group control is more important than individual control (see our earlier discussion of Jex and Gudanowski’s 1992 findings on self-efficacy).

Although many other situational variables may function as moderators of the impact of job stressors on psychological strain and physical health, because of the substantial interest in and research conducted on Karasek’s (1979) demands-control model we have focused attention here entirely on perceived control. Evidence to date shows some support for the Karasek model, particularly when salient job demands and areas of control are clearly identified and are matched with each other. Given inconsistencies across research findings, however, there is clearly a need for further investigations that include individual, organizational, and perhaps societal factors that may influence the moderating effects of perceived autonomy or control. There is also a need to examine the effects of control in combination with other factors, such as the amount of social support provided by other people within the individual’s environment.

**Effects of Social Support on Stressor-Strain Relationships**

The literature on stress in general, including job stress, is replete with studies of the effects that support from others has on an individual’s level of well-being and psychological strain. However, although this research has indicated that social support may be an important influence on affective experiences, there is considerable debate (and dispute) over just how this influence is exerted. In the following discussion, we will examine the various mechanisms by which social support may operate, summarize evidence on the impact of support, and consider potential explanations for research findings.

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Figure 5.4.   Direct Relationship Between Social Support and Strain

Several definitions and models of social support have been proposed by social scientists, but in the organizational field a frequently used conceptualization of support is that advanced by House (1981), who differentiated between four kinds of support:

1. Instrumental support (giving direct help, often of a practical nature)
2. Emotional support (showing interest in, understanding of, caring for, and sympathy with a person’s difficulties)
3. Informational support (giving the person information that may help him or her deal with problems)
4. Appraisal support (providing feedback about the person’s functioning that may enhance his or her self-esteem)

These types of support, especially the first two, have formed the basis for much of the research on the impact of social support on stressor-strain relationships.

Social support may exert an influence on stressor-strain relationships in three distinct ways. First, there may be a main effect, whereby increases in support are directly associated with reduced strain, irrespective of the number or intensity of stressors that the individual encounters. This relationship between support and strain, shown in Figure 5.4, is expressed by a significant zero-order correlation between these variables. One explanation for this effect is that support increases individuals’ self-esteem, making them less susceptible to the impact of stressors in their environment (Cohen & Wills, 1985; Fenlason & Beehr, 1994). In this context, self-esteem serves as a mediator between support and strain.

Social support may also function as a mediating variable in the stressorstrain relationship (see Figure 5.5). In this model, stressors (such as role ambiguity, conflict, and overload) may spur individuals to mobilize their support resources, which in turn help to reduce the amount of strain experienced, either practically or in one of the other ways listed above. A variant of the mediating model, depicted in Figure 5.6, occurs when social support affects the experience of the stressor, rather than having a direct effect on strain itself. For instance, support from others may lead individuals to reappraise the intensity of a potential stressor (e.g., the level of insecurity in the job) or the significance of the stressor for their well-being. Scheck, Kinicki, and Davy (1997) found that both instrumental and emotional support were associated with employees’ appraisals of negative life events (stressors), albeit in different directions. In this case, the stressor, rather than social support, is the mediating variable.

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Figure 5.5.   Social Support as a Mediating Variable

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Figure 5.6.   Alternative Mediation Mechanism

Finally, as illustrated in Figure 5.7, social support may act as a moderator of the relationship between stressors and affective outcomes. In this scenario, having support from others is hypothesized to attenuate the correlation between stressors and strain, primarily because support may help individuals to cope with their job demands and problems.

The model of events shown in Figure 5.7 reflects what is typically referred to as the stress-buffering hypothesis, which proposes that the relationship between stressors and strains will differ depending on the level of support a person utilizes. In other words, individuals who receive social support will experience less strain than their counterparts who do not receive support from others because support shields or protects individuals from the potentially harmful consequences of aversive events or circumstances. This may occur instrumentally, by helping them attend to a problem, or emotionally, by modifying their perception that the stressor is damaging to their well-being.

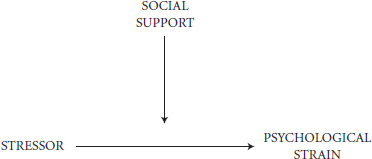
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Figure 5.7.   Social Support as a Moderating Variable

In summary, the model shown in Figure 5.5 depicts a direct effect of social support on perceptions of stressors, whereas Figure 5.7 suggests that support influences the impact of stressors on the individual, rather than having a direct influence on either stressors (Figure 5.6) or the resultant strain (Figure 5.4). In a statistical sense, only Figure 5.7 illustrates a moderating effect for social support. Research on strain has predominantly investigated predictions based upon this stress-buffering argument (Fenlason & Beehr, 1994; Winnubst & Schabracq, 1996).

