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**PROPOSING EMPLOYEES WORK STRESS MODEL FOR**  
**MALAYSIAN CONSTRUCTION INDUSTRY**

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*Abstract*

This paper attempts to conceptualize and propose a theoretical framework to explain employees' work stress factors in Malaysia's construction industry. The model proposes that work stress factors are determined by job demand, job control and social support with sociodemographic characteristics moderating the relationship between proposed determinants and work stress. The proposed model is focused to understand reasons for why occupational safety and health practitioners working in the construction industry in Malaysia become stressed. The findings from this study are expected to help the industry in identifying, clarifying and understanding work stress factors; for instance, job demand that may include occupational safety and health demands issues, and/or effects of practitioners to be in control over their jobs expectations. The understanding would be useful for planning and developing strategies that can help increase the productivity of the workplace through the reduction or elimination of workplace stress. The proposed model can be used as basis for future research on work stress and individual related socio demographic characteristics.

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**Keywords:** Work Stress, Job Demand, Job Control, Social Support, Occupational Safety and Health, Construction Industry.



## 1. Introduction

The rapidly evolving world of work is making expanded demand on the workforce for greater need of flexibility and adaptability in terms of both abilities and skills, expanding utilization of temporary workforce, higher workloads and more pressure, expanding employment uncertainty and poor work-life balance are on the overall factors which contribute to work related stress. The psychological and physiological strength of employees is fundamental to a prosperous future of Malaysian construction industry. Jamaiyah (2000) announced that 10.7 percent of the population in Malaysia had been diagnosed to have mental related health problems. The News Strait Times daily reported on 14th November 2017 that the chairman of National Institute of Occupational Safety and Health Malaysia (NIOSH), Tan Sri Lee Lam Thye, stated that work stress is on the rise and alarming as it significantly affects the productivity of Malaysia's employees, the efficiency of its people and henceforth effect on to Malaysia's economy. The Isosceles Group (2015) reported that Malaysia has a population of 31.7 million people till year 2016 of different cultural society, ethnicity and religious groups in the country. Malaysian employers are confronting a growing business challenge concerning work stress with 70 percent of the country's employees are affected by high work-related stress which has been affected by hypertension and this amounts to 5.8 million people (Javaid, Isha, & Ghazali, 2017).

The construction industry plays an important role in national growth and long-term economic development. It is one of the mainstream pillars of the domestic economy for most of its countries. The construction industry in Malaysia is considered as one of the key contributors to its gross domestic product or namely GDP (Amin, et al., 2017), this is emphasised as an important industry in contribution economy growth of Malaysia (Hoe, Jinn, Siew, & Hai, 2018). According to the Eleventh Malaysian Plan, the country's gross domestic product in 2015 was 8.2 percent (equivalent to Ringgit Malaysia 46.63 billion) and within a period of 2016 to 2020, it will be estimated to contribute 10.3 percent per annum to the gross domestic product.

