
Stress and Individual Work Performance among Interns in a Malaysian Technical University

Sheikh Muhamad Hizam Sheikh Khairuddin

University of Kuala Lumpur

Abstract

This study revolves around the issue of stress at the workplace and individual work performance of the internship students in a Malaysian technical university. Stress can be defined as the organism's non-specific response to any demand made (Selye 1973). Stress among medical interns (Al-Ghafri et al., 2013) and hospitality interns (Wang, Chiang, & Lee, 2014) had been studied in some countries. However, stress among business interns particularly in the Malaysian context had been neglected. Therefore, the objective of the study is to determine the relationship between stress or stressor (work relationship, work-life balance, overload, job security, control, resources and communication, aspects of the job, and pay and benefits) and individual job performance of internship students. Stress level was measured using An Organizational Stress Screening Tool (ASSET)(Cartwright & Cooper, 2002) instrument meanwhile, individual work performance were measured through task performance, contextual performance, and counterproductive behavior (Koopmans, Bernaards, Hildebrandt, Van Buuren, Van Der Beek, & De Vet, 2012). Internship student in this study is referred to as final year business students undergoing a three-month stint of internship with a company. The study was conducted in a Malaysian technical university based in Kuala Lumpur, Malaysia. 250 students were selected to participate in the survey and a 100% response rate was achieved. Results showed that stress affects individual work performance of the interns in the Malaysian technical university. Theoretical and practical implications were discussed.

Keywords: stress, stressor, ASSET, individual work performance, internship student, Malaysian technical university

1. Introduction

Internship students have the objective to impress their internship companies in order to secure employment with the company in the future. The university also has a hand in providing quality graduates so that they are able to be employed easily. Finally, the internship companies have a reputation to uphold in branding themselves to be a good employer to the public. However, stress can jeopardize the future of these students. From the literature review conducted, stress had been found to affect internship students (eg. Al-Ghafri et al., 2013; Wang et al., 2014). The consequences of stress have been known to impact upon the absenteeism, presence, healthcare cost, poor commitment, poor health, and poor productivity (eg. Zafir & Sheikh, 2014a; 2014b). However, research on novel outcomes, particularly individual work performance is very rare in stress studies (Kelloway, 2008). Stress among business students within the context of internship student in a Malaysian technical university is also next to nothing. Therefore, the objective of the study is to determine the effect of stress on individual work performance of the interns in a Malaysian technical university. Internship students in this study comprised of Business students from three programs i.e. Bachelor of Business Administration (Honours) Management and Entrepreneurship, Bachelor of Business Administration (Honours) Accounting, and Bachelor of Business Administration (Honours) Islamic Finance. The study was conducted in a Malaysian entrepreneurial technical university based in Kuala Lumpur, Malaysia. The vision and mission of the university is to be the leading entrepreneurial technical university and to produce enterprising global entrepreneurs.

1.1 Definitions and Theories of Stress

There are three types of the definitions of stress according to Beehr and Franz (1987). The first type is stimulus-based whereby, in this view stress is a stimulus that came from the environment or situation that impinges a person. The second type of the definition of stress is response-based. This definition of stress refers to physiological or psychological response to the stimulus from the environment. The type is the most accepted definition of stress. This definition combines both of the above definitions to form the interactional-based of definition. This can be seen from the stressor-strain relationship in stress research. Theories that are based on this definition is considered more superior since they offered a more complete view of the dynamics of stress and can be captured in a single situation (Arnold, Cooper & Robertson 1998). Theories

underpinning the study are based on this third type of the definitions of stress. This is depicted in the General Theory of Stress by Beehr and Newman (1978), Model of Occupational Stress by Beehr (1995), and ASSET Model of Stress by Cartwright and Cooper (2002). According to the General Theory of Stress, there are seven facets of stress, which are: Personal Facet, Environment Facet, Process Facet, Human Consequences Facet, Organizational Consequences Facet, Adaptive Response Facet, and Time Facet. Further, according to the Model of Occupational Stress, stressor such as work relationship, etc. from the environment facet will interact with strain for example, commitment and health in the Human Consequences Facet to form the Organizational Consequences Facet like individual work performance. The stressor in this study utilizes the eight common workplace found in the ASSET Model of Stress.

