

## Correlation Analysis of Occupational Stress and Job Performance in Lebanon

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### Abstract

The purpose of this study was to examine the relationship between occupational stress and job performance by using self-administered questionnaires collected from Malaysian defense and security personnel involved in humanitarian aid in the Middle East. The results of the SmartPLS path model analysis show two important findings: (1) physiological pressure is associated with job performance and (2) psychological stress is associated with significant job performance. These results indicated that occupational stress in humanitarian aid does act as an important determinant in the performance of work in the organization's sample. Furthermore, discussions, implications and conclusions are explained.

**Keywords:** Physiological Stress, Psychological Stress, Job Performance, Humanitarian Assistance

### Introduction

When disaster strikes, the UN and its agencies rush to deliver humanitarian assistance (UN, 2008). Humanitarian assistance includes the material and logistical provision and distribution of aid for people that are in acute humanitarian emergency situations due to natural disasters such as floods in Pakistan in 2010, epidemics of cholera in Haiti in 2010 and also conflicts in Afghanistan (Major 2012). Although humanitarian assistance are frequently associated with lower stressor intensity than combat situations, humanitarian workers are still subjected to stressful situations. United Nations personnel and other humanitarian workers in the field continue to be subject to attacks. Over the years, scores have been killed, taken hostage or detained while working in conflict areas. Violent incidents against UN staff have included armed robbery, assault and rape (UN, 2008). Stress comes from any situation or circumstance that require behavioral adjustment any change either good or bad is stressful or whether it's positive or negative change, the physiological response is same (Colligan & Higgins, 2010).

Stress is dynamic state whereby the masses are faced with an opportunity, obstacle, constraints or demand regarding what one desires and the implication of which is considered to be uncertain, negative, terrifying and important. (Robbins, 2004). It often occurs when individuals' physical and emotional do not match or cannot handle their job demands, constraints and/or opportunities (Leka *et al.*, 2004; Ugoji, 2003; Ugoji & Isele, 2009). Stress is a multidimensional construct and may be interpreted based on two major perspectives: eustress and distress conditions (Selye, 1964; Selye, 1987; Ismail *et al.*, 2010). In an organizational context, eustress is often called as positive stress where individuals who have adequate knowledge, skills, abilities and attitudes to cope with their work demands and pressures (Keshavarz & Mohammadi, 2011; Yu-Fei *et al.*, 2012; Code & Langan-Fox, 2001; Gachter *et al.*, 2011). On the other hand, distress is also known as negative stress where individuals have not adequate knowledge, skills, abilities and attitudes to cope with external forces and challenges placed on their bodies (Ismail *et al.*, 2010; Keshavarz & Mohammadi, 2011; Basowitz *et al.*, 1995).

The occupational stress is the by-product of complex industrial organization where stress is excessive, personal and organizational performance is at best damaged (Kwatra *et al.*, 2012). Occupational stress produces negative consequences for workers, such as high health care costs (Goetzel *et al.*, 1998) and increased risk for depression and anxiety (Corpley *et al.*, 1999). Occupational stress refers to individuals who have experienced physiological stress (PHS) and/or psychological stresses (PSS) in carrying out duties and responsibilities to achieve their key performance indicators (Ismail *et al.*, 2010; Ismail *et al.*, 2009; Santos *et al.*, 2010). PHS is normally viewed as a physiological reaction of the body (e.g., headache, migraine, abdominal pain, lethargic, backache, chest pain, fatigue, heart palpitation, sleep disturbance and muscle ache) to various stressful triggers at the workplace that directly and negatively affects an individual's productivity, effectiveness, quality of work and personal health (Ismail *et al.*, 2009; Santos *et al.*, 2010; WHO, 2005). Beehr *et al.*, (2000) found the relationship between occupational stressors and the performance of employees of an organization as well as it can affect the employees psychologically.

While, PSS is often seen as an emotional reaction experienced by an individual (such as anxiety and depression burnout, job alienation, hostility, depression, tension, anger, nervousness, irritability and frustration) as a result from the stimulate at the workplace (Code & Langan-Fox, 2001; Ismail *et al.*, 2009; Santos *et al.*, 2010; Millward, 2005). Lazarus and Folkman (1984) defined psychological stress as a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being.