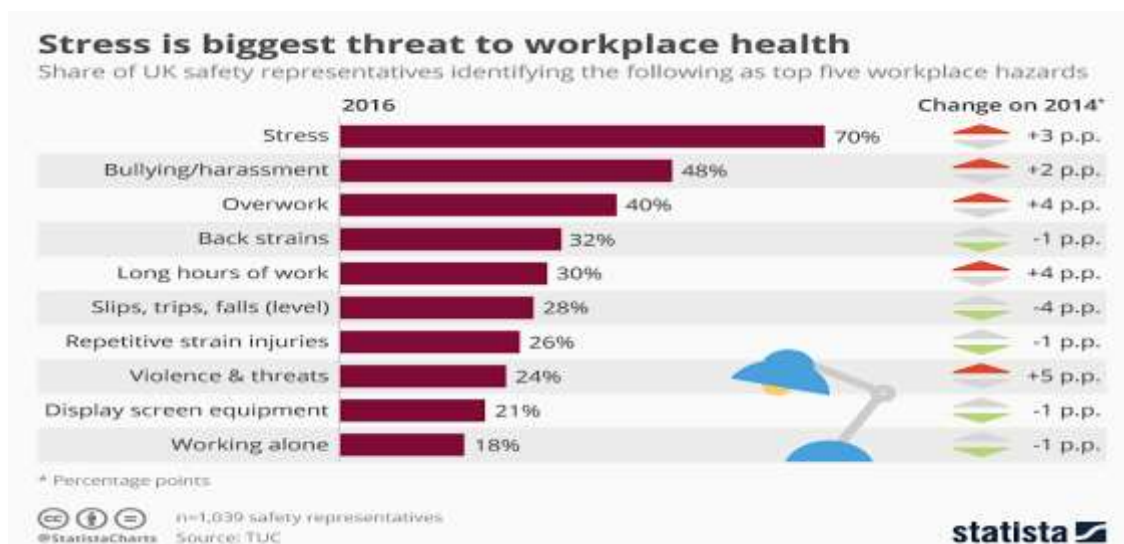
The construction industry has features in common with other industries like manufacturing and services industry, but its uncertainty dynamics and characteristics of the construction environment it one of the most dangerous industry. The construction industry consists of the project-driven nature which has multiple working groups consisting of skilled contractors and labour intensive workers with emphasis for within schedule delivery expectation, to required safety and health working standards, with quality finishes and within budget demands aggravates conditions for work stress (Asquin, Garel, & Picq, 2010; Mohr & Wolfram, 2010; Ahady, Gupta, & Malik, 2017). As Hashim, Isnin, Ismail, Norrihan, and Razali, (2017) gave examples like how employees are pressured to working very quickly as they have tight deadlines, they have no influence on job responsibility, or have to put up with monotonous tasks that may contribute to their work stress. Construction workers are required to do various activities which expose them to safety and health risks that are directly related with their work, and indirectly produced by the tasks of their co-workers (Seifi Azad Mard, Estiri, Hadadi, & Seifi Azad Mard, 2017). Workers having control over the job being carried out under safety and health compliance has a major positive influence on employees' safety participation at the workplace (Guo, Yiu, & González, 2016).

## 2. Problem Statement

The nature of work has changed dramatically due to globalisation, technological advances and the emergence of the knowledge-based economy has increased for higher expectation in the construction industry which is prevailing increased work stress. Work stress has become one of the most serious safety and health issues in the modern world, as it occurs in any job and is even more present than decades ago. Namely, the world of work differs considerably from the working environment of 30 years ago: longer hours at work are not unusual, frequent changes in culture and structure are often cited, as well as the loss of lifetime career paths, which all leads to greater presence and levels of stress.

Malaysian Health Ministry predicted that more than 10 percent of Malaysian would suffer some form of mental health issue by the year 2020 (Malaysian Digest, 4 December 2015). National Health and Morbidity Survey 2015 study (Institute for Public Health 2015), revealed of the adult population of Malaysia suffers from mental distress, a nearly 3-fold increase from the 10.7 percent estimated in 1996. This is a marked increase from the same study done in 2006, which reported a figure of 11.2 percent pointing to the potential beginnings of a public health crisis.

UK's Trade Union Congress (TUC) reported in 2016 that stress is biggest threat to workplace health, as a result of trends survey of over one thousand safety representatives. Figure 01 shows that in 2016, 70 percent of those surveyed cited stress as one of their top five hazards at work and this is has increased as compared to 36 percent in 2014. With a 3-point increment on 2014, the advent of unsafe levels of workplace stress certainly isn't significantly declining. A study in developing countries indicates a projection that by year 2025, there will be an increase of 80 percent in the number of hypertensive individuals (Kearney, et al. 2005). With the rate at which work stress is accelerating, it is becoming a public health emergency worldwide.



**Figure 01.** Stress is biggest threat to workplace health] Statista, The Statistics Portal, <https://www.statista.com/chart/6177/stress-is-biggest-threat-to-workplace-health/> (accessed on 25<sup>th</sup> August 2018)

Henceforth, prolonged stressors can lead to physical and psychological symptoms to its workforce which arise side effects such as absenteeism, turnover, and exertion mistakes. Accident rate in the

construction sector is the third highest in Malaysia and the highest for fatality cases (Ab Hadi, Tamrin, Guan, How, & Rahman, 2017). At a worldwide level, the construction workers are three times more likely to die and two times more likely to suffer injuries at work than the average of the workers in all other activities. It accounts for the most fatalities and has one of the highest rates of fatalities (Bureau of Labor Statistics, 2008). Based on what have been described in both the introduction and problem statement sections, it is clear that employee work stress exists; and it is important that this problem is tackled; in particular, for the construction industry in Malaysia.

