Employee Control and Occupational Stress
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Abstract
Occupational stress has been recognized as a major health issue for modern work organizations. Conditions of the workplace have been shown to lead to negative emotional reactions (e.g., anxiety), physical health problems in both the short term (e.g., headache or stomach distress) and the long term (cardiovascular disease), and counterproductive behavior at work. Perceptions of control play an important role in this process, being associated with all of these variables. Evidence is growing that enhanced control at work can be an important element in employees' health and well-being. These relationships can be understood in the context of the control-stress model.

Keywords
occupational stress; control; employee health

Occupational stress has been recognized as one of the most significant workplace health hazards for employees in the United States and other developed countries. Cartwright and Cooper (1997) pointed out that in the short term stress can lead to emotional distress, stomach disorder, headaches, sleeplessness, and loss of energy, and in the long term it can contribute to serious illness and even premature death, most likely due to cardiovascular disease. They argued that occupational stress costs American businesses more than $150 billion per year because of absence, lost productivity, and health costs. Furthermore, occupational stress seems to be endemic to the modern workplace, as national surveys have shown that a large proportion of workers report feeling highly stressed at work (see Sauter et al., 1999).

There are a number of workplace factors, called job stressors, that make jobs stressful. Some stressors concern the nature of the job and job tasks. For example, jobs with heavy workloads requiring long periods of attention (e.g., driving a truck) and jobs that are highly repetitive and boring will likely be perceived as stressful. Other stressors concern interpersonal relationships at work, such as conflicts with co-workers or abusive behavior by supervisors. Finally, there are stressors in the organizational context, such as having insufficient resources to do the job (e.g., defective equipment or inadequate supplies), or unfair payment and reward systems.

Research has demonstrated that all of these job stressors are associated with employees' health and well-being. Investigators often ask employees to answer questionnaires about their job stressors and their health and well-being. For example, Schaubroeck and Fink (1998) surveyed 214 employees from a national insurance company about their job stressors, physical health symptoms, and attitudes about the job. As is typically found in such studies, higher levels of stressors (e.g., heavy workload and uncertainty about supervisors' expectations) were associated with physical symptoms, such as headaches, and poor job attitudes. Sometimes job-stress studies include physical measures of the workplace as well. For example, Melamed, Fried, and Froom (2001) conducted a study of 1,507 factory workers in Israel. Researchers visited each workplace and took measurements of the noise level with sound-intensity meters. Experts observed each worker for a day and then provided ratings of how complex each job was. Finally, each participant received a physical examination that included a blood pressure reading. Results showed that noise at work was associated...
with increased blood pressure, especially when the job was complex and required mental concentration.

**CONTROL AND JOB STRESS**

One of the most important elements in the occupational-stress process is the perception of control. Control can be over any aspect of work, including location, scheduling, and how tasks are done. Jobs differ tremendously in the amount and type of control they allow employees. At one extreme is machine-paced factory work in which the employee must work at precisely determined times, performing specified tasks at the intervals determined by the machine. The classic “I Love Lucy” comedy sketch in a candy factory illustrates what happens when the employee cannot keep up with the assembly line, and shows Lucy frantically stuffing candy everywhere she can as she falls farther and farther behind. At the other extreme are the jobs of high-level management employees who are given assignments that can be done at any place, at any time, and in almost any manner they see fit.

**A Control-Stress Model**

Figure 1 provides an overview of how the job-stress process appears to operate (based on Spector, 1998). It begins at the left-hand side with the workplace environment. Throughout the workday, employees experience and perceive conditions and events, most of which are typically benign and are paid little attention. Certain events, however, are perceived and interpreted as somehow threatening to physical or psychological well-being—these are the perceived job stressors. The stressors result in negative emotional reactions, perhaps most commonly anger or anxiety. These emotions then lead to strains, both behaviors and physical conditions associated with stress. As the figure illustrates, perceived control is an important element at all stages of this process.