Interestingly, extant studies in the workplace stress show that the levels of PHS and PSS may have a significant impact on individual outcomes, especially job performance (JOP) (Ismail *et al.*, 2009; Hsieh, 2004). According to many scholars, JOP can be viewed as an activity in which an individual is able to accomplish successfully the task assigned to him or her, subject to the normal constraints of the reasonable utilization of available resources (Jamal, 1984). JOP is usually defined as the ability of individuals to accomplish their respective work goals, meet their expectations, achieve benchmarks or attain their organizational goals (Campbell, 1990; Bohlander *et al.*, 2001). In an occupational stress model, several scholars believe that the

ability of employees to properly identify, regulate and manage their PHS and PSS in executing job may lead to higher JOP in organizations (Millward, 2005; Hourani, 2006).

In terms of broad behavioural construct, the general taxonomy of job performance includes “assessment of performance, analysis of job, and method of job elements” (Dokotri, 2006). Employee’s efficiency is reported in terms of one’s performance at workplace. Job performance is the individual productivity in both quantitative and qualitative aspects of the job. It shows that how well a person is doing his job and the extent to which the employee is meeting the job duties and the policies and standards of his organization while doing his job. Job performance depends upon the atmosphere of office, work settings and the social interactions (Coetzer & Rothmann, 2006).

Within an organizational stress model, many scholars concur that PHS, PSS and JOP are distinct, but strongly interconnected concepts. For example, the capability of employees to properly manage their PHS and PSS in executing job may lead to an enhanced JOP in organizations (Ismail *et al.*, 2009; Johnston, 2013; Nabirye *et al.*, 2011). Although the nature of this relationship is interesting, the role of occupational stress as an important determinant is inadequately explained in the workplace stress models (Slaski & Cartwright, 2002; Slaski & Cartwright, 2003). Many scholars argue that the role of occupational stress as an important determinant is not adequately explained in the previous studies because they have much emphasized on debating occupational stress concept, employed a meta-analysis method to describe the features of occupational stress in various organizational settings, implemented a simple survey method to assess respondent attitudes toward occupational stress features, and neglected to measure the effect size and nature of the correlation between occupational stress and job performance. As a result, this study paradigm has provided inadequate findings to be used as important recommendations by practitioners in understanding the complexity of occupational stress and formulating occupational stress programs for growth and competitive organizations (Johnston, 2013; Slaski & Cartwright, 2002; Slaski & Cartwright, 2003). Thus, it encourages the researchers to further discover the nature of this relationship.

### **Purpose Of The Study**

This study has two fold objectives: first, is to examine the relationship between physiological stress and job performance. Second, is to examine the relationship between psychological stress and job performance.

### **Literature Review**

The influence of occupational stress on individual outcomes is consistent with the notion of occupational stress theory. For example, Karasek and Theorell’s (1990) job strain model explains that level of job demands is higher than level of job control may reinforce high risk of individuals’ physiological and psychological stresses. Besides that, Edward’s (1998) P-E fit theory (Edwards, 1998) suggests level of job demands is higher than available resources may induce two forms of strains, that is physiology (e.g., raised blood pressure and lowered immunity) and psychology (e.g., sleep disturbances, anxiety, panic attacks, and restlessness). Lazarus’s (1995) transaction theory suggests that the individual’s appraisal of the stressor and the coping strategy used by the individual to buffer the relation between stress and strain (focuses on individual patterns of response to various working conditions in order to understand stress in workplace). According to social role theory explained by Davis (1996),

every employee holds various roles that are defined by the organizational culture or by the subculture of a particular group where the expectations are relevant to the job performance.

The notion of these theories has gained strong support from the workplace stress research literature. For example, several recent studies using a direct effect model were conducted to investigate occupational stress based on different samples like 254 nurses over three nursing shifts (Johnston, 2013), 333 nurses from four hospitals in Kampala, Uganda (Nabirye *et al.*, 2011), 304 call center employees in the UK (Slaski & Cartwright, 2002), 100 nurses from a large general teaching hospital in Scotland (Morrison *et al.*, 2013), and 213 employees at six geographic Logistics Centers within a medium-sized Fortune 500 company in the Southeastern United States (Cincotta, 2005). The outcomes of these studies reported that high levels of physiological and psychological stresses had decreased the ability of employees in planning and managing their job needs and expectations. As a result, it could lead to lower job performance in the respective organizations (Johnston, 2013; Nabirye *et al.*, 2011; Slaski & Cartwright, 2002; Morrison *et al.*, 2013; Cincotta, 2005). Based the literature, it was hypothesized that:

H1: There is a significant relationship between level of physiological stress and job performance.