1.2 Variable of The Study

1.2.1 Common Workplace Stressor

According to the General Theory of Stress (Beehr & Newman, 1978), the Environment Facet consisted of workplace stressors. Using ASSET Model of Stress (Cartwright & Cooper, 2002), eight common workplace stressors were examined in this study. They are: Work Relationships, Work-Life Balance, Overload, Job Security, Control, Resources and Communication, Aspect of The Job, and Pay and Benefits. Work Relationships – Work relationships were operationally defined as the work relationships between colleagues and/or superiors. Most jobs demands working with people. Thus, poor or unsupportive colleagues, subordinates and bosses will be a potential source of stress (Cartwright & Cooper, 2002). In the context of internship students, they might have poor relationships with their bosses since they are rather new in the office. There are also reports showing that internship students are being bullied-off (Stubbs & Soundy, 2013). Work-Life Balance - In this study, work-life balance was defined as balancing the differing demands of home and work. The demands of work have the potential to spill over and interfere with one's personal life (Cartwright & Cooper, 2002). Internship students who have no experience working before this might experience poor work-life balance. Overload - Overload in this study was defined as unmanageable workloads and time pressures. Unmanageable workloads and time pressure can be a source of stress (Cartwright & Cooper, 2002). Since the internship students are hired on a limited time basis, the employers might give them extra workload just to take advantage of the time they have with them. Job

Security - Expectations about a job for life was the definition of job security in this study. Fewer employees do not expect a life time employment today, but the fear of losing a job still remains a potential source of stress (Cartwright & Cooper, 2002). The pressure of securing directly for employment from the internship company would put them in a stressful position. Control - The definition of control in this study was the perception of control over the environment such as in how work was organized and performed. Lack of influence in the way in which work is organized and performed can be a potential source of stress (Cartwright and Cooper, 2002). As an intern, he/she is not in a position at all to have a say on what they should do and what they should not do. Resources and Communication - Resources and communication was defined as appropriate training, equipment, and resources as well as adequately informed and valued. To perform their job effectively, they need to feel that they have appropriate training, equipment and resources. They also need that they are adequately informed and are valued (Cartwright & Cooper, 2002). The internship students might not have the time and resources to perform their job well. Therefore, this could put them under-stress. Aspects of the Job – Aspects of the job in this study were defined as factors such as physical working conditions, type of tasks and the amount of satisfaction derived from the job. The potential sources of stress can be related to the fundamental nature of the job itself. Factors, such as physical working conditions, type of tasks (e.g. dealing with difficult clients) and the amount of satisfaction derived from the job itself are all included (Cartwright & Cooper, 2002). Internship students with relative low experience in the working environment might have difficulty interacting with clients. Finally, Pay and Benefits - Pay and benefits were defined as the financial rewards that work brings. The financial rewards that work brings are obviously important in that they will determine which type of lifestyle that an individual can lead. In addition, they often influence the individual's feelings of self-worth and value to the organization (Cartwright & Cooper, 2002). In the case of internship students, they received a very minimal allowance regarding pay and benefits.

1.2.2 Individual Work Performance

Individual work performance can be defined as behaviours or actions pertaining to organization's goals (Campbell, 1990). According to Koopmans et al. (2012), individual job performance consisted of 3 dimensions, i.e. task performance, contextual performance, and counterproductive work behaviour. Further according to Campbell (1990), task performance is

defines as the individual proficiency to perform the core substantive or technical tasks central to his or her job. Behaviour that could be related to task performance includes quantity and quality of work, job skills and job knowledge (Rotundo & Sackett, 2002; Campbell 1990). Meanwhile, contextual performance may be referred to as the behaviours that support the organizational, social and psychological environment in which the technical core must function (Borman & Motowidlo, 1993, p. 73). Behaviours pertaining to contextual performance include demonstrating effort, facilitating peer and team performance, cooperating, and communicating (Rotundo and Sackett, 2002; Campbell, 1990). Finally, counterproductive work behaviours are defined as the behaviours that harm the well-being of the organization (Rotundo & Sackett, 2002, p. 69). Absenteeism, off-task behaviour, theft, and substance abuse include this behavior (Koopmans, Bernaards, Hildebrandt, Schaufeli, De Vet, & Van der Beek, 2011).

1.3 Hypothesis Development

1.3.1 The Relationship between Work Relationship and Individual Work Performance

The best known theory about the relationship between stress and performance would be the Yerkes-Dodson law regarding motivation and drives (Young, 1936). Job arousal or stressors creates performance. There are three inverted U-shaped curves to explain the concept. For task A, optimum performance was achieved with lower levels of stressors compare to B and C. This implies that the nature of task can affect the placement of the curve. The Yerkes and Dodson's (1908) study is one of the earliest studies of the stress and performance relationship. They demonstrated that performance increased with increasing arousal up to a point. Beyond that point, performance will decrease. Arousal here means the general stress response characterized by alertness or activation. This complex relationship between stress response and performance is often a curvilinear or inverted U relationship. It explains simply by saying that too little stress is just as detrimental as too much of it. The evidence of the inverted U function can be seen from the study by Wilke, Gmelch and Lovrich (1985) on the stress-productivity relationship of university faculty in 80 PhD-granting universities across USA. However, recent developments in stress-performance researches had pointed to the way of a negative linear relationship between them. Jamal (1984) examined the relationship between occupational stressors and employee performance in nurses, and found out that their relationship is negatively correlated. Abramis (1994) too, found a negative linear relationship between role conflict, role

