

## Factors That Influence Job Stress among Foreign Construction Site Workers in Malaysia

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**Abstract:** This study's goal is to address factors that cause major stress scenarios and identify the factors that cause such a dilemma among foreign workers. These issues stem from three different variables that contribute to stress, which include job characteristics (job demand, job control and job support) workload and reward. To affirm and verify the said variables, a quantitative research approach is implemented based on participants from the construction site. The data obtained was interpreted to a more meaningful graphical representation that highlights the amount of impact that the said variables have on the worker's stress level. The sampling frame was for foreign workers from different levels and positions in a selected construction site in Klang Valley. This study was based on 100 samples of foreign workers selected using the snowballing method. The data collected was analyzed using Statistical Package for the Social Sciences 26 (SPSS 26). Results indicate a significant relationship between job factors (job demand, job control and job support) on the job stress of foreign workers at the construction site. Results also show a significant relationship between workload and job stress and no relationship was found between reward and job stress. This study discussed the results from the psychological, and human resource perspectives, as well as their implications for human resource management. The findings can be used to guide the progress of policies and programs that can navigate the negative effects of employees' stress. The present study was done to further combine and explore whether the main initial factors influencing stress in Malaysia are still applicable in the context of foreign workers in the construction industry. Up until now, there has been only scarce research on the combination of the discussed factors on stress.

**Keywords:** *Construction Site, Foreign Workers, Job Factors (Job Demand, Job Control and Job Support), Job Stress.*

### 1. Introduction and Background

One of Malaysia's sectors with the quickest growth is the construction sector. People in the general public will be able to see numerous infrastructure works, such as the construction of the SUKE highway and the expansion of MRT and LRT lines, almost daily. The Construction Industry Development Board (CIDB) estimates that in 2017 and 2018, respectively, this industry contributed projects of RM170 billion and RM180 billion (Taofeeq et al., 2020). In addition, it was acknowledged that Malaysia's economy, like the economies of all other nations, is significantly influenced by the construction industry. To the overall strength of the national economy, the sector has been crucial. In terms of profit, capital formation, and employment creation, this industry has also made significant contributions to Malaysia's economy and Gross Domestic Product (Hasmori et al., 2018).

The construction industry is distinct from other industries because of its complexity, which results in projects with various work types, locations, parties involved who produce various types of products, and current changes in the trend of digitization and automation (Leung et al., 2010; Alaloul et al., 2020). The construction sector has long been acknowledged as a stressful one due to the difficulty of the tasks, the short turnaround times, the difficult workgroup interactions between many stakeholders, and the unfavorable working conditions (Jebelli et al., 2020). In this view, another study also has shown that for construction work, stress has become a general phenomenon in which nearly 70% suffer from stress, anxiety or depression due to the work nature (Leung et al., 2010).

According to many researchers, stress is increasingly being blamed for absenteeism, low employee morale, high accident and turnover rates, lower productivity, and rising business medical costs, among other problems. As was noted in the research background, numerous papers have presented a wide range of potential stressor scenarios that could have had an impact on Malaysia's building industry. Occupational stress accumulated in a setting like construction could lead to psychological, sociological, and even physiological strain. As a result, the

coping strategy that can be used depends on the circumstances that are stress-producing at the time (Bowen, Govender, & Edwards, 2014).

According to the current study by Joshi, Paramasivan, Wahid, and Somu (2020), which was based on the theory of Job Demand, Control, and Support (JDCS) and looked at construction workers in Malaysia, job factors (job demand, job control, and job support) were what influenced work stress. Additionally, it is proposed that among all, workload and reward system is also highly associated with job stress based on the underlying theory of the "Biopsychosocial Model of Stress" (Bernard & Krupat, 1994) and other pertinent research. According to research by Omar et al. (2020), who also examine elements that contribute to stress based on the "Biopsychosocial Model of Stress" (Bernard & Krupat, 1994) as its guiding theory, workload and reward systems have little bearing on employees' levels of stress. In the context of foreign employees in the construction industry, the current study aims to further combine and investigate if the primary initial elements impacting stress in Malaysia are still relevant. The impact of the aforementioned elements together on stress has received little attention in the past (Clauss et al., 2021).