**Sources of Support**

Almost invariably, research on social support has obtained individuals’ self-reports of (a) the amount of support available to them and/or (b) their utilization of various sources of support. The potential confounding of these issues is discussed later. For now, our focus is on findings and conclusions derived from studies of the effects of support on job-related strain. We will not review all the studies that have been conducted on this topic but rather will summarize findings that reflect predominant themes in this area.

Ganster, Fusilier, and Mayes (1986) examined employees’ perceptions of the amount of social support received from three sources (supervisors, colleagues, and family/friends), via the commonly used Social Support Questionnaire (Caplan, Cobb, French, Harrison, & Pinneau, 1975). Consistent with the stress-buffering hypothesis, Ganster et al. (1986) predicted that the positive relationship between six job stressors (role ambiguity, conflict, and underload, plus lack of variability, skill under-utilization, and responsibility for others) and strain variables (depression, somatic complaints, job dissatisfaction, and dissatisfaction in life overall) would be moderated by various sources of support.

Significant direct links were found between lack of social support and all of the strain variables, particularly job dissatisfaction. Of the various sources of support, those in the workplace, especially supervisory support, exhibited the strongest negative relationship with strain. Compared with the stressors, however, a relatively small percentage of variance in strain scores (6%) was accounted for by social support variables. More importantly, hierarchical regressions generated few significant interactions between stressors and support, indicating that evidence for the proposed stress-buffering effect of social support was very weak. Ganster et al. suggested that “support for the buffering hypothesis appears to be more prevalent in studies concerning life events as sources of stress than in studies concerning work stressors” (1986, p. 109).

A study of Japanese bank employees by Iwata and Suzuki (1997) also examined the potential moderating effects of support from supervisors, colleagues, family members, and “significant others.” Role stressors included in this study were overload, ambiguity, and conflict, and strain was assessed via the General Health Questionnaire (GHQ-28). Supervisory support and support from significant others were directly (negatively) related to strain. However, of 12 interaction terms between stressors and support variables, only one attained statistical significance, again illustrating a lack of buffering effects for social support on stressorstrain relationships.

Similar conclusions were reached by Frone, Russell, and Cooper (1995) from their study of the effects of job-related and family stressors. Perceived availability of social support was significantly correlated with reduced depression and somatic symptoms but displayed no interaction with job stressors, family stressors, or work-family conflict. Frone et al. raised two critical issues from their findings. First, “A conceptual fit may be necessary between a stressor and a moderator before any personenvironment interaction is observed” (p. 145). This suggests that specific forms of support should be explored, along with the potential relevance of that support for alleviation of the stressor in question. Second, the importance of social support to the individual must be considered. Some people may place higher value than others on social support as a resource for counteracting the negative consequences of stressors. Very few studies have measured the salience of support to individuals; rather, it has been implicitly assumed that social support is important to everyone.

In contrast, two recent studies have obtained evidence in favor of the stress-buffering role of social support from significant others. In the first of these studies, Lim (1996) assessed the relationship between job insecurity and several work-related outcomes, including job and life satisfaction. Significant, albeit relatively small, increments in percentage variance accounted for were obtained for both work support and off-the-job support, in terms of job satisfaction and life satisfaction respectively. Lim concluded that support from colleagues and supervisors, as well as from family and friends, helped buffer individuals from the strain of job insecurity.

and Parkes (1999) also observed a moderating effect for social support on the relationship between “transition” stressors and psychological strain among supermarket employees having to make a compulsory move to another store. Where individuals received support from their manager, the extent of strain experienced due to the forced relocation was significantly reduced.

A few studies have investigated the relevance of social support for the experience of burnout (see our discussion of this variable in Chapter 4). Etzion (1984) explored job-related stressors, off-the-job stressors, and burnout among Israeli managers and social service professionals. The moderating effects of support on the job (from colleagues, supervisors, and subordinates) and in life generally (from spouses, family, and friends) were also assessed via self-reports of the availability of various forms of support in each area. Hierarchical regressions demonstrated significant direct linkages between both sources of support and burnout, although these relationships were in opposite directions, negative for job support and positive for off-the-job support. Significant moderator effects were observed for support in this study, although the patterns of these effects varied between men and women. For men, the relationship between job stressors and burnout was moderated by job support, whereas for women this relationship was moderated by off-the-job support. Etzion suggested that job and off-job sources of support may have differential salience for men and women.