ambiguity, job insecurity, and job performance as measured by the respondents and the co-workers. Beehr and Newman's general theory of stress (1978) stated that all elements of occupational stress were linked together. These elements included the stressors in the environmental facet and the job performance/productivity in the organizational consequences facet. The link between stressors and performance/productivity has been theorized as having a negative linear relationship. This can also be seen in other studies (e.g. Edwards, Guppy, & Cockerton 2007; Leung, Chan, & Olomolaiye 2008). The 12 ASSET subscales (Cartwright & Cooper, 2002) were tested against productivity measures such as self-rated productivity, RAE (Research Assessment Exercise), and GTS (Guardian Teaching Scores) in the study by Jacobs, Tytherleigh, Webb and Cooper (2007) directly. This showed that occupational stressors such as poor work relationships can have an impact upon individual productivity. Therefore, interns who are suffering from poor work relationships with their new colleagues and/or bosses are likely to affect their individual work performance level. Empirically, the results from the above study showed that poor work relationships were negatively related to productivity such as self-rated productivity. Other studies that depicted the relationships between stress and performance also showed a negative relationship (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; Leung, Chan, & Olomolaiye, 2008). As such, H1 was hypothesized like it is:

H1: Work relationships will be negatively related to individual work performance

1.3.2 The Relationship Between Work-Life Balance and Individual Work Performance

In the Beehr and Newman's general theory of stress (1978), elements of occupational stress such as the stressors in the environmental facet and job performance in the organizational consequences facet were linked by the process facet. Direct relationships between stressors and performance were theorized as having a negative linear relationship (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; Leung et al., 2008). The ASSET model of stress (Cartwright & Cooper, 2002) that included the sources of stress was also linked directly to performance/productivity measures recently. Specifically, in the ASSET model of stress, work-life-imbalance was linked to productivity in the study by Jacobs et al. (2007). Theoretically, this goes to show that work-life imbalance can impact individual productivity. Internship students who are faced with poor work-life balance can impact upon their individual work performance level. The results from the study above showed that work-life balance impact negatively of

productivity measures such as self-rated productivity and RAE. Empirical evidences from other studies pertaining to these relationships of stress and performance/productivity also showed similar negative effects (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; and Leung et al., 2008). Therefore, H5b will be as it is:

H2: Work-life balance will be negatively related to individual work performance

1.3.3 The Relationship between Overload and Individual Work Performance

The impact of types of stress on the performance has also been examined (Leung et al., 2008). The study on the construction project managers (CPMs) yielded various results. Objective stress such as the number of project deadlines, the number of tasks, the level of difficulty in my work, the quality of work, the responsibility of my work, the degree of complexity of work, the number of projects (Gmelch, 1982) was found to be negatively related to task performance of CPMs. However, burnout has a positive impact on it. In other results, interpersonal performance such as, “I am satisfied with the relationship between my colleagues and me” and “I can get along with others at work well” (Leung et al., 2008) was found to maximize on a moderate level of objective stress (i.e. an inverted U-shaped relationship) and increases in line with the improvement of the task performance of the individuals. Finally, organizational performance has U-shaped relationships with burnout and physiological stresses such as, “I often have headaches and migraines”, “I have back pain sometimes”, “The problems of sweating, palpitations, and trembling are usual for me”, “I lose my appetite all the time when undertaking a time limited project”, and “I have skin problems, such as skin irritations and skin disorders” (Greenberg, 2003). Organizational performance was also found to worsen objective stress. As a recommendation to stakeholders, the researchers suggested regular reviews on job allocation, stress appraisals, stress management workshops, group or individual counselling, and psychological treatment or physiotherapy be carried out to optimize the stress and the performance of CPMs.

The Beehr and Newman’s general theory of stress (1978) stated that the elements of occupational stress would include elements from the environmental facets (where the stressors are located) and elements from organizational consequences facet (consisted job performance/productivity). The link between stressors and performance relationships were theorized as having a negative linear relationship (e.g. Abramis, 1994; Edwards et al., 2007;

Jamal, 1994).