H2: There is a significant relationship between level of psychological stress and job performance.

### **Methodology**

This study employed a cross-sectional research design because it allowed the researchers to integrate the occupational stress research literature, the semi-structured interview and the actual survey as a main procedure to collect data for this study. This research design is beneficial to help the researchers in collecting accurate data, less bias data and high quality data (Cresswell, 1998; Sekaran & Bougie, 2011). This study involved defence and security personnel who are supervised by Malaysian Defence and Security Agency (MDSA) in order to achieve the humanitarian assistance of the United Nation at a Middle Eastern country. At the initial stage of data collection, a survey questionnaire was drafted based on the occupational stress literature. Next, the semi structured interview was conducted involving four experienced defence and security personnel officers comprising of the head of delegation, a senior officer, an administrative officer and a logistic staff officer who had the relevant experience in humanitarian assistances. The information gathered from this interview method was used to understand the nature and characteristics of occupational stress and job performance, as well as the relationship between such variables in the context of this study. After that, the pilot study was conducted by discussing the survey questionnaire with the interviewed participants to verify the content and format of the questionnaire for an actual study. Hence, a back translation technique was employed to translate the content of survey questionnaire into Malay and English versions in order to enhance the validity and reliability of research findings (Cresswell, 1998; Sekaran & Bougie, 2011).

The survey questionnaire has two major sections: first, physiological stress had 16 items and psychological stress had 3 items that were adapted from occupational stress literature (Slaski & Cartwright, 2002; Morrison *et al.*, 2013; Beehr *et al.*, 2001). The dimensions used to measure physiological stress are symptoms of physical sickness. While, the dimensions used

to measure psychological stress are symptoms of emotional and mental sicknesses. Finally, job performance had 4 items that were adapted from job performance literature (Hsieh *et al.*, 2004; Morrison *et al.*, 2013; AbuAlRub, 2004). The dimensions used to measure job performance are self-development and improvement, sense of accomplishment, self-confidence and pay increase, All items used in the questionnaires were measured using a 7-item scale ranging from “strongly never/strongly disagree” (1) to “strongly always/strongly agree” (5). Demographic variables were used as controlling variables because this study focused on government personnel attitudes.

A convenient sampling technique was employed to distribute 400 self-administered questionnaires to Malaysian defence and security personnel who involved in the humanitarian assistance operations. This sampling technique was employed because the list of registered defence and security personnel was not given to the researchers for confidential reasons and this condition did not allow the researchers to randomly select participants in the organization. Of the number, 142 useable questionnaires were returned to the researchers, yielding a 35.5 percent response rate. The survey questionnaires were answered by participants based on their consents and a voluntarily basis. This figure meets a good decision model as suggested by Krecjcie and Morgan (1970), and exceeds the minimum sample of probability sampling, showing that it can be analyzed using inferential statistics (Sekaran & Bougie, 2011). Further, the SmartPLS 3.0 as recommended by Hair *et.al* (2017), Henseler *et al.* (2009), and Ringle *et al.* (2009) to employ assess the psychometric of survey questionnaire data and test the research hypotheses.

## Results

In terms of sample profile, the majority respondent characteristics were males (96.5%), aged between 21 and 30 years old (74%), many of them were from low rank officers (66.9%), many of them were SPM/MCE holders (66.2%), their length of service ranged from 6 to 10 years (35.9%), and a majority of the defence and security personnel were serving with the humanitarian assistance for the first time (95.1%).

Table 2 shows that physiological stress (PHS), psychological stress (PSS), and job performance (JOP) had the values of average variance extracted (AVE) larger than 0.5, indicating that they met the acceptable standard of convergent validity (Henseler *et al.*, 2009; Barclay *et al.*, 1995; Fornell & Larker, 1981). Besides that, all constructs which had the diagonal values of  $\sqrt{\text{AVE}}$  were greater than the squared correlation with other constructs in off diagonal, showing that all constructs met the acceptable standard of discriminant validity (Henseler *et al.*, 2009).