Russell, Altmaier, and van Velzen (1987) also looked at the impact of social support on burnout in a sample of elementary and secondary school teachers. They hypothesized that support received from supervisors and colleagues may have important stress-amelioration effects. Their results demonstrated a main effect of supervisor support on emotional exhaustion, depersonalization, and personal accomplishment and an interaction effect between job stressors and supervisor support, but only for the depersonalization subscale of the Maslach Burnout Inventory (see Chapter 4 for a discussion of this measure). No direct or moderating influence was observed for social support from coworkers, spouses, friends, or relatives. At best, these findings provide only marginal support for the stress-buffering hypothesis.

In contrast to the above, Greenglass, Fiksenbaum, and Burke (1995) did obtain a significant moderating influence of friends and family support on teacher burnout (using total scores on the MBI). However, the beta weight for the interaction between family/friend support and job stressors was just .03, and the authors did not report the percentage variance (R2) accounted for by the interaction term; hence, the relative contribution of the moderator effect in this study is indeterminate. In a more extended investigation of teacher burnout, however, Greenglass, Fiksenbaum, and Burke (1996) presented data showing significant moderator effects of support from colleagues and supervisors on both the emotional exhaustion and depersonalization subscales of the MBI.

**Type of Support Provided**

In addition to consideration of the impact of different sources of support, research has also explored the effects of different types of support. As outlined earlier, commonly investigators have compared instrumental (practical) and emotional support. In the Greenglass et al. (1996) study referred to above, buffering effects for informational support were also observed.

Fenlason and Beehr (1994) argued that it is important to examine the nature of support provided, rather than assuming common effects across various forms of support. Their study differentiated between global measures of emotional and instrumental support and more specific verbal support, as well as assessing support from different sources (supervisors, colleagues, and family/friends). The types of support were further distinguished as non-work-related, positive work-related, and negative work-related communications. Examples of each of these communications were “We discuss things that are happening in our personal lives” (non-work related), “We talk about how this organization is a good place to work” (positive work related), and “We talk about how we dislike some parts of our work” (negative work related). As anticipated, the three types of communication were more closely related to emotional than to instrumental support. More importantly, specific communications accounted for more reduction in strain (job dissatisfaction, boredom, depression, and anxiety) than did the global support measures, suggesting that the contents of communication may be important aspects of the support process, not just the frequency with which emotional and/or instrumental support is received.

Also of interest, Fenlason and Beehr found that support had both buffering and reverse buffering effects. Whereas support is typically viewed as having a positive impact on individuals, the concept of reverse buffering was identified in earlier research by LaRocco, House, and French (1980) and then more directly by Kaufmann and Beehr (1986), who found that under certain circumstances higher levels of support exacerbated rather than alleviated the amount of strain experienced by workers. In particular, Kaufmann and Beehr noted that where support from others reaffirms the aversive nature of the work environment (e.g., “We talk about the bad things in our work”), the person’s negative attitudes and reactions (such as strain) are likely to be heightened rather than mitigated by increased levels of support.

Findings such as these suggest that the impact of social support is neither simple nor unilinear. Though most research has typically examined only the frequency or amount of support provided, the research of Beehr and his colleagues illustrates that it is important to unravel the multidimensional character of support, to examine both the nature and source(s) of support. In the Fenlason and Beehr (1994) study, for instance, although positive communications from supervisors, colleagues, and family/friends all showed a negative relationship with psychological strain, and although negative communications were positively linked with strain, between-source variations suggested that the contents of supportive communications and the origin of support are both critical factors to consider. In a similar vein, Chen, Popovich, and Kogan (1999) have suggested that the moderating effects of social support may depend on factors such as the sources of support, the foci or targets of support, and the types of strain outcome investigated. Clearly, more systematic and extensive exploration of these factors is needed to generate a complete understanding of the role of this important, yet complex variable.

