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WORK RELATED STRESS AMONG CONTRACTOR MANAGEMENT TEAM AT CONSTRUCTION SITE

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Abstract: In Malaysia, issues related to occupational health especially in the construction industry was not commonly discussed but data in other countries had indicated major problems associated with occupational illness. Health problems due to stress can increase the cost of health and their impact to human, family, society and nation cannot be neglected. In the past, study on stress at the work was not comprehensive especially on the construction industry. Research for the stress at the work should be done more since it will provide vital information toward producing sustainable human resource that could contribute significantly to our country. The aim of the study is to examine the level and extent of work-related stress and the prevalence of health problem among contractor management team at construction sites. The study was conducted in the Johor Bahru district. Respondent involved were from contractor management team such as engineers, supervisors and project managers. The number of questionnaire forms sent was 50 sets and only 30 sets were replied by engineers, supervisors and project managers. The questionnaire data was analyzed using frequency analysis method and average index method. The findings show, about 30 percent respondent which is 9 person agree that within the past 12 months they suffered from some illness, disability or other physical or mental problem that was caused or made worse by job or work done in the past. Around 13% of those working in the sample construction site job roles currently experiencing stress, depression or anxiety which they feel was caused by or made worse by their job or work done in the past. Around 7% of the respondents found their job extremely stressful. The most stressful aspects of work for respondents were being responsible for the safety of others at work. Around 2.48 of the average index for the demand of job reported to be most critical level of stress.

Keywords: *Stress; Health; Safety; Disease; Illness; Construction*

1.0 Introduction

Construction sector in Malaysia normally employ around 800,000 people. However, this sector has many issues especially to overcome health and safety problems at the construction site (Abdul Latif, 2006). Health problems which cause by stress can increase the cost of overall occupational health (Clark, 2002). This will affect the organizational and country productivity (Anonymous, 2000). In Malaysia, issue related to health especially in the construction industry are not commonly being discussed but data in other countries had indicated big implication due to health related illness or problems (Abdul Rahim et al., 2010). In fact, the compensation claims for the health problems were high compare to accident based on the statistic in other country (Ayers and Kleiner, 2002). The literature had suggested that it appears stress related problem at work can cause dangerous disease such as heart attack, headache and others (Bammer and Newberr, 1982). This problem can affect the human resource of the organization and affect the productivity of the country (Doby and Caplan, 1995). A lot of stress at work will easily affect the people who have psychological problem that will eventually cause pensiveness (Cox and Griffith, 1995). Pensiveness can influence the worker focus at work and can subsequently lead to accident (Minter, 1999). However, little is known about the extent of the problem, possibly due to reluctance of those working in the industry to admit they are experiencing work-related stress (Fairbrother and Warn, 2003). There is some suggestion that as pressures on the industry increase, so too do

the levels of stress (Kets de Vries, 1979). Furthermore, there are many potential sources of stress for construction industry workers as highlighted in the literature, and, to a degree these may vary according to job role, gender, age and work contract (CIOB, 2006). There is little comparison of stress levels and sources of stress for different jobs within the industry to date, so it is difficult to identify from the current research particular jobs that may be associated with higher levels of stress (Sutherland and Davidson, 1993). Research related to stress at work should be exemplified because many new challenge exist in business world including construction (Revil, 2003). Based on many studies, stress at work will result in multiple of negative impact toward safety and health aspect of workers (Robbins, 2001). Therefore, study related to stress should be widened since in the past the study on stress at the work especially in the Malaysian construction industry are lacking.

2.0 Aim and Objectives

The aim of this study was to examine the occurrence of occupational stress among contractor management team at construction site. The objectives of this study are as follows:

- i. To study the prevalence of health problem among contractor management team at construction site
- ii. To study the level and extent of work-related stress among contractor management team at construction site
- iii. To evaluate the key causal factors of work-related stress among contractor management team at construction site

The study was conducted in Johor especially the Johor Bahru district and the respondent involved was mainly contractor management team such as engineers, supervisors and project managers. Literature review was limited to the stress that affect the health and safety at work only.

3.0 Methodology of Study

Main data collection data were conducted through literature review and questionnaire surveys. The number of questionnaire sets sent were 50 sets and only 30 sets replied by engineers, supervisors and project managers. The questionnaire survey data was analyzed using frequency analysis method and average index formula. The data collected was analyzed using the average Index formula as shown below.

