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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

WORKPLACE STRESSORS, PERCEIVED CONTROL
AND HEALTH OUTCOMES IN ENGINEERS

BY

MAZLINA SHAHARDIN

INTERNATIONAL ISLAMIC UNIVERSITY
MALAYSIA

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MAZLINA SHAHARDIN

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ABSTRACT

Investigations of the relationship between workplace stressors and employee health outcomes (general health outcome and job satisfaction) indicate that employees who report high workplace stressors exhibit poor health outcomes and low job satisfaction levels. In addition to this direct linkage, researchers have examined possible moderators in the relationship between workplace stressors and employee health outcomes. One such moderator is perceived job control. In this study, two hypotheses were tested; (i) employees who perceive high workplace stressors would display poor health outcomes, and (ii) the negative effect of workplace stressors on employee health outcomes would be stronger among employees with less perceived control at work compared to those with more control. Respondents were made up of engineers from several government, semi-government and private organizations (N=113) in Malaysia. The results partially supported Hypothesis 1, suggesting that, in several occurrences, work stressors were directly related to engineers' health outcomes. However, no support was found for Hypothesis 2, indicating that there was no interaction effect of perceived control on the relationship between workplace stressors and health outcomes. These findings are discussed with regard to previous stress and well being research.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Human Sciences (Psychology).

Noraini Mohd Noor
Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Human Sciences (Psychology).

Shukran Abdul Rahman
Examiner

This dissertation was submitted to the Department of Psychology and is accepted as a partial fulfilment of the requirements for the degree of Master of Human Sciences (Psychology).

Hariyati Shahrina Abdul Majid
Head, Department of Psychology

This dissertation was submitted to the Kulliyah of Islamic Revealed Knowledge and Human Sciences and is accepted as a partial fulfilment of the requirements for the degree of Master of Human Sciences (Psychology).

Hazizan Md. Noon
Dean, Kulliyah of Islamic Revealed
Knowledge and Human Sciences

DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Mazlina Shahardin

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WORKPLACE STRESSORS, PERCEIVED CONTROL AND HEALTH OUTCOMES IN ENGINEER

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CHAPTER 1

INTRODUCTION

The work environment generates many potential stressors and the responses to these stressors vary widely from the emotional to the behavioral. Emotionally, employees who experience high work stress will exhibit psychological distress such as major depression and other various depressive symptoms (e.g., Vermeulen & Mustard, 2000; Wang & Patten, 2001). The impact of stress on employees' behavior can be seen in cases such as alcoholism and drug abuse (e.g., Guppy & Marsden, 2003), smoking behaviour (e.g., Shirom, 2003), absenteeism (e.g., Dwyer & Ganster, 1991; Hardy, Woods & Wall, 2003) and turnover (e.g., Williams & Cooper, 1999). Stress also has effects on individuals' physiological well-being. The consequences of stress on cardiovascular diseases are among the most frequently studied topic in the stress literature. For example, Karasek and Theorell (1990) discovered that individuals with high job demands and low control had the highest blood pressure (a risk factor of cardiovascular disease) as compared to those who experienced low job demands and high control.

As a result of these responses and reactions to stressors, productivity and efficiency of both the employees and organizations are seriously affected (Koslowsky, 1998). This is evident in previous studies, which have demonstrated that workplace stressors could significantly reduce the level of employee job satisfaction, which may affect their work performance (e.g., O'Driscoll & Beehr, 2000; Spector, 1997). Furthermore, negative responses to stressors may also lead to injuries and accidents in the

workplace (Williams & Cooper, 1999). Consequently, such employee involvement or encounters with workplace injuries and accidents will lead to negative attitudinal outcomes such as perceived lack of influence and distrust for management (Barling, Kelloway & Iverson, 2003).