Specifically, the ASSET model of stress by Cartwright and Cooper (2002) that included the sources of stress such as overload was also have been found to be linked to productivity recently (Jacobs et al., 2007). This goes to show that overload can have an impact upon individual work performance. Internship students the Malaysian technical university who are overload can have a significant impact upon their individual work performance level. Empirical evidence from the study by Jacobs et al. (2007) above showed a negative relationship existed between overload and productivity measures such as GTS. In addition, other empirical evidences can be seen from studies conducted by Abramis (1994), Edwards et al. (2007), Jamal (1994), and Leung et al. (2008). The relationship between stress and performance/productivity demonstrated similar negative effects in these studies. Therefore, H3 was hypothesized as it is:

H3: Overload will be negatively related to individual work performance

1.3.4 The Relationship between Job Security and Individual Work Performance

The Beehr and Newman's general theory of stress (1978) stated that elements from most stress studies were linked up together. This included the stressors from the environmental facet and job performance or individual productivity from the organizational consequences facet. Besides the core relationships existed between stressors and strains (depicted in Beehr's occupational stress model 1995), there is a possibility that the stressors can be directly related to organizational performance. Direct relationships between stressors and job performance were theorized as having a negative linear relationship in studies conducted by Abramis (1994), Edwards et al. (2007), Jamal (1994), and Leung et al. (2008). Cartwright and Cooper's ASSET model of stress (2002) that included the sources of stress such as job insecurity was also linked up to productivity variables (Jacobs et al. 2007). Job insecurity can impact upon individual productivity. Thus, interns who are facing job insecurity can also impact their individual work productivity level. The study by Jacobs et al. (2007) above revealed that job insecurity was negatively related to these productivities of RAE and GTS. Other empirical evidences yielded similar results (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; and Leung et al., 2008). These studies showed similar negative relationships between stress and performance. Therefore, H4 was hypothesized as such:

H4: Job security will be negatively related to individual work performance

1.3.5 The Relationship between Control and Individual Work Performance

The general theory of stress (Beehr & Newman, 1978) posited that occupational stress elements would include stressors from the environmental facet and job performance/productivity in the organizational consequences facet. These two facets were linked together in stressors-performance/productivity studies. The relationship was theorized as having a negative linear relationship (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; Leung et al., 2008). Sources of stress such as poor job control from the ASSET model of stress (Cartwright & Cooper, 2002) were linked up to productivity measures recently (Jacobs et al., 2007). This goes to show that poor job control can have an impact on individual work performance. Internship students who are facing poor job control could jeopardize their individual work performance level. Poor job control negatively predicted all the productivity measures of self-rated productivity, RAE, and GTS in the study conducted by Jacobs et al. (2007). Similar results were also obtained in other studies (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; and Leung et al., 2008). They all showed similar negative effects of stressors on performance/productivity. Therefore, H5 was hypothesized as such:

H5: Control will be negatively related to individual work performance

1.3.6 The Relationship between Resources and Communication and Individual Work Performance

General theory of stress by Beehr and Newman's (1978) stated that occupational stress elements found in the Meta model includes the stressors from the environmental facet and job performance or productivity from the organizational consequences facet. The theoretical link between these two facets can be seen in stress and performance/productivity studies. They were theorized as having a negative linear relationship (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; Leung et al. 2008). In addition, the ASSET model of stress developed by Cartwright and Cooper (2002) linked up the source of stress such as poor resources and communication with productivity measures recently (Jacobs et al., 2007). Therefore, poor resources and communication will have an impact upon individual work performance. Interns from the Malaysian technical university who have poor resources and communication will affect their individual work performance level. In the Jacobs et al. (2007) study, poor resources and communication was negatively related to productivity measures such as self-rated productivity,

RAE, and GTS. Other empirical evidences also showed similar negative trends regarding the relationship between stress and performance/productivity (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; and Leung et al., 2008). Hence, H6 was hypothesized as it is:

H6: Resources and communication will be negatively related to individual work performance

1.3.7 The Relationship between Aspect of the Job and Individual Work Performance

Elements of occupational stress from the general theory of stress (Beehr & Newman, 1978) would include stressors from the environmental facet and job performance or productivity in the organizational consequences facet. Stressors had been linked to job performance/productivity. These relationships were theorized as having a negative linear relationship between them. These can be found in studies conducted by Abramis (1994), Jamal (1994), and Leung et al. (2008). The source of stress such as poor aspects of the job in the ASSET model (Cartwright & Cooper, 2002) was also found linked to measures of productivity (Jacobs et al. 2007). This goes to show that poor aspects of the job can have an impact on individual work performance. Internship students who have poor aspects of the job can affect their individual work performance level. Empirical evidence from the study by Jacobs et al. (2007) showed that poor aspects of the job were negatively related to productivity measures such as self-rated productivity and RAE. Other empirical evidences can be seen in other stress and performance/productivity studies by Abramis (1994), Edwards (2007), Jamal (1994), and Leung et al. (2008). They all showed similar negative effects of stress on performance/productivity. Therefore, H7 follows suit:

H7: Aspects of the job will be negatively related to individual work performance

1.3.8 The Relationship between Pay and Benefits and Individual Work Performance

Most theories and researches in occupational stress encompass the elements found in the Beehr and Newman's general theory of stress (1978). This included the environmental element, which consisted of stressors at the workplace, and organizational consequences element such as job performance. Other studies were also found to linked stressors with job performance (e.g. Abramis, 1994; Edwards et al., 2007; Jamal, 1994; Leung et al., 2008). They were theorized as having a negative linear relationship. The source of stress or stressors such as poor pay and benefits from the ASSET model of stress (Cartwright & Cooper 2002) were linked up to productivity (Jacobs et al., 2007). This goes to show that poor pay and benefits as stressors can

affect individual productivity. Internship students who received poor pay and benefits will impact their individual work performance level. The study by Jacob et al. (2007) provides the empirical evidence of the negative effects of poor pay and benefits on performance/productivity measures such as self-rated productivity, RAE, and GTS. Studies by Abramis (1994), Edwards (2007), Jamal (1994), and Leung et al. (2008) also provide empirical evidences of the negative effects of stress on performance/productivity. Therefore, H8 will follow suit:

H8: Pay and benefits will be negatively related to individual work performance

2. Method

A cross-sectional survey research design was conducted. Final year degree students from a Malaysian technical university were selected as the respondents of the study. The population of the respondent is 500. According to Krejcie and Morgan (1970) a minimum of 80 samples will have to be collected. Therefore, a total of 250 samples were targeted in this study. Type of sampling technique utilized was the systematic sampling. Every second student found in the list of interns was selected to participate in the survey. The students came from the business programs such as Bachelor of Accounting, Bachelor Business Administration (Honours) Management and Entrepreneurship, and Bachelor of Business Administration (Honours) Islamic Finance. Two survey instruments or questionnaires were used in this study. They are: ASSET (An Organizational Stress Screening Tool)(Cartwright & Cooper, 2002) and IWPQ (Individual Work Performance Questionnaire)(Koopmans et al., 2012). The total number of items for stressors is 37, meanwhile for individual work performance items consisted of 19 items. Stressors were measured on a 6-point scale ranging from 1 – Strongly Disagree to 6 – Strongly Agree. Meanwhile, individual work performance was measured on a 5-point scale ranging from 1 – Seldom to 5 – Always. Data was analysed for sample characteristics, descriptive statistics, reliability, correlation, and multiple regression.

3. Results

The survey conducted yielded a 100 percent response rate with 250 interns responded to it. Sample characteristic analysis showed that a typical respondent is a female, age between 22 to 25 years old, single, Malay, and belongs from the Management and Entrepreneurship program. The number of female students participating in this study is 176 i.e. 70.4 per cent of

the respondents. Meanwhile, male students tallied up to 74 with 29.6 per cent of the participation. Age between 22 to 25 years old is the most dominant age of the students participating in this study. 228 students were in that category accumulating approximately 91.2 per cent. 20 students in the 26 to 29 age bracket (8.0 per cent), and 2 students were above 30 years old (0.8 per cent). Most of the students participating in the survey are single with 237 students fall under this group. This gave about 94.8 per cent of the total sample surveyed. Meanwhile, 13 students were found to be married which hold about 5.2 per cent. In terms of race, the Malays are the majority of the sample surveyed whereby 248 of them fall under this category. The total percentage from this category is 99.2 per cent. Meanwhile, only two samples come from other races (0.8 per cent). Finally, students from the Management and Entrepreneurship program participated the most in the survey conducted. Approximately 120 students came from this program (48 per cent) while 80 students belong to the Accounting program (32 per cent), and 50 students came from the Islamic Finance program. The detail of the sample characteristic analysis is depicted in Table 1.