Average Index = $\frac{\sum a_i x_i}{\sum x_i}$. whereas, a_i = constant which represent the weight for i , x_i = variable that represent the frequency of respondents to the I ($i = 1, 2, 3, 4, 5$) (Al-Hammad and Assaf, 1996).

The classifications for the rating scale are: $1.00 \leq \text{Average Index} < 1.50$ (none or Not at all stressful), $1.50 \leq \text{Average Index} < 2.50$ (A little or Mildly stressful), $2.50 \leq \text{Average Index} < 3.50$ (Moderate or Moderately stressful), $3.50 \leq \text{Average Index} < 4.50$ (A lot or Very stressful) and $4.50 \leq \text{Average Index} \leq 5.0$ (Excessive or Extremely stressful) (Majid and McCaffer, 1997).

4.0 Results and Discussion

Results presented below were brief findings based on the objective of the study.

4.1 Respondents Background

Section A of the questionnaire form captures some basic demographic of the respondents as shown in Figure 1 to 7. Majority of the respondents were male residing in Johor Bahru district. Most of them were engineers, supervisors and project managers over 30 years old working in building and civil engineering works. They spent more than 40 hours per week at the workplace.

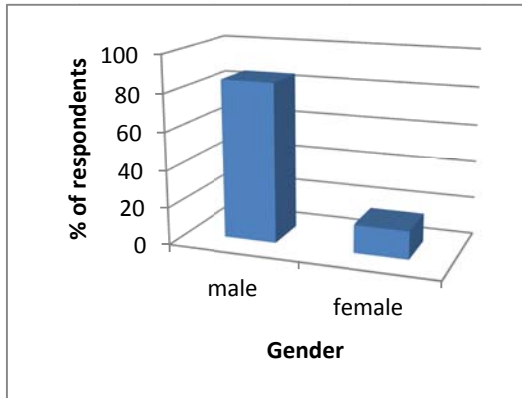


Figure 1: Percent respondent based on gender

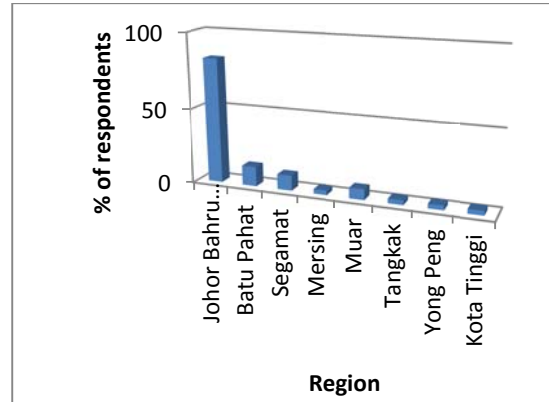


Figure 2: Percent of respondent based on the location at construction site.