In terms of its consequences to the organization, voluminous evidences have shown that a great deal of money is lost each year due to workplace stress. For example, according to a research done by the Personnel Today and the Health and Safety Executive, workplace stress is costing Great Britain businesses £1.24 billion a year, hampering productivity and preventing employers from retaining and attracting staff (Bentley, 2003). The study further revealed that the extent of stress overload has led to an estimated 1,554,256 working days being lost every year. In an analysis of labour turnover costs conducted by the MCG Consulting group, it is reported that an employee earning £20,000 per annum would cost the company approximately £7,500 in direct costs and slightly more again in indirect costs, making a total of £15,500 (Williams & Cooper, 1999). Furthermore, it has been estimated that stress-related disorders cost the U.S. organizations in excess of \$150 billion per year (Smith, Sulsky & Uggerslev, 2002). In many cases, these losses, which are due to stress overload have led to many working days being lost every year, increases in the costs of medical insurance and health care, lost productivity due to illnesses, employee litigation that involved employers in expensive lawsuits, and so on (Beehr, 1995; Williams & Cooper, 1999).

Evidently, the stress issue in organizational settings has become an important topic that should be studied and managed seriously. Thus, the importance of stressors at

work can no longer be ignored. Not only workplace stressors cause an employee to be ill physically and mentally, the impact is also evident as most of the illnesses are costing a great deal of money and losses to the organizations and their businesses.

Theoretical Framework

A large number of workplace stress researches have been published over the last couple of decades, but there is currently no universally-accepted model of stress being used in the field (Beehr, 1995). Part of the reason for this is that workplace stress has been studied from the perspectives of a wide variety of disciplines and personal preferences which makes it difficult to reach consensus on the issues related to the topic including the definition, the topic itself, the preferred mode of stress treatment and so on (Beehr, 1995; Fletcher, 1991; Koslowsky, 1998). Therefore, it is not surprising if there are many different theoretical and methodological approaches to understanding workplace stress.

A stress model developed by Beehr (1995) was used as a guideline to the current research. This model was chosen because it has been used by Beehr and his colleagues in their studies of workplace stressors, in which role stressors (role ambiguity and conflict) were the main variables used. Furthermore, the model was built based on an organizational psychology approach to understand stressor-outcome relationships. This means that the environmental causes of interest (the stressors) in the model are mainly social psychological elements of the workplace as compared to other elements originating from external sources such as loss of family members or political downturn of the country. Because the main variables and approaches adopted by

Beehr and colleagues were similar to those employed in the present study, the model was used as the appropriate guideline for the current research.

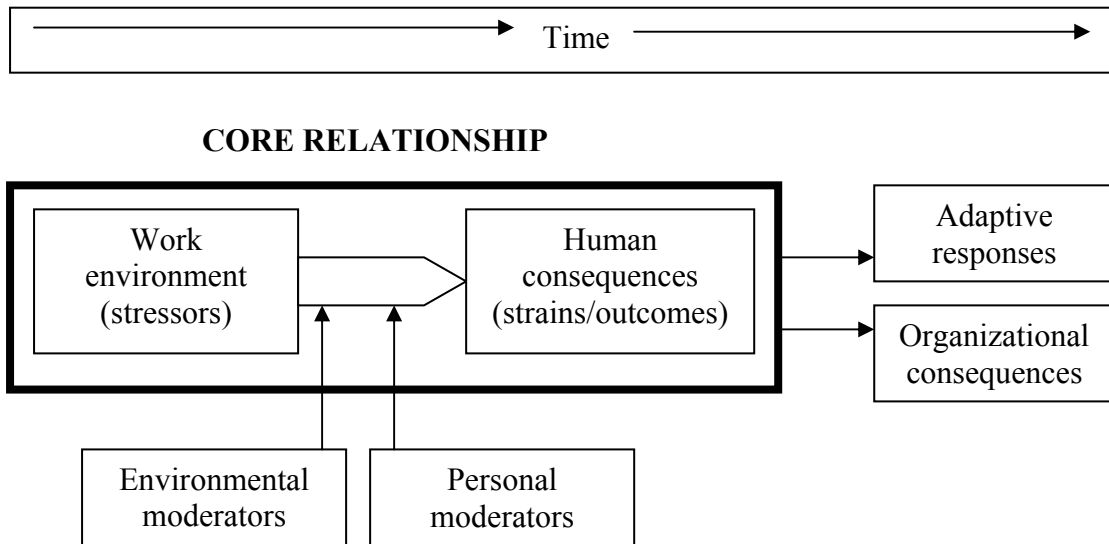


Figure 1: Model illustrating the research program of stress developed by Beehr (1995)

