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A Proposed Conceptual Model for Studying Job Stress in IT Professionals

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Abstract

This study proposes a conceptual model for studying the job stress issue in IT professionals. Through integrating prior relevant studies published in management, psychology and information systems literatures, a conceptual model is proposed and subject to an empirical test. The study aims to identify both factors that have direct impacts on the burnout and the negative consequences of stress and factors that moderate the relationships in between. Specific recommendations for organizations to manage the stress issue in their IT professionals more effectively are expected to be derived from the findings.

Introduction

According to the U.S. Bureau of Labor Statistics, the demand for Information Technology (IT) workers will increase by 95,000 people per year between 1994 and 2005 (Griesser 1993). This growing demand for IT professionals in virtually all business sectors has made development and retention of IT professionals in an organization become a more and more important management issue. The issue, or the problem, is getting more acute as increasing job stress and subsequently job burnout in IT professionals has been reported in the literature. Common problems related to IT professionals are found to include increasing workload and responsibilities (Glass 1997), long working hours (Thong and Yap 2000), home/work imbalance (Longenecker et al. 1999) and relation with others (Igbaria et al. 1994). Owing to these stress-related syndromes, McGee et al. (2000) estimates that around one million IT personnel were absent on an average workday in the U.S., costing US$300 billion annual loss from diminished productivity, employee turnover and insurance fee. These findings coincide with the notion stated by Schuler (1982) that stress can be so costly where urge of stress causes, development and consequences by academics and practitioners should be made in effective management policies.

Thong and Yap (2000) argue that with the fast-paced development in the IT field, IT professionals are in an environment that they either cannot afford to pay much attention to or do not know the adaptive encounter towards stress. However, compared with research conducted on job stress in other professions such as police, teachers, social workers and medical practitioners, studies on stress in IT professionals are relatively few. Given the growing importance of addressing the stress issue in the IT profession in an effective manner, this study aims to further examine the stress issue by developing a comprehensive job stress model for IT professionals through integrating prior relevant studies published in management, psychology and information systems literatures.

What is Stress?

Derived from the Latin word, *Strictus,* stress means "to tighten" (Jex 1998). A review of prior studies suggests three main foci/perspectives in defining stress, namely stimulus-based, response-based and stimulus-response based. In the stimulus-focus category, stress is defined as a group of factors in the environment requiring adaptive responses on the part of the employees. Example work includes Weiss (1983) that signifies stress as conditions where individuals have psycho-physiological responses. In the response-based perspective, such as research by Beehr and Newman (1978), stress is about individuals' feelings that are invoked while demands of job exceeds their ability to cope (Jex 1998). The last category, with a stimulus-response focus, refers stress as an overall process, from activation to response facilitation, to impairment and disorganized impact to individuals (Sells 1970).

The above three perspectives of defining stress are widely interpreted and addressed differently among researchers in management and psychology. McGrath (1970) argues that a big problem or weakness of the first two perspectives is that they focus on mapping stressor to stress, or stressor to consequence without exploring the intermediate factors such as coping processes and/or individual differences that may contribute to the explanation of different stress impacts. Furthermore, McGrath emphasizes that stress is the process of anticipation in which individuals find inability to response adequately towards perceived demand and the accompanied negative consequences from those responses. In this study, we argue that this "process" view is more theoretically comprehensive compared to the other two perspectives and we thus develop our research model based on this stimulus-response focus.

In studying stress, stressor and burnout are two very important concepts in the stimulus-response perspective. According to McGrath (1970), *stressors* are the pre-condition of stress occurrence, which exist in a temporal context or environment where demands are presented and perceived to overwhelm individuals' ability for coping. Beehr and Franz (1987), Beehr (1998) and Jex et al. (1992), in complement with McGrath's work, state stressors as environmental stimuli which induce an individual to response an adaptive action. In our study, stressors are stated as the pre-occurrence stance and antecedents before response.

Maslach et al. (1996) define *burnout* as a "syndrome" of depletion in emotional aspects and mindset when individuals experience stressful conditions. Moreover, Beehr and Newman (1978) note that the responses could carry dual value, either disrupt or enhance individuals normal behavioral and psychological functioning. In addition, extensive applications of burnout are found in studies by Fogarty et al. (2000), Koeske et al. (1993), and Sonnentag et al. (1994).