The literature has acknowledged a work design model called the job demand-control-support (JDCS) model by Karasek (1979) to make predictions and determinations regarding the steps leading to work stress in the workplace. In addition, organization's attempt to understand the importance of sociodemographic characteristics in the workplace would allow organisation to align its safety and health programs to the workplace. Organisations should give top priority for actions that enhance working conditions while effecting improvement changes on activities that reduce unhealthy work stress. In this study then, it is proposed that employee work stress can be explained using Karasek's model which is then extended by adding in the moderating factor represented by socio-demographic characteristics. The details for how the model is developed this way will be explained in the literature review and findings sections.

### **3. Research Questions**

The following research questions would direct the study's objectives:

- 3.1. Does job demand influence work stress?
- 3.2. Does job control influence work stress?
- 3.3. Does job support influence work stress?
- 3.4. Does sociodemographic factor moderate the relationship between job demand and employee work stress?
- 3.5. Does sociodemographic factor moderate the relationship between job control and employee work stress?
- 3.6. Does sociodemographic factor moderate the relationship between job support and employee work stress?

### **4. Purpose of the Study**

Broadly, the study aim is to develop a model to help explain reasons for employee work stress following Karasek's (1979) model. In specific, the model would be able:

- 4.1. To find out whether job demand influence employee work stress;
- 4.2. To investigate whether job control influence employee work stress;
- 4.3. To investigate whether job support influence employee work stress;
- 4.4. To identify the moderating role of sociodemographic factor on the relationship between job demand and employee work stress;
- 4.5. To identify the moderating role of sociodemographic factor on the relationship between job control and employee work stress

- 4.6. To identify the moderating role of sociodemographic factor on the relationship between job support and employee work stress.

## 5. Literature Review

In this chapter, the literature review is presented. Many perspectives on the nature of the relationship between job demand control, social support, and work stress have been heavily influenced by popular work-related stress theories as well as the model. For instance, JDCS theory (Karasek & Theorell, 1990; Johnson & Hall, 1988) has been advanced to show and explains how various job-related demands and stressors in the workplace, in turn, to influence employee health, well-being, and performance.

These factors are differentiated by looking at work stress in the general context and later focused into the job demand, control and support factors. In 1979, Robert Karasek introduced the job demand-control (JDC) model, which outlined the impact of work characteristics on stress, health, and occupational wellbeing. Karasek envisioned job demands and job control as essential workplace characteristics for influencing employee well-being, motivation, and productivity; as well as various physiological and psychological strains.

Job Demand Control theory is based on the idea that the degree to which the individual perceives have potential to cause and experience stress. Karasek (1979) argued that in jobs with high control, workers experience low strain if they have low demands, whereas they play an active or learning role if they have a job with high demands. Alternatively, workers with low control have passive jobs if they have low demands, but experience high strain if high demands are made of them. Control can be viewed as a type of resource for individuals such that they perceive themselves as having the necessary tools to effectively deal with the demands at work.

In an update to the original model, Karasek and Theorell (1990) proposed that the Job demand control model add the component of social support as another critical resource in determining responses to job demands. The Job Demands-Control-Support (JDSCS) theory was later proposed and expanded which included the role played by social support at work (Karasek & Theorell, 1990; Johnson & Hall, 1988). They integrated informal job supports into the Job demand control theory. Social support is the third predictor with negative relationship to work stress. In sum, JDSCS theory is an important property of the organizations as it combines with the level of aspects of work and individual. Additionally, JDSCS goes about as a trigger for health problems and performance among employees in the workplace.

Moreover, the study would lend support on the importance of workplace support from supervisor and colleagues support within the organization has been shown to be an important factor in reducing the effects of workplace stress. Hence, JDSCS may help to explain the higher risk of work stress experienced by occupational safety and health practitioners in the construction industry. In another word, if the occupational safety and health practitioners felt there are provided necessary encouragement from their direct superiors and peers, it could reduce their work stress experience.

One of the objectives of the present study is to examine the relationship between sociodemographic with occupational stress.

### **5.1. Work stress**

Work stress is the dependent variable in this study. Occupational safety and health practitioners who experience a high job demands at the workplace, will realise an increase their stress and as a result, they may experience counterproductive work behaviours which, which if left unattended would contribute towards physical health problem and mental health problem of individuals. Psychosocial risks and work-related stress have been widely acknowledged as the global issues (Langenhan, Leka, & Jain, 2013). Work stress is defined as an employee's reaction to characteristics at the workplace that seem mentally and physically threatening (Wu, Wang, Lam, & Hesketh, 2014) A high level of work stress could make employees unhealthy, poorly motivated, less productive, and less safe at work (Zhou, Li, & Hesketh, 2014).