The model (Figure 1) represents variables surrounding the core relationship between stressors and outcomes as well as other variables that surround the core relationship. In this model, the core relationship in job stress is illustrated by the relationship between the work environment factors (e.g., work stressors) and the human consequence factors (e.g., individual strains).

Work stressor is considered the theoretical causal factor in this core relationship. This includes any characteristics of the work that determines the functioning, performance or health of individuals (e.g., Jones & Fletcher, 2003; Smith et al., 2002) such as role stressors (e.g., Jex, Adams, Bachrach & Sorenson, 2003; O'Driscoll, & Beehr, 2000; Peterson et al., 1995), job demands (e.g., Bishop et al., 2003; Karasek, 1990) and

many more. As mentioned before, another element of the core relationship of work stress is the human consequence factors or the individual strains (outcomes), which constitute adverse states of individual health and well-being. These have often been categorized into physiological, psychological, physical and behavioral strains. Examples of strains include anxiety and depression (e.g., Elsass & Viega, 1997), burnout (e.g., Nasir, 2003; Schaufeli & Buunk, 2003) and coronary heart disease (e.g., Karasek & Theorell, 1990).

There are other sets of variables that enfold the core stressor-strain relationship. One of these is the personal facet, which consists of the employees' relatively stable characteristics that affect their perceptions, appraisals or reactions to the stressors. Some individual difference variables such as personality types are expected to moderate the core relationship between stressors and strains. The other set of variables refers to work environment variables such as social support, job satisfaction and other work attitudes, organizationally-relevant criterion variables such as job performance, absenteeism, turnovers and control given to the employees. Both these personal and environmental variables can act as moderators in the model.

Organizational consequences facet represents the stress outcomes of the model. However, these consequences are not included as the main or focal outcomes being examined in the core relationship. Meanwhile, adaptive responses facet of the model refers to individual reactions to stressful events. Beehr (1995) noted that this facet represents the coping styles adopted by individuals experiencing stress.

The time facet in the model shows that many of the events and relationships in the model occur in sequence and over shorter or longer periods of time. Time may be an important factor in determining categorizations of stressors, chronic or acute. For example, stress that occurs from matters related to weekly work schedule or organizational structures can produce chronic stressors in the sense that they are consistent, long-term states of the organization that change slowly. In contrast to this are short-term events in the workplace that may be stressful such as a situation in which an employee experiencing the beginning of a new job. Time is the forgotten facet, but it is important for methodological reasons and also because it is a factor in the development of many stress reactions (Beehr, 1995).

On the whole, this framework represents general and direct explanation among the variables of the stressor-outcome relationships. In the present study, however, a simpler and more straightforward relationship was adopted in which only the core relationship of the model (the relationship between the organizational stressors and employee health outcomes and the effects of control as a moderator in the relationship) was examined.

Statement of Research Hypotheses

In the current study, two hypotheses were tested:

H1: The higher the levels of workplace stressors (as measured by role ambiguity, role conflict and role overload), the lower the job satisfaction (as measured by general job satisfaction) and the higher the distress symptoms (as measured by general health outcomes).

H2: Perceived control moderates the relationship between stressors and outcomes, such that employees with high perceived control experience less distress and high satisfaction even in the presence of workplace stressors as compared to those with low control.

Conceptual and Operational Definitions

Workplace Stressors

In organizational settings, stressors refer to the characteristics of the person's work environment that are thought to be causal in the stress process (Beehr, 1995). Role stressors, which are derived from high role demands or expectations, consist of three types: role ambiguity, role conflict and role overload.