Job stressors can include anything that a person finds threatening, but researchers have focused on a very small number involving amount of work and work demands, constraints that interfere with work or prevent employees from getting their work done, interpersonal conflicts among employees, and uncertainty about what employees should be doing. Behavioral strains consist of actions people take to cope with stressors and the associated emotions. They can be constructive acts that successfully deal with stressors, such as finding a way to overcome a shortage of resources, or acts that are destructive to the individual (e.g., alcohol or other drug abuse, heavy smoking) and employer (e.g., not coming to work, purposely doing work incorrectly, starting a fight with a co-worker, stealing). Physical strains are related to both the fatigue of hard work (effort) and the physiology of negative emotion (distress). Both kinds of physical strains can increase physiological arousal, resulting in elevated blood pressure and heart rate, as well as secretion of so-called stress hormones, such as adrenaline, into the bloodstream. In the short term, such physiological changes can result in minor physical symptoms, such as headache or upset stomach. Chronic elevation of heart rate and blood pressure can contribute to more serious health conditions, and ultimately heart disease in some individuals.

A great deal of evidence links perceptions of control to several different kinds of strains. For example, a short-term questionnaire study showed that low levels of perceived control were associated with a variety of strains: anxiety, frustration, physical symptoms for the past 30 days (e.g., headache and stomach upset), and doctor visits for the prior 3 months (Spector, Dwyer, & Jex, 1988). These results suggest that perceptions of control may play an important role in emotions and short-term physical well-being.

Subsequent work by other researchers has included longer-term studies that provide even more convincing evidence for a link between control and health. Ganster, Fox, and Dwyer (2001) conducted a 5-year study of job stress and control in a sample of nurses. They found that high control at the beginning of their study predicted lower use of medical services (assessed from health insurance records) over the following 5 years.

**Fig. 1.** Control model of occupational stress.
as well as better mental health. They also measured both objective and perceived workload. Objective workload was indicated by the patient loads each nurse had, whereas a scale that asked the nurses to rate their workload was the subjective measure. Interestingly, control was related to the subjective but not the objective measure, suggesting, as expected, that control is an important factor in people’s perceptions of stressors, regardless of the actual level of those stressors.

Bosma, Stansfeld, and Marmot (1998) showed a link between work control and cardiovascular disease in an English study of more than 9,000 civil servants. They assessed perceived job control by use of a survey, and got a parallel measure of job control from the supervisors of their study participants. In a 5-year follow-up, they found that job control predicted subsequent coronary heart disease. This relationship was found with both measures of control. These results suggest that both perceived and objective control are important elements in cardiovascular health.

Control-Demand Model

Perhaps the most influential job-stress theory is Karasek’s (1979) job demand-control model, which links perceived control and stressors. The theory suggests that there are two important elements involved in the job-stress process: control and demands (job stressors related to work tasks, such as workload and uncertainty about what should be done). In this model, control buffers the effects of demands, such that high-demand jobs lead to adverse reactions only among employees who have low control. Employees with high control see such demands as challenges to overcome rather than threats. Although Karasek provided some support for the buffering effect, results across studies have been equivocal. As Terry and Jimmieson (1999) discussed, sound tests of this theory are hard to find, and although control has been shown to relate to strain, only some studies have found it acts as a buffer. In part this may be because tests of the theory have not looked at control over specific stressors themselves.

Explanations for the Control-Stress Connection

Figure 1 shows that control is important at several points in the job-stress process. First, when a person perceives control in a situation, he or she will be less likely to perceive workplace conditions and events as job stressors. However, to be effective in reducing perceived stressors, the control must be over the stressful situation itself and not some other aspect of work. For example, it is helpful to have control over work tasks and be free to use a variety of procedures to do the job if there is stress deriving from tasks. In this case, the employee will be able to reduce the stressor by changing how the task is done. However, if the job stressor comes from conflict with the supervisor, having control over tasks will not be helpful. Instead, having control over where or when the work is done would enable the employee to avoid the supervisor and reduce the problem to some extent. Being able to control the conflict itself would be most helpful.