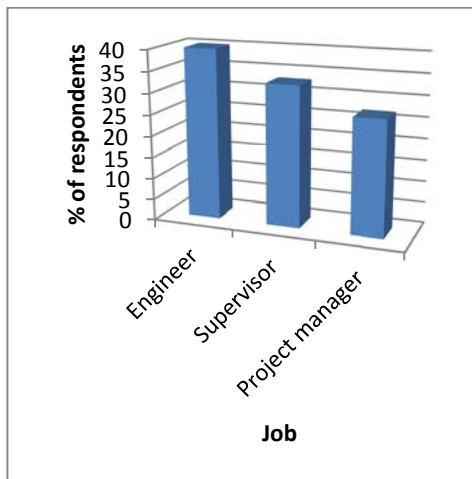


Figure 3: Percent respondent based on job

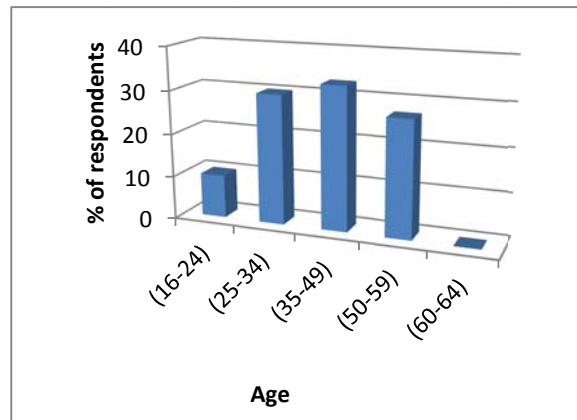


Figure 4: Percentage age of respondents for stress in construction site

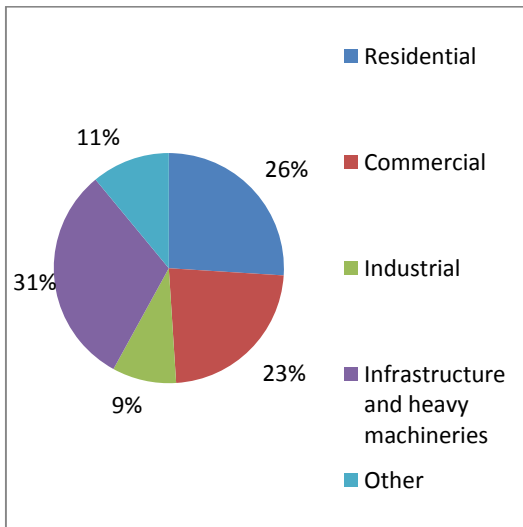


Figure 5: Area of work (%)

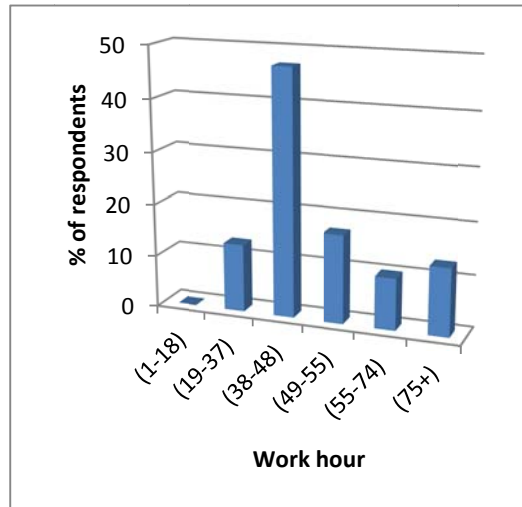


Figure 6: Hours worked in the past 7 days

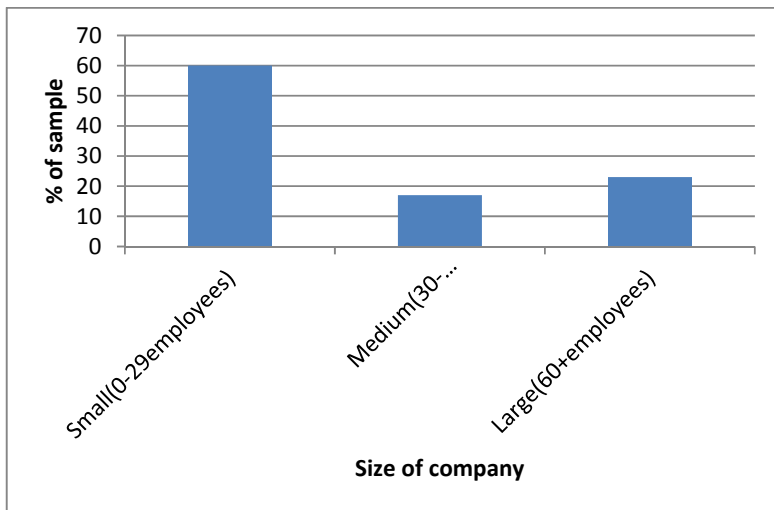


Figure 7: Size of company (%)

4.2 Respondents Health Problem

Figure 8 and 9 show the results on the prevalence of health problem among contractor management team at construction site. Thirty percent respondent or 9 person agreed that within the past 12 months they suffered from any illness, disability or other physical or mental problem that was caused or made worse by job or work done in the past while 70 percent respondents or 21 person disagreed. Respondent indicated 4 disease such as bone joint or muscle, breathing or lung, stress depression or anxiety and hearth disease/attack within the past 12 month which they suffered was caused by job or work done in the past.