Table 1: Demographic of Respondents

Demographic Factor	Frequency	Percentage
Sex		
- Female	176	70.4
- Male	74	29.6
Age		
- 22 -25 years	228	91.2
- 26 – 29 years	20	8.0
- Above 30 years	2	0.8
Marital Status		
- Single	237	94.8
- Married	13	5.2
Race		
- Malay	248	99.2
- Others	2	0.8
Program		
- Management & Entrepreneurship	120	48.0
- Accounting	80	32.0
- Islamic Finance	50	20.0

Next, is the analysis of reliability, mean and standard deviation (SD). According to George and Mallery (2001), Cronbach's Alpha value can be interpreted in such a way: $\alpha > 0.90$

indicated a very good reliability; $\alpha > 0.80$ showed a good reliability; $\alpha > 0.70$ indicated acceptable reliability; $\alpha > 0.60$ demonstrated questionable reliability; $\alpha > 0.50$ considered a weak reliability; and finally, $\alpha > 0.40$ showed an unacceptable reliability. Results from the reliability analysis of this study indicated that all scales have a good and acceptable reliability. Work Relationships ($\alpha = 0.81$); Overload ($\alpha = 0.85$); Job Security ($\alpha = 0.84$); Aspect of the Job ($\alpha = 0.82$); Pay and Benefits ($\alpha = 0.83$); and finally, Individual Work Performance ($\alpha = 0.81$) scales showed good reliability. Meanwhile, Work-Life Balance ($\alpha = 0.79$) and Resources and Communication ($\alpha = 0.77$) scales showed acceptable reliability. Mean and SD analyses will be discussed next. Mean values observed from the 9 variables of the study were found to be moderate and their SDs remained low. Work relationship has a mean of 3.21 with the SD of 1.01; work-life balance mean was 3.72 and SD level was 1.44; overload mean level was 3.61 and SD was 1.16; job security mean level was 3.83 and SD level was 1.25; control mean level was 3.66 with SD level was 0.96; resources and communication level of mean was 3.37 and SD was 0.43; aspect of the job mean and SD levels was 3.55 and 1.21 respectively; pay and benefits levels of mean and SD was 3.64 and 0.80; and finally, levels of mean and SD for individual work performance were 3.94 and 0.57 respectively. The details of the analysis are depicted in Table 2.

Table 2: Reliability, Mean, and SD Analyses

Variable	Cronbach's Alpha	Mean	SD
Work Relationship	0.81	3.21	1.01
Work-Life Balance	0.79	3.72	1.44
Overload	0.85	3.61	1.16
Job Security	0.84	3.83	1.25
Control	0.79	3.66	0.96
Resources and Communication	0.77	3.37	0.43
Aspect of the Job	0.82	3.55	1.21
Pay and Benefits	0.83	3.64	0.80
Individual Work Performance	0.81	3.94	0.57

Table 3 depicted the bivariate relationship between the stressors and individual work performance. All the stressors were found to be negatively significant at the 0.01 level (2-tailed

test). The correlation coefficient can be interpreted using Cohen's (1988) Guide to Interpretation of Correlation Coefficient. According to the table, $r = 0.10$ to 0.29 or $r = -0.10$ to -0.29 can be interpreted as weak relationships; $r = 0.30$ to 0.49 or $r = -0.30$ to -0.49 will be interpreted as moderate relationships; and finally, $r = 0.50$ to 1.00 or $r = -0.50$ to -1.00 can be interpreted as having a strong relationships. From the correlation results shown in Table 3, all the bivariate relationships between all the stressors and individual work performance were strong: correlation coefficient or r for work relationship was -0.512 ; work-life balance was -0.657 ; overload was -0.506 ; job security was -0.565 ; control was -0.625 ; resources and communication was -0.570 ; aspect of the job was -0.561 ; and finally, pay and benefit was -0.634 .

Table 3: Correlation between Stressors and Individual Work Performance

Variable	1	2	3	4	5	6	7	8	9
1.Work relationships	1								
2.Work-life balance	0.644**	1							
3.Overload	0.731**	0.727**	1						
4.Job security	0.518**	0.452**	0.465**	1					
5.Control	0.649**	0.535**	0.618**	0.631**	1				
6.Resources and comm.	0.650**	0.520**	0.605**	0.488**	0.641**	1			
7.Aspects of the job	0.656**	0.568**	0.577**	0.503**	0.610**	0.659**	1		
8.Pay and benefits	0.570**	0.657**	0.600**	0.535**	0.566**	0.628**	0.691**	1	
9.Individual work performance	-	-	-	-	-	-	-	-	1
	0.513**	0.657**	0.506**	0.565**	0.625**	0.570**	0.561**	0.634**	

**Correlation is significant at the 0.01 level (2-tailed)

The final analysis is the multiple regression analysis of individual work performance and stressors. The results from the analysis showed that certain stressors are able predict individual work performance significantly. They are: work Relationship, Pay and Benefits, Resources and Communication, and Control. However, Work-Life Balance, Overload, Job Security, and Aspect of the Job were found to be insignificant. Work Relationship ($\beta = -0.328$) and Pay and Benefits ($\beta = -0.243$) were significant at $p < 0.01$ level. Meanwhile, Resources and Communication ($\beta = -0.196$) and Control ($\beta = -0.186$) were significant at $p < 0.05$ level. The model R square was 0.160 indicating that 16 per cent of the variance in predicting individual work performance can be explained by this model. The details of the results are depicted in

Table 4.