Several researchers have recently offered some insights into the issues that stress construction workers around the world (Vidhya & Jayakumar, 2020; Jung et al., 2020). According to a study by Joshi et al. (2020), Malaysia has an industry that studies stress among construction workers, but there is still potential for improvement given the differences in the contextual aspects. This study filled this gap by examining the effects of job factors, workload, and reward on the stress levels of foreign workers (Joshi et al., 2020; Omar et al., 2020). Grounded on the theory of Job Demand, Control and Support (JDCS) (Johnson, and Hall, 1988), the theory of the "Biopsychosocial Model of Stress" (Bernard & Krupat, 1994) and other relevant literature, this proposal used data from a group of foreign workers at a selected construction site in Klang Valley, Malaysia to address one key question: Does job factors (job demand, job control and job support), workload, and reward influence employees' stress?

This study puts forward the argument that the studied variables can be taken as a starting point in designing studies relating to central issues relevant to understanding factors affecting employees' stress. The findings can be used to guide the development of policies and programs that can enhance the employees' psychological experience and eventually organizations' performance. Based on this outcome, it will be clear the amount of relevance of the said factors, especially in controlling the amount of stress of workers from the construction companies that are situated within the country.

## 2. Literature Review

**Job Demand and Job Stress:** The first will be the 'job demand', which includes scenarios like working under a tight schedule, an overload of current tasks, and the requirement to conduct different tasks at the same time. One of the clear factors that make construction work very demanding is the environment in which the work must be conducted as it delves further into a worker's resilience to a construction environment and the site's safety performance which all leads to the build-up of psychological stresses (Chen, McCabe, & Hyatt, 2017). In another study done based on a construction work site in Hong Kong, it has been written that there is a need for several 'stress-adjusters' to ensure that job-demand stress and brought down to a controllable level (Zin & Nazri, 2021). Finally, the demand for construction-related jobs can be seen in a study done in a Chinese construction company (Wu et al., 2018). In their study, the authors relate the demand for the job to both 'job stress' and safety behavior, where demanding working hours, excessive responsibility, unsafe working conditions and even family issues majorly add more stress on the worker.

**Job Control and Job Stress:** The second element will be 'job control', which covers the need to creatively come up with ways to conduct a given task, make a proper decision on the spot while conducting the task, and require much more knowledge on completing a certain work. One clear area that shows the lack of control or in this case poor control is the lack of transparency in work – an ethical issue. Surprisingly, the lack of control over a job or even cutting corners within the work process could also contribute to stress (Aronsson, 2020). Although 'shortcuts' are often used to bypass certain tasks that seem non-critical at that point, deep down the person will still feel a sense of insecurity or lack of peace of mind which could build up over time if he or she keeps persisting with the same style of work. Such a scenario often happens within the construction sectors, as many

foreign superiors lack the ethical perception of dealing with the task on-hand which contributes to stress (Poon, 2004).

**Job Support and Job Stress:** The third element will be 'job support' which deals with situations like getting help or assistance from the superior, able or not able to rely on co-workers and the continuous feeling of uncertainty of losing the job as the project comes near to end. In this case, the biggest issue that comes with the lack of support is the lack of communication of the worker itself among the workers. A study was conducted that tied poor performance in the construction sector with poor communication among workers (Olanrewaju, Tan, & Kwan, 2017).

In another paper that studies stress issues in construction sites, poor communication can also be seen among professionals in many Nigerian construction sites (Ibem, Anosike, Azuh, & Mosaku, 2011). Based on this paper, a few issues are related to the communication problem which includes lack of guidance and lack of clear instruction from the top management, which all boils down to a problem in organization function and culture. This will affect the overall morale of workers, thus piling up stress on everyone (Ibem, Anosike, Azuh, & Mosaku, 2011; Wu, Wu, Li, & Dan, 2018).