Second, perceived control helps employees minimize emotional reactions to job stressors. One explanation of these first two effects of perceived control is the minimax principle (see Thompson, 1981), which says control allows one to minimize the maximum damage or danger that can occur in a situation. If a person perceives control over the work situation, he or she will believe the magnitude of the stressor can be contained within tolerable limits. The situation will therefore be seen as less stressful, and the emotional response to it will be less extreme. A person with a heavy workload and control over it, for example, will be confident he or she can keep the workload within tolerable limits. Thus, the person’s reaction might be the positive feeling of challenge rather than negative emotions and distress.

Finally, control affects a person’s choice of coping strategy. Perceived control tends to lead to constructive coping, whereas perceived lack of control is more likely to lead to destructive coping. Individuals who perceive they have control over job stressors are likely to see the situation as a challenge to be overcome and will likely engage in behaviors designed to do just that. Individuals who feel they have lost control may resort to destructive behaviors that may serve merely to make them feel better. Thus, they may strike back at the perceived source of the stressors, which can be co-workers, supervisors, or the organization. Often such behavior is covert or passive, such as avoiding work or performing tasks incorrectly on purpose.

The concepts of primary and secondary control (Rothbaum, Weisz, & Snyder, 1982) can help explain reactions to job stressors. Primary control is direct action taken to affect the environment, whereas secondary control is action that affects one’s own reaction to the environment. In general, people are motivated to control and exert mastery over aspects of the environment that affect them. Given a choice, they usually prefer primary control (direct action) to change the environment to suit themselves. However, primary control is not always possible, and in such cases people must rely on secondary control to cope. Thus, they engage in actions that affect
Behavior can have detrimental effects that emotion if primary control is unavailable. Unfortunately, such behavior can have detrimental effects on organizations.

**CONCLUSIONS AND FUTURE DIRECTIONS**

Control has played a prominent role in both research and theory in occupational stress. A large number of studies, a handful of which were mentioned here, have linked perceptions of control to both perceived job stressors and strains. Compared with individuals who perceive they have low control, individuals who perceive they have high control will be less likely to interpret the environment as stressful, will have lower negative emotional responses, and will exhibit less strain. The majority of studies in this area have used cross-sectional (one-time) questionnaires on which employees report their own job stressors, control, and strains. However, a number of studies have used stronger research designs allowing more confident conclusions that control can have causal effects on subsequent strain.

At issue, however, is the exact role of control and the mechanism through which it operates. The popular demand-control model implies that control can ameliorate the negative effect of job stressors on health and well-being. Unfortunately, the evidence for this model has been equivocal, and there have been few strong empirical tests of it. At the current time, it is not clear why only some studies find the effect. Part of the problem may be linked to the methodologies used, which rely almost exclusively on self-reports to measure perceived control. The link between objective control and perceptions of control may be a key element in the process through which health is affected, and studies that assess both the objective environment and perceptions of it are needed.

Another limitation to the literature is that there have been few intervention studies investigating the effects of programs designed to enhance control. Such studies would be useful in helping to show how objective control can affect people’s perceptions and well-being. The study of interventions may help explain how and why control relates to job stressors and strains, and how it fits in the stress process. It seems clear that negative emotion is a central variable in this process.

The past two decades have seen an explosion of interest in understanding factors underlying health and well-being in the workplace. Occupational stress has been recognized as a major health issue in the United States and other industrialized nations. There is mounting evidence that perceived control at work is an important element in employees’ health and well-being. A better understanding of how the process works can contribute to a healthier and more productive workforce.

**Recommended Reading**

Cartwright, S., & Cooper, C.L. (1997). (See References)
Spector, P.E. (1998). (See References)

**Notes**

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**References**