Table 4: Multiple Regression Analysis of Individual Work Performance on Stressors

Model		Unstandardized Coefficients		Standardized		
		B	Std. Error	β	t	Sig.
1	(Constant)	4.472	0.132		33.971	0.000
	Work relationships	- 0.250	0.077	- 0.328	- 3.247	0.001
	Work-life balance	- 0.056	0.050	- 0.103	- 1.127	0.261
	Overload	- 0.006	0.057	- 0.011	- 0.104	0.918
	Job security	- 0.058	0.044	- 0.104	- 1.328	0.186
	Control	- 0.118	0.060	- 0.186	- 1.965	0.031
	Resources and comm.	- 0.110	0.056	- 0.196	- 1.967	0.020
	Aspects of the job	- 0.057	0.069	- 0.077	- 0.825	0.410
	Pay and benefits	- 0.065	0.031	- 0.243	- 2.078	0.009
	R	0.400				
	R ²	0.160				
	F	5.741**				

** Significant at 0.01 level; * significant at 0.05 level

4. Discussion and Conclusion

H1, H5, H6, and H8 were supported in this study. Meanwhile, H2, H3, H4, and H7 were not supported. Work relationship, control, resources and communications, and pay and benefits were all negatively related to individual work performance. Studies from the past have confirmed it (eg. Abramis, 1994; Edwards et al., 2007; Gmelch & Burns, 1993; Gmelch et al., 1999; Jacobs et al., 2007; Jamal, 1984; McKeachie, 1983). High levels of stress due to these

stressors suffered by the internship students in the Malaysian technical university led to their low levels of individual work performance. Work-life balance, overload, job security, and aspect of the job however were found not to be significant to individual job performance. This could be due to the fact that the students are mainly single and have less commitment at home. The students also are not given more jobs since they are still new on the job. In terms of job security, many of them have been offered of a permanent job once they have completed the internship program. Finally, aspect of the job was also found not to be significant due to the fact that the students are placed in a conducive working environment. The study also is not short of limitations. The study is only conducted based the perception of stress of the respondents; not on the basis of other methods such as clinical trials or observations. Secondly, the study is conducted on a cross-sectional basis rather than a longitudinal one. In conclusion, stress affects individual work performance. Internship students from the Malaysian technical university who suffered from stress also suffered from poor individual work performance. Certain stressors such as work relationships pay and benefits, resources and communication, and control were found to be negatively significant to individual work performance. Practically speaking, internships companies can alleviate stress through having a good relationship with the interns, giving better pay and benefits to them, providing resources, training, and equipment to them, as well giving them more opportunity to exercise control their work. Theoretically, this study supported the stressor-strain theory and extended the theory further through novel outcomes i.e. the individual work performance. Future research would include the study of the mediators to the stress-individual work performance relationship as well as longitudinal study to determine the causes of the relationship.

Acknowledgement

I would like to express my gratitude to my colleagues who have helped me in successfully conducting this research.

References

- Abramis, D.J. (1994). Work role ambiguity, job satisfaction, and job performance: meta-analyses and review. *Psychological Reports*,75(3), 1411-1433.
- Al-Ghafri, G., Al-Sinawi, H., Al-Muniri, A., Dorvlo, A.S.S., Al-Farsi, Y.M., Armstrong, K. &

- Al-Adawi, S. (2013). Prevalence of depressive symptoms as elicited by Patient Health Questionnaire (PHQ-9) among medical trainees in Oman. *Asian Journal of Psychiatry*, 8, 59-62.
- Arnold, J., Cooper, C.L. & Robertson, I. (1998). *Work psychology: Understanding human behavior in the workplace*. London: Financial Times Pitman Publishing.
- Beehr, T.A. & Franz, T.M. (1987). The current debate about the meaning of job stress. In Ivancevich, J.M. and Ganster, D.C. (Eds). *Job stress: From theory to suggestion*, (pp. 5-18). New York: Haworth Press.
- Beehr, T.A. (1995). *Psychological stress in the workplace*. New York: Routledge.
- Beehr, T.A. & Newman, J.E. (1978). Job stress, employee health and organizational effectiveness: A facet analysis, model, and literature review. *Personnel Psychology*, 31, 665-699.
- Borman, W.C. and Motowidlo, S.J. (1993), "Expanding the criterion domain to include elements of contextual performance", In Schmitt, N. and Borman, W.C. (Eds), *Personnel Selection in Organizations*(pp.71-98).Jossey Bass, San Francisco, CA.
- Campbell, J.P. (1990), "Modeling the performance prediction problem in industrial and organizational psychology", in Dunnette, M.D. and Hough, L.M. (Eds), *Handbook of Industrial and Organizational Psychology, Consulting Psychologists Press*(pp. 687-732). Palo Alto, CA.
- Cartwright, S. & Cooper, C.L. (2002). *ASSET: The management guide*. Manchester: Robertson Cooper Ltd.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. Second Edition. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Edwards, J.A, Guppy, A. & Cockerton, T. (2007). A longitudinal study exploring the relationships between occupational stressors, non-work stressors, and work performance. *Work & Stress*21(2), 99-116.
- George, D. & Mallery, P. (2001). *SPSS for Windows step by step: A simple guide and reference 10.0 update*(3rd Ed.). Toronto, Canada: Allyn and Bacon.
- Gmelch, W.H. (1982). *Beyond stress to effective management*. New York: Wiley.
- Gmelch, W.H. & Burns, J.S. (1993). The cost of academic leadership and chair stress. *Innovative Higher Education* 17(4), 259-270.