Items from Rizzo, House, and Lirtzman's Role Ambiguity and Role Conflict Scales (as cited in Cook, Hepworth, Wall & Warr, 1981), were used in the present study. The authors operationalized two features of role incumbency: degree of ambiguity and of conflict. Thus, role ambiguity is viewed in terms of the predictability of the outcomes of one's behaviour, and the existence of environmental guidelines to provide knowledge that one is behaving appropriately (as cited in Cook et al., 1981). Role conflict, on the other hand, is operationalized in terms of the incompatibility of demands: this may be in the form of conflict between organizational demands and one's own values, problems of personal resource allocation, conflict between obligations to several other people, and conflict between excessively numerous or difficult tasks (as cited in Cook et al., 1981).

Meanwhile, the Subjective Quantitative Work Load Scale developed by Caplan (as cited in Cook et al., 1981) was used to measure employee's perceived role overload. Quantitative overload is said to occur when a person finds the environment demands more work than can be performed in a given period of time.

Moderator

A moderator is a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) 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).

The moderator variable functions by testing the significance of an interaction between stressors and control in predicting the outcome. Previous studies (e.g., Bishop et al., 2003) have shown that individuals with high levels of stressors but perceived high control experience better outcomes, whereas those with high levels of job demands but low levels of control have worse outcomes. Thus, when the stressor-outcome relationships are dependent on the level of control, it can be concluded that control has significant moderating effects on the relationships.

Control

In organizational settings, job control is referred to as the freedom that employees are given to make decisions about their work (Spector, 1997) and the latitude to make decisions in selecting the most appropriate skills to complete the task (Abraham, 2000).

In this study, experiencing control indicates that a person has high control over the variety of tasks performed, the order of task performance, pacing, scheduling of rest breaks, procedures and policies in the workplace, and arrangement of the physical environment (Ganster & Dwyer, 1991). A broad 22-item measure of work control developed by Ganster (as cited in Ganster & Dwyer, 1991) was used to provide an overall index of how much control the worker experienced over the work environment. In addition to its reputation as a central variable in research on stress at work (Frese, 1989), the effects of control were tested in the present study due to its frequent usage as a moderator variable in many previous studies (e.g., Koslowsky, 1998).

Health Outcomes

Outcomes refer to the variables thought to be consequences of stress (Beehr, 1995). It is also known as a stress result or product. The current study focused on employee health outcomes (as measured by general health outcome and job satisfaction) that are produced by the effect of workplace stressors (role ambiguity, conflict and overload). It is expected that workplace stressors will impact negatively on employee general health outcomes and reduce their level of job satisfaction. However, this direct linkage between stressors and outcome may be changed, as perceived control is included into the relationship.

Perceptions of psychological well-being were measured with the 12-item version of the General Health Questionnaire (as cited in McDowell & Newell, 1987). The questions ask whether the respondent has recently experienced a particular symptom or type of behavior. Emphasis is on changes in condition, not on the absolute level of

the problem, so items compare the present state to the person's normal situation. Higher scores reflect more symptoms of psychological strain.

Meanwhile, job satisfaction was examined using items from Hackman and Oldham (as cited in Cook et al., 1981). The authors describe an overall measure as the degree to which the employee is satisfied and happy with the job (as cited in Cook et al., 1981). The measure comprises five items with a seven- point response ranging from "strongly disagree to strongly agree" in each case.

Importance of the Study

Workplace stressors are pivotal constructs in the understanding of employee health outcomes and job satisfaction. Such understanding is essential as it provides an indication of business effectiveness and organizational treatment towards employees. Previous studies have shown that employees who experience high work stress and receive little organizational support tend to suffer poor health outcomes (e.g., Williams & Cooper, 1999). Such negative conditions experienced by the employees will usually affect their concentration on the job, leading to poor performance and causing greater chances of work accidents (Williams & Cooper, 1999). The finding from a study done by Parker, Axtell and Turner (2001) suggests that having considerate, coach-oriented team leaders causes employees to put greater effort into safe working. The study also implies that safe working might be enhanced by training and developing supervisors to be supportive and to adopt a coach-oriented rather than coercive style. Thus, it is evident that perceived high organizational support by

employees plays an important role in determining their positive performance in work (Rhoades & Eisenberger, 2002).