**Job Demands-Control-Support Model**

Johnson and Hall (1988) proposed an extension of Karasek’s demands-control model of stress to incorporate social support as a moderator of the linkage of job demands and control with strain, and research has provided some empirical confirmation of a three-way interaction between job demands, control or discretion, and support (Jones & Fletcher, 1996; Schaubroeck & Fink, 1998). A study by Parkes et al. (1994) exemplifies this line of research on the expanded demands-control perspective. The authors tested two alternative hypotheses of the effects of social support. The additive hypothesis proposes that support functions independently of job stressors to promote well-being; hence, strain would be predicted by a combination of the demands-control interaction and low social support. This parallels the “direct effect” of social support described above (see Figure 5.3). On the other hand, the interactive hypothesis suggests a three-way interaction of job demands × control (or discretion) × support. “Low support combined with high strain conditions would be predicted to give rise to disproportionately adverse health outcomes, relative to either low support and low strain conditions, or high support and high strain” (Parkes et al., 1994, p. 93).

Research along these lines has generated inconsistent findings. For instance, although Landsbergis, Schnall, Dietz, Friedman, and Pickering (1992) obtained evidence of a three-way interaction involving social support, their results indicated a reverse buffering effect, where support appeared to exacerbate rather than ameliorate the effects of stressors. Moreover, data presented by Melamed et al. (1991), and more recently by Dollard and Winefield (1998), confirmed an additive, rather than interactive, influence for support.

Parkes et al. (1994) incorporated Karasek’s (1979) measures of demands (time pressure and workload) and discretion (opportunities for control and decision making) and examined the buffering influence of support from coworkers. Strain was assessed by levels of job dissatisfaction and somatic symptoms. Moderated regressions yielded a significant direct link between social support and job satisfaction but not somatic symptoms, and a two-way interaction effect of demands × discretion on job satisfaction. Significant three-way interactions were also obtained for somatic symptoms, lending some support to the stress-buffering model, although the percent variance accounted for by the triple interaction (3% in one study and 1% in another) indicated that the effects were not substantial in scope. From their analyses, Parkes and her colleagues concluded that their job satisfaction results verified the additive effects hypothesis concerning social support and were also consistent with Karasek’s demands-control model. For somatic symptoms, there was some confirmation of the interactive model, but Parkes et al. suggested that this result was unlikely to be of great practical importance because the size of the moderator effect was relatively small.

Schaubroeck and Fink (1998) also obtained mixed evidence for the demands-control-support model. These investigators obtained employee self-reports of the amount of social support they received from both their supervisor and their coworkers. Significant demands-control-support interactions were observed more consistently for supervisory support than for support from coworkers. Overall, however, plots of the interaction terms did “not support the prevailing perspective that support buffers the effects of high strain (i.e., low control, high demand) jobs” (p. 167). Schaubroeck and Fink concluded that when low levels of control cannot be avoided, increased social support may not have the predicted stress-buffering effect.

**Erosion of Buffering Effects**

Although their research was not conducted on job stress per se, Lepore, Evans, and Schneider (1991) found that although social support may exert buffering effects initially, these effects can be eroded by continuation of the stressor(s). Their longitudinal study of college students found a buffering influence of support from roommates on the effects of household crowding on distress at a 2-month time period, but that continued crowding led to a deterioration in perceptions of support and a corresponding increase in strain. Lepore et al. suggested that, with continued exposure to a stressor, the role of support may shift from being a moderator (buffer) to being a mediator in the stressor-strain relationship (see Figure 5.5). This would have significant theoretical and methodological implications for the study of support processes, in that the buffering role of social support may be “washed out” in the presence of chronic (ongoing) stressors. Lepore et al.’s findings also confirm the importance of distinguishing between the impact of acute and chronic stressors. It is possible that support may play a buffering role in respect of the former but not the latter, although more systematic exploration of this suggestion is required.

**Unresolved Issues**

From this brief overview of research on the role of social support in the stress process, data on the moderating (buffering) effect of support are inconclusive. Though some studies (e.g., Parkes et al., 1994) have obtained evidence of stress buffering, these effects typically have been quite small and of questionable practical importance. More often, social support has displayed a significant direct relationship with lower levels of psychological strain, suggesting that having support is generally beneficial to well-being, irrespective of the stressors encountered.

Having said this, several issues require deeper examination in social support research. First, as noted by Frone et al. (1995) and Winnubst and Schabracq (1996), there needs to be a closer matching between the types of support and the particular stressors encountered by individuals. Not all forms of support are likely to buffer the impact of all stressors. More likely, the effectiveness of support will vary across situations, as well as across individuals. Although some studies have controlled for some individual differences (particularly demographic variables), there has been no systematic effort to determine critical dispositional factors that may themselves moderate the effects of support in stressor-strain relationships. Along with this is a need to examine the importance of support to different individuals, rather than assuming that social support is always relevant to everyone.