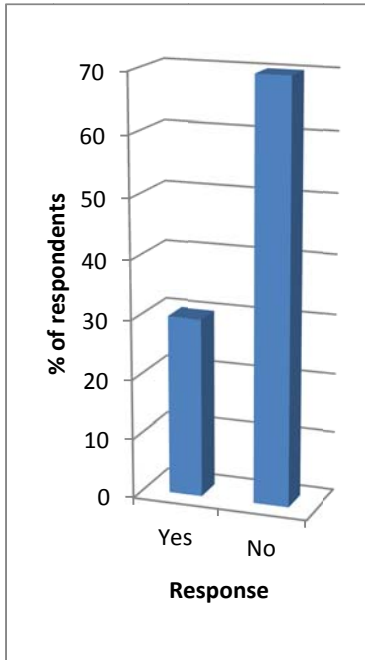


Figure 8: Suffered from illness within the past 12 months caused by their job or work done in the past

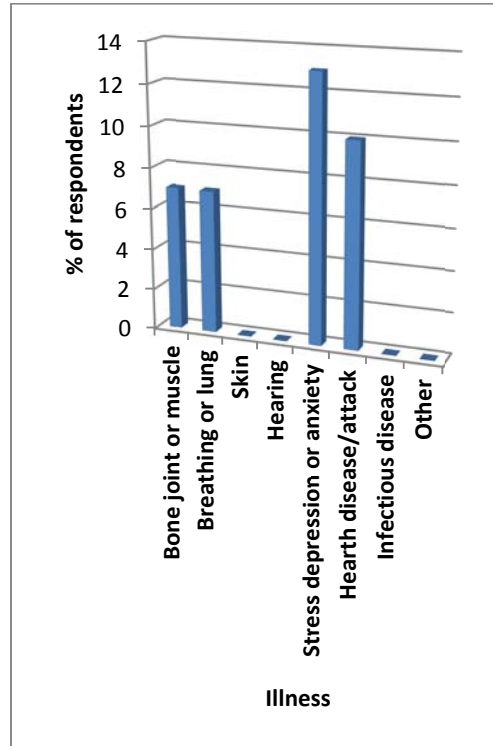


Figure 9: Which illness within the past 12 months caused by their job or work done in the past

4.3 Level and Extent of Work-related Stress

Figure 9 and 10 show that around 13% of those respondents job roles currently experiencing stress, depression or anxiety which they feel was caused by or made worse by their job or work done in the past. For comparison, 7% of the sample reported bone, joint or muscle problems and breathing or lung problem and 10% of the sample reported heart disease/attack problem. Around 7% of the sample found their job very stressful. For comparison, 50% of the sample found their job moderately stressful, 23% of the sample found their job mildly stressful and 20% of the sample found their job not stressful at all.

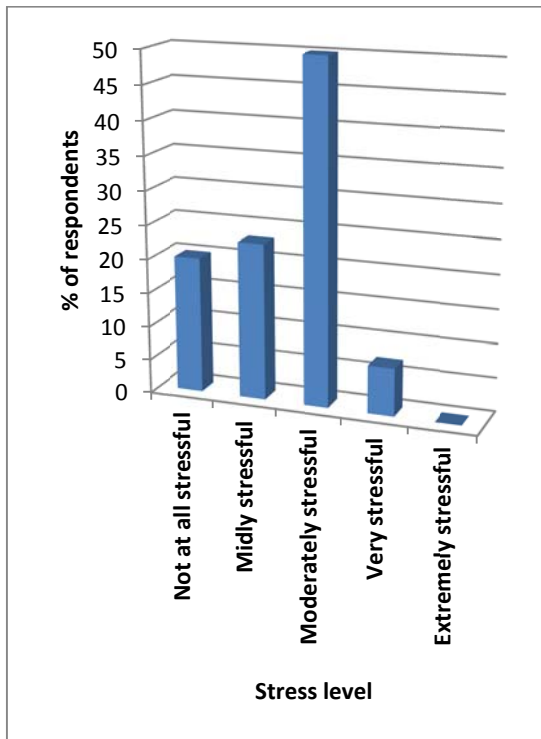


Figure 10: In general how do respondents find their job

4.4 Source of Work-related Stress

The data shown in Table 1 below compile the overall point of view of the analyzed questionnaire from the engineer, supervisor and project manager. The number of questionnaire distributed was 50 sets and only 30 sets replied by engineer, supervisor and project manager. The stressful aspects of work for respondents were divided into 5 categories which were working with others, working and home life, responsibilities, demand of the job and other sources of the stress. The most stressful aspects of work for respondents was being responsible for the safety of others at work. Around 2.48 of the average index for the demand of job reported most critical level of stress.