Table 2

### *The Results of Convergent and Discriminant Validity Analyses*

Construct	AVE	PHS	PSS	JOP
PHS	0.7490	<b>0.8654</b>		
PSS	0.6875	-0.0000	<b>0.8292</b>	
JOP	0.8174	-0.2345	0.4320	<b>0.9041</b>

Table 3 shows that the correlation between items and factors for the different constructs, and the construct reliability analysis. The variables loaded more strongly on their own constructs in the model, exceeding the specified minimum, 0.7, showing that the validity of

measurement model met the criteria (Fornell & Larker, 1981; Chin, 1998; Gefen & Straub, 2005). Besides that, the composite reliability (CR) and Cronbach’s Alpha (CA) had values greater than 0.8, indicating that the instrument used in this study maintained high internal consistency (Henseler *et al.*, 2009; Nunally & Bernstein, 2006).

Table 3  
The Results of Factor Loadings and Cross Loadings for Different Constructs and Construct Reliability Analysis

VARIABLE	FL	CR	CA
PHS	0.745-0.931	0.979	0.977
PSS	0.748-0.922	0.868	0.813
JOP	0.883-0.920	0.947	0.926

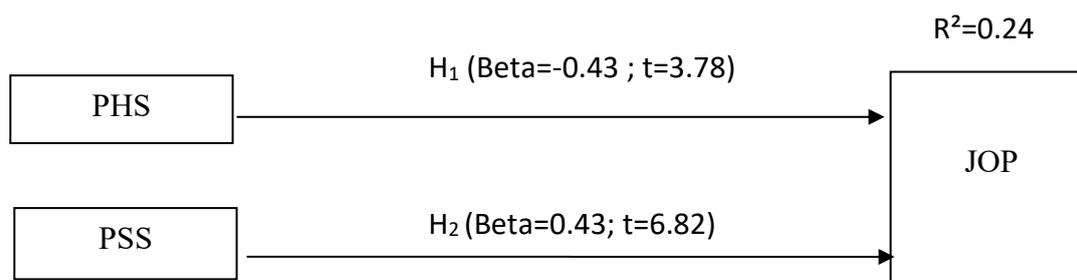
Table 4 shows the result of Pearson correlation analysis and descriptive statistics. The means for the variables are from 4.0 to 5.6, signifying that the levels of PHS, PSS and JOP ranging from high (4) to highest level (7). The correlation coefficients for the relationship between the independent variable (i.e., PHS and PSS) and the dependent variable (i.e., JOP) were less than 0.90, indicating the data were not affected by serious collinearity problem (Hair *et al.*, 2006). These results showed that the measurement scale met the acceptable standards of validity and reliability analyses.

Table 4  
Pearson Correlation Analysis and Descriptive Statistics

Variable	Mean	Standard Deviation	Pearson Correlation Analysis		
			1	2	3
PHS	4.0	1.6	1		
PSS	5.2	.90	.11	1	.
JOP	5.6	.69	-.13	.33**	1

Note: Significant at \*\*p< 0.01

Fig. 1 shows the outcomes of testing PLS path model. The inclusion of PHS and PSS had explained 39 percent of the variance in JOP. The results of SmartPLS path model analysis revealed two important findings: first, PHS significantly correlated with JOP ( $\beta=-0.43$ ;  $t=3.78$ ), therefore H1 was supported. Second, PSS significantly correlated with JOP ( $\beta=0.43$ ;  $t=6.82$ ), therefore H2 was supported. In sum, this result demonstrates that occupational stress is an essential determinant of job performance in the studied organization.



Note: Significant at \*t ≥ 1.96

Fig. 1: Outcomes of Testing PLS Path Model

In order to determine a global fit PLS path modeling, we carried out a global fit measure (GoF) based on Wetzels *et al.*, (2009) guideline as follows:  $GoF = \sqrt{\text{MEAN (Communality of Endogenous)} \times \text{MEAN (R}^2\text{)}} = 0.47$ , indicating that it exceeds the cut-off value of 0.36 for large effect sizes of  $R^2$ . This result confirms that the PLS path model has better explaining power in comparison with the baseline values (GoF small=0.1, GoF medium=0.25, GoF large=0.36). It also provides adequate support to validate the PLS model globally (Wetzels *et al.*, 2009).