### **5.2. Job demand**

Job demands are defined as the extent to which the work environment taxes individual capacity for the job, which including workload, the pace of work. Job demands (i.e., physiological and physical exertion) are considered an appraisal of the work expectation and are primarily requirements of the task in nature. Employees devote more physical and mental energy into dealing with these demands while also attempting to maintain their existing performance level. High efforts may originate from high demands or obligations at work (Hanson et al., 2017). Some association of work stress has been with physical demands of the work task, such as awkward work positions or heavy lifting (Åkerstedt, 2015).

### **5.3. Job control**

Job control is defined as resources for reducing the stress that might be used to respond to job demands among employees. Job control (i.e., decision latitude and autonomy) includes both the worker's authority to make decisions and the breadth of skills that are employed. Low control (minimal decision-making) create a 'high-strain' situation and bear the greatest risk of illness and reduced well-being (Karasek, 1979). Decision latitude refers to control over task performance (eg, pace, quantity of work, policies and procedures) and skill discretion (ie, possibility to use of skills and develop in one's job) (Theorell, et al. 2015). Individuals exercising high autonomy in decision making makes better effort to overcome work difficulties (Zhang, 2017).

### **5.4. Social support**

Recent epidemiologic research on occupational stress and disease risk has usually been performed with the job demand control support (JDCS) model, which includes social support as additional dimension. Even though occupational stress may be unavoidable, undeniably, positive work environments that are supportive may be related with more positive outcomes and well-being among employee in the organizations. Social support refers to helpful workplace relationships, generally with supervisors and colleagues. Supervisors can improve workers' safety behaviour and on-site safety conditions. (Li, Fan, & Wu, 2018) study showed that construction supervisors can develop measures to improve workers' safety behaviour from the perspective of relationships between people, and it points out the important role of

safety competency in safety behaviour. Giving support is identical to the view that focusing on another's needs may help an individual attenuate stress responses (Ho, Konrath, Brown, & Swain, 2014).

### **5.5. Sociodemographic**

However, although the Job demands-control-social support conceptualization has demonstrated relationships with stress outcomes, the study introduces sociodemographic (i.e., individual and capability characteristics) for the buffering effect of work stress. The attempts to demonstrate that in order for sociodemographic to have a buffering effect, it needs to be matched with the types of demands, control and social support placed on the individual. Given theoretical differences in how women and men interpret and cope with stress, we therefore expect that hypothesis that gender will moderate the interrelationship between demands and control, such that women will generally perceive a negative relationship and men generally a positive relationship. The study will investigate sociodemographic information, such as individual and capability characteristics. Individual characteristics includes information on gender, age, ethnic group and marital status. Capability characteristics includes educational level, length of employment in current position, designation in current position, working hours per week, indication of job fulfilment and physical condition on whether the respondents exercise regularly, under medication, smoking status and alcohol consumption habit.

## **6. Research Methods**

To develop a conceptual framework, this study depends very much on literature review. In this exercise, content analysis and context are main tools to help build the model. It is proposed that in actual study, focus should be emphasized on research design, population and sample, sampling method, research instrument used, data collection procedures as well as the statistical techniques to analyse the data. For instance, justification should be given on why data will be collected from the targeted respondents, i.e. the occupational safety and health practitioners working in the construction industry located in Malaysia. How many will be involved in the study, and instruments used to measure importance of job demands, job control, job support, sociodemographic characteristics of the respondents and work stress are equally important to be decided upon.