Table 1: Source of stress

Rating 1 = None; Rating 2 = A little; Rating 3 = Moderate; Rating 4 = A lot; Rating 5 = Excessive

No.	Source of stress	Frequency of Respondent						Average Index
		1	2	3	4	5	N	
1	I don't get enough support from my boss	26	1	2	1	0	30	1.26
2	My boss doesn't give me feedback on my work	30	0	0	0	0	30	1.00
3	I don't understand my duties and responsibilities	30	0	0	0	0	30	1.00
4	I don't get enough support from my co-workers	20	4	2	1	3	30	1.77
5	There are poor relations with my co-workers	24	2	2	1	3	30	1.77
6	I can't talk to my boss about work	26	1	1	1	1	30	1.33
7	I work weekends and/or nights	13	5	5	4	3	30	2.30
8	I travel or commute	12	6	4	4	4	30	2.40
9	I work away from my family/home	20	3	2	2	3	30	1.83
10	I don't have job security	20	2	1	2	2	30	1.67
11	I work long hours	14	5	6	2	3	30	2.17
12	I am responsible for the safety of others at work	6	8	5	6	5	30	2.87
13	I find it difficult to comply with all of the rules	19	5	4	1	1	30	1.67
14	I have to deal with public disorder	17	3	4	2	1	27	1.77
15	My site has a labour/skills shortage	14	4	5	4	3	30	2.40
16	I have too much work to do in the time available	13	2	7	5	3	30	2.44
17	I have to juggle tasks and resources	12	4	6	4	4	30	2.50
18	Clients give me inflexible deadlines	9	9	4	5	3	30	2.50
19	My job is dangerous	21	4	2	1	2	30	1.63
20	I don't get enough training	22	3	2	1	2	30	1.60
21	I can't control how I do my work	24	1	2	1	2	30	1.53
22	I can't control what I do at work	24	2	1	1	2	30	1.5
23	I am not told about change at work	25	1	1	1	2	30	1.47

Table 2: Source of stress based on ranking

Source of stress	Average Index	Ranking
I am responsible for the safety of others at work	2.87	1
Clients give me inflexible deadlines	2.50	2

I have to juggle tasks and resources	2.50	3
I have too much work to do in the time available	2.44	4
I travel or commute	2.40	5
My site has a labour/skills shortage	2.40	6
I work weekends and/or nights	2.30	7
I work long hours	2.17	8
I work away from my family/home	1.83	9
I don't get enough support from my co-workers	1.77	10
There are poor relations with my co-workers	1.77	11
I have to deal with public disorder	1.77	12
I don't have job security	1.67	13
I find it difficult to comply with all of the rules	1.67	14
My job is dangerous	1.63	15
I don't get enough training	1.60	16
I can't control how I do my work	1.53	17
I can't control what I do at work	1.50	18
I am not told about change at work	1.47	19
I can't talk to my boss about work	1.33	20
I don't get enough support from my boss	1.26	21
My boss doesn't give me feedback on my work	1.00	22
I don't understand my duties and responsibilities	1.00	23