### Discussion and Implications

The findings of this study confirm that the occupational stress in humanitarian assistance does act as an important determinant of defence and security personnel job performance. In the context of this study, MDSA has planned and selected well trained defence and security personnel to carry out humanitarian assistance in order to achieve the mission of the United Nation at Middle Eastern country. According to the majority respondents, the levels of physiological stress, psychological stress, and job performance are high. This situation posits that defence and security personnel have maximized their physical and spiritual potentials to implement their duties and responsibilities according to the humanitarian assistance operating procedures, but the chaos and unpredicted conditions that exist in the country may lead to decrease their abilities in enhancing job performance.

This study provides three important implications. In terms of theoretical contribution, the results of this study confirm that physiological and psychological stresses have been important determinants of job performance in the studied organization. This result is consistent with and broadened studies by (Johnston *et al.*, 2013; Slaski & Cartwright, 2002; Morrison *et al.*, 2013; Cincotta, 2005). Even though the finding of this study is significant, the effect of negative occupational stress on job performance is low. A careful observation of the semi-structured interview results shows that this finding may be affected by external factors: first, defence and security personnel who have good track records in their services are only selected in the humanitarian assistance. Second, defence and security personnel have been successfully attended preparatory training programs organized by MDSA are assigned in the humanitarian assistance. Third, the United Nation, other countries and MDSA have cooperated to provide good physical and moral support that may ease defence and security personnel executing their assignments in the humanitarian assistance. This situation may decrease the effect of negative occupational stress on job performance in the humanitarian assistance.

In regard with the robustness of research methodology, the survey questionnaires used in this study have satisfactorily met the standards of validity and reliability analyses. This may lead to the production of accurate and reliable research findings. With respect to a practical contribution, the findings of this study may be used as guidelines by practitioners to enhance the ability of defence and security personnel in managing undesirable occupational stress in organizations. The potential suggestions are: The study recommends that organizations should ensure good working environment for the personnel's and ensure that measures to minimize occupational stress such as appropriate working hours, quality tools and equipment, relative workloads, leaves and breaks are put in place. The working environment was identified as one of the biggest factors that affect personnel's performance. The defence and

security personnel strongly agreed that the working environment, the level of qualification and job fitness, technical training, goals and expectations, tools and equipment, morale and organizational culture, personnel health to be affecting their performance. Defence and security personnel must be qualified to perform a job in order to meet expectations. The best fit for a job is identified by skills, knowledge and attitude towards the work. The findings show that good personnel's performance can be attributed to clear goals and expectations. When everyone understands the targets and expected outcomes, it is easier to take steps to get there and measure performance along the way. Under the present adverse work environments, officers and staffs should try to cultivate their personnel's work values, and their involvement in and commitment toward their organizations. The prevention and management of workplace stress requires organizational level interventions because it is the organization that creates the stress. Success in managing and preventing stress will depend on the culture in the organization. A culture of openness and understanding, rather than of criticism, is essential. If these suggestions are heavily considered this may motivate defence and security personnel to accept and perform their stakeholders' needs and expectations.

### **Conclusion**

This study proposed a conceptual framework based on the occupational stress research literature. The results of confirmatory factor analysis confirmed that the instrument used in this study met the acceptable standards of validity and reliability analyses. The outcomes of SmartPLS path model analysis showed that physiological stress and psychological stress were significantly correlated with job performance, therefore H1 and H2 were supported. This result confirms that occupational stress does act as an important determinant of job performance in the organizational sample. This result also has supported and broadened the occupational stress studies, mostly published in Western countries. Even though the finding of this study is significant, the effect of negative occupational stress on job performance is low. A careful observation of the semi structured interview results shows that this finding may be affected by external factors that is defence and security personnel who are selected in the humanitarian assistance works have good track records in their services, obtained good exposure from the preparatory humanitarian assistance training programs, and obtained good physical and moral support from the United Nation, other countries and MDSA. These factors may decrease the effect of negative occupational stress on job performance in the humanitarian assistance. Thus, current research and practice within occupational stress model needs to consider physiological stress and psychological stress as key dimensions of the occupational stress domain. This study further suggests that the competency of personnel to appropriately plan and manage physiological and psychological stresses in carrying job will induce positive individual attitudes and behaviour (e.g., satisfaction, commitment, and quality of work life). Therefore, these positive individual outcomes may lead to maintained and support the organizational humanitarian assistance strategic mission, vision and goals.

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