- Gmelch, W.H., Wolverton, M., Wolverton, M.L. & Sarros, J.C. (1999). The academic dean: An imperil species searching for balance. *Research in Higher Education* 40(6), 717-740.
- Greenberg, J.S. (2003). *Comprehensive stress management*(8th Ed.). Toronto: McGraw Hill.
- Jacobs, P.A., Tytherleigh, M.Y., Webb, C. & Cooper, C.L. (2007). Predictors of work performance among higher education employees: An examination using ASSET model of stress. *International Journal of Stress Management*, 14(2), 199-210.
- Jamal, M. (1984). Job stress and job performance controversy: An empirical assessment. *Organizational Behaviours and Human Performance* 33, 1-21.
- Kelloway, E.K., Teed, M. & Kelley, E. (2008). The psychosocial environment: Towards an agenda for research. *International Journal of Workplace Health Management*, 1(1), 50-64.
- Koopmans, L., Bernaards, C., Hildebrandt, V., Van Buuren, S, Van Der Beek, A.J., & De Vet, H.C.W. (2012). Development of an individual work performance. *Management*, 62, 6-28.
- Koopmans, L., Bernaards, C.M., Hildebrandt, V.H., Schaufeli, W.B., De Vet, H.C.W. & Van der Beek, A.J. (2011), Conceptual frameworks of individual work performance – a systematic review. *Journal of Occupational and Environmental Medicine*, 53, 856-66.
- Krejcie, R.V. & Morgan, D.W. (1970). Determining sample size for research activities. *Educational & Psychological Measurement*, 30, 607-610.
- Leung, M.Y., Chan, Y.S. & Olomolaiye, P. (2008). Impact of stress on the performance of construction project managers. *Journal of Construction Engineering and Management*, August, 644-652.
- McKeachie, W.J. (1983). Faculty as a renewable resource. *New Directions for Institutional Research*, 40, 57-66.
- Rotundo, M. & Sackett, P.R. (2002), The relative importance of task, citizenship, and counterproductive performance to global ratings of performance: a policy-capturing approach. *Journal of Applied Psychology*, 87, 66-80.
- Selye, H. (1973). The evolution of the stress concept. *Scientist* 61 November, 692-699.
- Stubbs, B. & Soundy, A. (2013). Physiotherapy students' experiences of bullying on clinical internships: An exploratory study. *Physiotherapy*, 99, 178-180.
- Wang, Y-F, Chiang, M-H & Lee, Y-J. (2014). The relationships amongst the intern anxiety,

- internship outcomes, and career commitment of hospitality college students. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 15, 86-93.
- Wilke, P.K., Gmelch, W.H. & Lovrich Jr., N.P. (1985). Stress and productivity: evidence of the inverted u-function. *Public Productivity Review*,9(4), 342-356.
- Yerkes, R.M. & Dodson, J.D. (1908). The relation of strength and stimulus to rapidity of habit formation. In Sulsky, L. and Smith, C. *Work stress* (pp. 154-157). Wadsworth: Thompson.
- Young, P.T. (1936). *Motivation of behaviour: The fundamental of determinants of human and animal activity*. New York: Wiley.
- Zafir, M.M. & Sheikh, M.H.S.K. (2014a). Measuring the effect of commitment and occupational stressors and individual productivity ties. *JurnalPengurusan*,40, 103-113.
- Zafir, M.M. & Sheikh, M.H.S.K. (2014b). The effect of occupational stressors on health and individual productivity. *Jurnal Ekonomi Malaysia*,48, 117-131.