A Conceptual Model

Base on a literature review on management, psychology and information systems, a conceptual model of job stress in IT professionals, is proposed and depicted in Figure 1. The model composes three main groups of constructs: stressors, burnout and consequences. As shown in the figure, it is proposed that different degrees of stressors lead to different levels of burnout, which has a direct impact of the (negative) consequences of stress. Moreover, the casual relationships between stressors and burnout, and burnout and consequences are moderated by three groups of extraneous
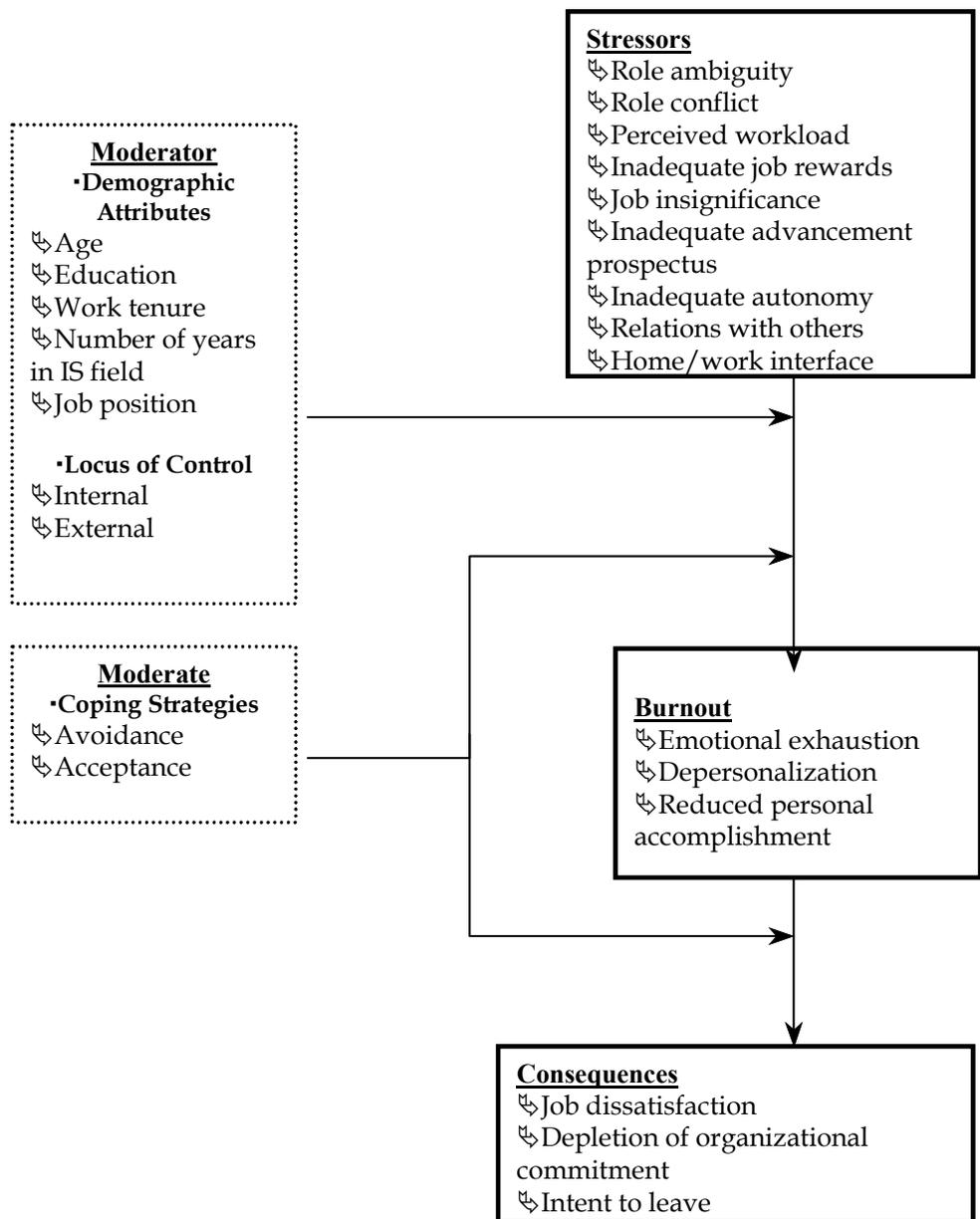
Moderator
·Demographic Attributes
🖑Age
🖑Education
🖑Work tenure
🖑Number of years in IS field
🖑Job position

·Locus of Control
🖑Internal
🖑External

Moderate
·Coping Strategies
🖑Avoidance
🖑Acceptance

Stressors
🖑Role ambiguity
🖑Role conflict
🖑Perceived workload
🖑Inadequate job rewards
🖑Job insignificance
🖑Inadequate advancement prospectus
🖑Inadequate autonomy
🖑Relations with others
🖑Home/work interface

Burnout
🖑Emotional exhaustion
🖑Depersonalization
🖑Reduced personal accomplishment

Consequences
🖑Job dissatisfaction
🖑Depletion of organizational commitment
🖑Intent to leave

Figure 1. A Conceptual Model of Job Stress in IT Professionals

factors. Demographic attributes and locus of control are proposed to have impact on the strength of the causal relationship between stressors and burnout while what coping strategies that an individual would use is also proposed to have influence on the relationship between burnout and consequences.

In short, stressors include nine dimensions: role ambiguity, role conflict, perceived workload, inadequate job rewards, job insignificance, inadequate advancement prospectus, inadequate autonomy, relationship with others and home/work interface. Burnout (Maslach et al. 1996), which lies between stressors and stress consequences as a mediator, includes emotional exhaustion, depersonalization and personal accomplishment. Three commonly associated consequences with burnout are job dissatisfaction, depletion of organizational commitment, and intent to leave.

Research Method

The proposed research model will be empirically tested using a survey instrument designed for the study. Potential items in the instrument have been identified through review of relevant studies. Except some items about the demographics of the respondents, all factors will be measured on a seven-point Likert scale.

A pre-test of the research instruments is planned to be conducted with fifty IT professionals working in a large financial institution. The purpose of the test is to identify problems and areas for improvement in terms of the reliability and validity of the survey instrument. The main data collection exercise will be conducted through mailing of the survey instrument to members of a local IT professional society, which has about 1500 members in total. Given the complexity of the research model, we expect to collect at least 500 responses to the survey. The data will be analysed using ANOVA and structural equation modelling techniques to test the proposed relationships as specified in the research model.

Expected Contribution

This study is expected to advance our theoretical understanding on not just factors that have direct impact on the burnout and the negative consequences of stress but also factors that moderate the relationships in between. The findings can also provide specific recommendations for organizations to manage the stress issue in their IT departments/units in a more effective way.

Acknowledgement

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