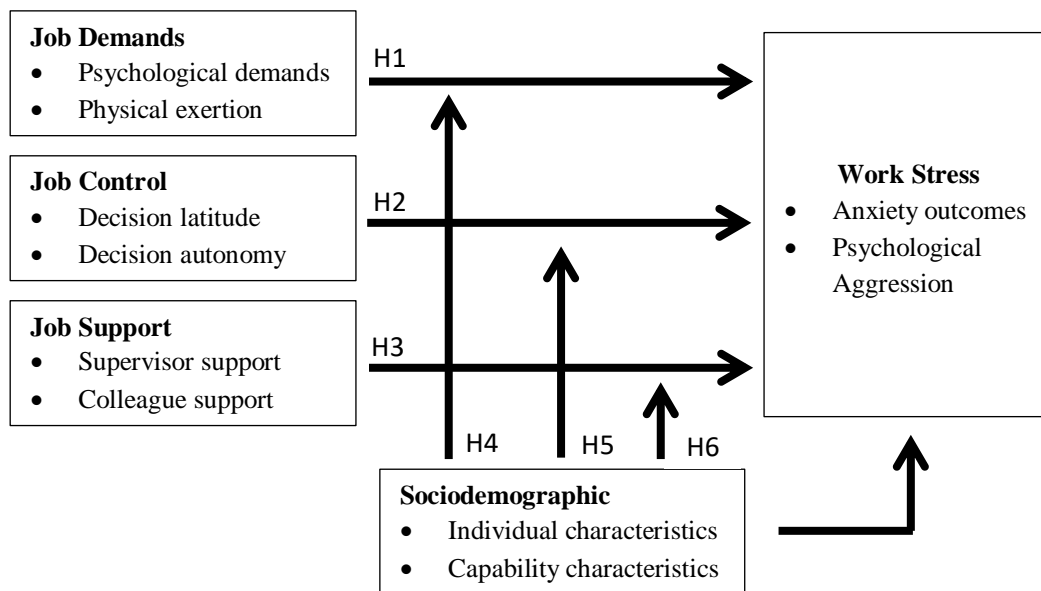
## **7. Findings**

Based on review of the literature, a conceptual model is then developed and proposed as suitable to explain reasons for employee work stress.

Drawing on the Demand-Control Model which was introduced by Karasek (1979), the conceptual framework for this study is shown in Figure 02. This framework explains employee responses to the workplace where individuals seek to maintain some equilibrium state, and will act to re-establish equilibrium when some external force disturb. This framework suggests that individuals can be the effect of work stress by influencing the forces that constitute the independent variables, namely job demand, job control and social support. It is hypothesised that work stress would increase as job demands increase,

whereas, control and support levels decrease among employees. Thus, stress will conceivably be reduced with high demands, high control, and high social support among employees in the organization.

Apart from identifying job demand, control and job support as factors that relate to employee work stress, the importance of sociodemographic characteristic is also acknowledged; and thus, in this model, it is proposed to have moderating influence over the relationship between job factors and employee work stress. In the context of construction industry, it is then proposed that the moderating factor may influence from individual characteristics portrayed; e.g. gender (male versus female), age (old versus young), work experience (experienced versus novice), education background (high versus low), etc. as well as from capability characteristics (capable versus incapability). It is expected that the findings from this research would give an insight to organisations within construction industry on how they can play a part in reducing work stress by firstly understanding how these variables and relationship work; followed by attempts to identify how to reduce work stress factors. The model is illustrated in Figure 2.



**Figure 02.** Proposed conceptual framework on work stress, determined by job demand, job control, social support and sociodemographic characteristics

## 8. Conclusion

With emphasis on the work stress problem observed to be experienced amongst safety and health practitioners within the Malaysian construction industry, a model on employee work stress is proposed. In this model, job demand, control and social support are proposed as determinants of employee work stress. In addition, socio-demographic factors are included as moderators affecting the outcome brought by the relationship between determinants and work stress. The development of the model is based after reviewing relevant literature, in particular the Karasek (1979) job demand control model; and identifying the principle issues that have been associated with increased work stress levels in organisations; and reflecting on how these would impact on the safety and health practitioners, on the wellbeing of the construction industry and on the Malaysian economy. The next step would be on testing the validity and applicability of the proposed model on real life scenario by inviting the actual safety and health practitioners to participate in the study.



The findings are expected to be helpful for the industry in identifying, clarifying and understanding work stress factors; for instance, whether job demand may involve issues on occupational safety and health demands, and on whether job control involves employee jobs expectations. Overall, developing a conceptual model and developing an understanding on how the model can be implemented would be useful for employers in the construction industry to plan and develop appropriate strategies that can help increase the productivity of the workplace through the reduction or elimination of workplace stress. The proposed model could form the basis for future research on work stress and on individual related sociodemographic characteristics. Importantly, the theoretical contribution is achieved in the present study through the extension of the Job Demands-Control-Support Theory (JDCS) by Karasek (1979). The model is believed to provide insights into the suitability of the JDCS when sociodemographic characteristics factor is added for testing as the findings should be able to add more value to JDCS in particular for safety and health practitioners and the construction industry in Malaysia. Finally, this model could also be adapted to be tested in different industries and countries.

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