The findings from previous studies on personal and organizational consequences of workplace stressors indicate that the understanding of the stressor-strain relationships is necessary in order to assist employees in readying themselves to face, handle and manage the problems caused by the workplace stressors. Not only that, such understanding is needed to invoke a sense of obligation and responsibility on the part of the employers, driving them to take necessary actions such as introducing successful prevention and management of workplace stress in order to maintain employee well-being and performance and to improve organizational efficiency and success (Giga, Cooper & Faragher, 2003). In a study conducted by Nigam, Murphy and Swanson (2003), data from a national survey of organizations were used to examine whether there are differences in the quality of work life among organizations that offer stress management programs and those that do not. The authors found that the presence of a stress management program appeared to be an indicator of a better place to work.

In addition to the amount of information gained from the understanding of the direct effects of workplace stressors and health outcomes, a lot more can be understood by examining the effects of moderators on such relationship. Previous studies have shown that moderators have significant effects on the direction of the relation between stressors and outcomes (e.g., Bishop et al., 2003; Bond & Bunce, 2003; Dwyer & Ganster, 1991; Elsass & Veiga, 1997; Tetrick & LaRocco, 1987; Van Vegchel, de Jonge, Söderfeldt, Dormann & Schaufeli, 2004). Such moderating effects occur via a

two-way interaction in which the presence of an additional variable moderates, or buffers, the negative effects of work stress on employee adjustment by allowing the employee some means of coping with the demanding situation (Jimmieson, 2000). For example, Karasek & Theorell (1990) found that the stress-outcome relationships are dependent on the level of control the employee has. They explained that exposure to job demands is most likely to lead to strain when high job demands are accompanied by a lack of job control. In other words, an individual will be more prone to experience the negative effects of stress if he or she experienced high job demands and low levels of control at work. This indicates that control as a moderator “protects” individuals from the negative effects of life stress.

Another valid reason explaining the importance of this topic refers to the link between job control and job strain that proves to have important implications for organizational management. It has been found that organizational interventions designed to increase employees' level of job control, such as through job redesign, are crucial means for reducing job strain (e.g., Ganster, Fox & Dwyer, 2001; Holman & Wall, 2002). The outcomes of such control-enhancing job design interventions are believed to benefit not only the organizations but the employees as well.

Given the direct link between stressors and outcomes, and the moderating effects of control on the relationship of stressors and health outcome, as well as the implications such relationships have on the consequent health of the employees and the organizational effectiveness, continued research in this promising area of workplace stress is clearly needed. Thus, this study will contribute in the thoughts and efforts on

the part of the management to increase employee job control, and thus, reducing stressors and strains at work.

Objectives of the Study

The study attempted to accomplish two objectives. They include examining:

- (1) the relationship between workplace stressors and employee health outcomes.
- (2) the role of perceived control in the relationship between workplace stressors and employee health outcomes.

CHAPTER 2

LITERATURE REVIEW

This chapter reviews the literature on workplace stressors, perceived control and health outcomes. There are three sections in this chapter: (i) workplace stressors and health outcomes; (ii) perceived control and employee health outcomes; and (iii) workplace stressors, perceived control and employee health outcomes.

Workplace Stressors and Health Outcomes

There are many kinds of organizational characteristics that may be occupational or workplace stressors. However, most of the time, researchers have only paid attention to certain types of stressors in their studies. For example, Karasek and Theorell (1990) examined three stressors: psychological demands of work, skill use and task control. Meanwhile, Vagg and Spielberger (1998) suggested two core stress dimensions: job pressure and lack of organizational support. Spector and Jex (1998) presented three dimensions of demands and stressors in organizations: interpersonal conflict, organizational constraints and quantitative workload.