A second issue needing resolution is the level of specificity of support. Fenlason and Beehr (1994) found that specific types of support predicted affective outcomes better than did more global measures of instrumental and emotional support. Although the latter may be useful in terms of describing and classifying support types, more detailed investigation of the form and nature of social supports and their utilization is necessary to better understand how and when support functions as a buffer.

Third, as we noted earlier, there is sometimes a confounding in research between support available, support received or used, and support effectiveness. For example, the most commonly used measure of support in studies of job stress, the Caplan et al. (1975) scale, focuses on received support, but other measures are somewhat ambiguous in terms of whether they assess support used or support that may be available but not actually used. Whether support availability per se is sufficient to moderate stressor-strain relations has not been established, but the distinction between availability and usage may have significant implications for the stress-buffering hypothesis.

Finally, there is debate in the literature on the distinction between perceived support and objective support from others. Most studies of the role of support in the stress-coping process tap individuals’ perceptions of support available or received rather than more objective indexes of support. This leaves open the question as to which is more important: subjective perceptions or “objective” reality. In the transactional perspective, what the individual perceives is considered to be paramount, but there would appear to have been little effort in studies of job stress to compare the effects of perceived and objective support.

**Conclusion**

In this chapter, we examined three broad categories of potential moderators of the relationship between job stressors and strain indexes. First, we considered the stress-buffering effects exerted by several personality or dispositional factors. In recent years, there has been an upsurge of interest in personality variables as predictors of employee attitudes, affective reactions, and behaviors, and the field of job stress has mirrored research in other areas. However, evidence for the moderating effects of specific dispositions is, at this point anyway, less than conclusive. Of the variables reviewed here, self-esteem and self-efficacy are perhaps the most likely candidates, and recent data appear to support the behavioral plasticity hypothesis advanced by Brockner (1988). Other dispositional variables have displayed less consistent buffering effects, suggesting that further research is needed on the specific circumstances under which they may function in this capacity.

The second line of research that we have examined focuses on control over the work environment, which is a major “situational” factor in job-related stress. Research on this topic has been predominantly built around Karasek’s (1979) demands-control model, which predicts that high levels of perceived control will ameliorate the aversive consequences of excessively demanding jobs. Again, although there has been some support for this perspective, several studies have failed to obtain the predicted demands × control interaction. From existing evidence, it is clear that closer matching between the types of stressors and specific forms of control is needed to enable appropriate assessment of the buffering effects of control.

The third category of potential moderators reviewed in this chapter was social support. Individuals’ stress-coping endeavors (which we discuss in Chapter 6) may be assisted by support from significant others in both their work and off-the-job settings, and there has been considerable research on the moderating functions of social support. As with the two previous kinds of moderators, however, empirical data have not uniformly demonstrated a buffering effect for this variable. More often, it has been found that support has a direct relationship with well-being and job attitudes, rather than moderating the relationship between work stressors and these outcomes. Several suggestions for further research on the potential buffering role of social support were discussed.

In conclusion, we believe that the search for moderators of stressorstrain relationships is important and can yield significant information about the stress process overall. However, the ability to detect moderator effects in organizational research, especially studies conducted in field settings, is constrained by a number of factors. One potential explanation for the lack of significant moderator effects in several of the studies cited in this chapter is that the demonstration of moderation requires the inclusion of individuals (respondents) who exhibit more than just “average” scores on the criterion variable(s)—that is, people who are experiencing reasonably high levels of strain.1 Given that individuals with high strain are likely to withdraw from the environment (see Chapter 3 for a discussion of the linkage between strain and withdrawal) or may be too “stressed” to contemplate involvement in a research project on job-related strain, it may be difficult to capture these individuals for this type of research. Finally, it is crucial that moderator variables be investigated within the framework of the transactional model of stress, rather than as peripheral issues that may or may not impinge upon stress-coping mechanisms. This means that the focus on moderators must not be at the expense of attention to the transactional process itself; rather, the role of moderators must be considered within the context of the dynamic transaction between the individual and the environment. This will require theoretical models that integrate moderators more explicitly into the coping process, to which we turn in Chapter 6.

**Note**

1. We wish to thank Ben Schneider for this suggestion.