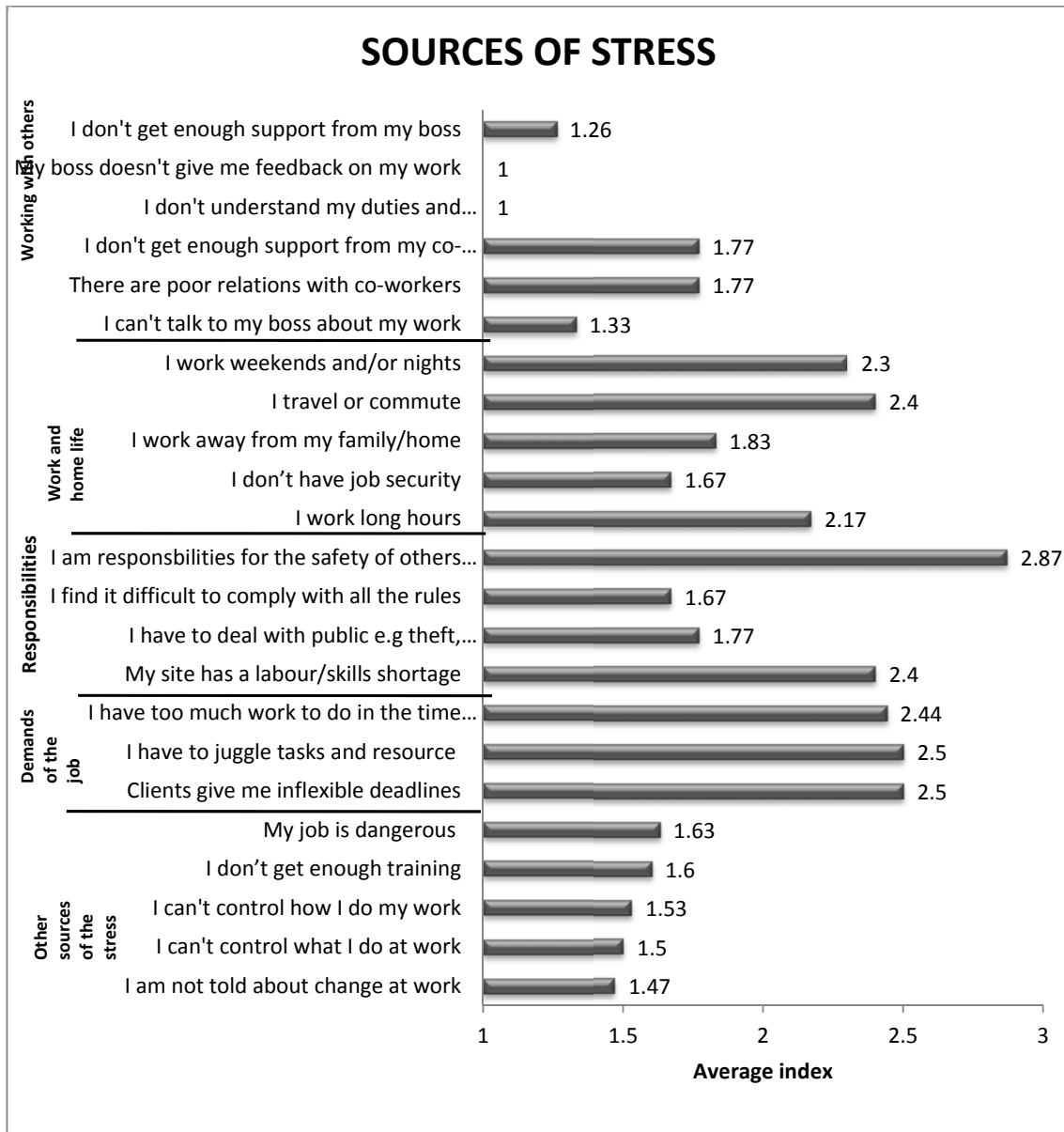


Figure 11: Level of stress

Table 3: Most stressful aspect for respondents

Source of stress	Average Index	Job
I am responsible for the safety of others at work	2.87	Supervisor
Clients give me inflexible deadlines	2.50	Engineer Project manager
I have to juggle tasks and resources	2.50	Supervisor
I have too much work to do in the time available	2.44	All
I travel or commute	2.4	Supervisor Engineer

Table 4: Top three stressors for selected job titles

Source of stress	Job
<ol style="list-style-type: none"> 1. I have too much work to do in the time available 2. I am responsible for the safety of others at work 3. I work long hours 	Project Manager
<ol style="list-style-type: none"> 1. I am responsible for the safety of others at work 2. I travel or commute 3. I have too much work to do in the time available 	Supervisor
<ol style="list-style-type: none"> 1. I have too much work to do in the time available 2. I travel or commute 3. I work long hours 	Engineer

5.0 Conclusions

Conclusion based on the objective of the study can be put forward as below:

1. Based on the prevalence of health problem among contractor management team at construction site, 30 percent respondent which is 9 person agree that within the past 12 months which suffered from any illness, disability or other physical or mental problem that was caused or made worse by job or work done in the past .
2. Around 13% of those working in the sample construction site job roles currently experiencing stress, depression or anxiety which they feel was caused by or made worse by their job or work done in the past. For comparison, 7% of the sample reported bone, joint or muscle problems. Around 7% of the sample found their job very stressful.
3. The top five most stressful aspects of work for respondents were :-
 - a) Being responsible for the safety of others at work
 - b) Clients give me inflexible deadlines
 - c) Having to juggle tasks and resources
 - d) Having too much work to do in the time available
 - e) Travelling or commuting

Around 2.48 of the average index for the demand of job reported most critical level of stress.

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