**Workload and Job Stress:** It is important to understand if that particular worker is suitable for such a job environment (Chan, Nwaogu, & Naslund, 2020). This is because situations such as technology, long working hours and unfavorable work culture might further implode the already built-up stress from work (Holden & Sunindijo, 2018).

The research further concluded by appalling the idea of using simple machines to conduct much of the manual labor tasks, reducing the workload, therefore reducing stress and fatigue on the workers at the construction site (Kaminskas & Kazlauskaite, 2002; Shobe, 2018).

**Reward and Job Stress:** A study was conducted on the employees of a construction company in the United States to determine the type of occupational reward that the employees prefer to receive (Azeez, Gambatese, & Hernandez, 2019; Jahan, 2021). Results indicate that many workers feel that they did not receive financial rewards fairly and many workers would want to focus more on work-life balance and a better work environment. In addition, it also reduces stress (Azeez, Gambatese, & Hernandez, 2019; Jahan, 2021). A mobile network operator (MNO) is also known as a cellular organization (business), wireless service provider, mobile network carrier, or wireless carrier (Chepkemoi, 2017). Mobile network operators are those bigger cellular phone carriers that mostly own equipment and offer mobile phone services to the public or customers (Nasir et al., 2019). Based on the discussed literature above, various dimensions contribute to job stress, which includes job factors, workload and reward. Regardless, below are the hypotheses that are set as the basis to test these dimensions in terms of their significance to the study based on the discussed literature.

H1: There is a significant relationship between job factors (job demand, job control and job support) on the job stress of foreign workers at the construction site.

H2: There is a significant relationship between workload and job stress of foreign workers at the construction site.

H3: There is a significant relationship between reward and job stress of foreign workers at the construction site.

### 3. Research Methodology

The participants of the survey consist of the foreign workers of the construction workforce who go to site work and are made up of all different levels and positions, from an operator right up to a site supervisor. The survey questions are for the construction workers from Green Preserve Sdn. Bhd that are working in the building's areas, skyscrapers, highways, MRT and even bridges. All the participants are working within the Klang Valley area, to ensure all of these workers are living in a similar environment and have access to similar amenities and facilities (Ibem, Anosike, Azuh, & Mosaku, 2011).

To determine the sample size required, this study was based on Krejci and Morgan (1970), with an approximate total population of 700, the sample size needed is 155. The sample size chosen is also similar to one of the literature or studies conducted on a similar topic (Ibem, Anosike, Azuh, & Mosaku, 2011). For this study, the unit of analysis that has been used is individual foreign workers who work at a construction company at a site work are both unskilled and skilled workers, within the Klang Valley area. One of the reasons for this selection is that many construction projects are being carried out very often within this region. For the survey, each participant was given a hard copy set of questionnaires, in which the outcome of the said data was tabulated for further interpretation. In terms of graphical representation, the SPSS software was used, as this software's function is to provide a statistical analysis of the data that has been tabulated.

#### 4. Results

**Table 1: Demographic**

Criteria	Category	Frequency	Percentage (%)
Gender	Male	150	100.0
	Female	0	0.0
Age	20 years old and below	37	24.7
	21 to 30 years old	72	48.0
	31 to 40 years old	29	19.3
	41 to 50 years old	10	6.7
	Above 50 years old	2	1.3
Origin	Indonesia	144	96.0
	Bangladesh/Pakistan	0	0.0
	Nepal/India	0	0.0
	Myanmar/Vietnam/Thailand	6	4.0
	Others	0	0.0
Experience	Below 2 years	37	24.7
	2 to below 5 years	51	34.0
	5 to below 7 years	55	36.7
	7 to below 10 years	5	3.3
	Above 10 years	2	1.3
Income	RM1200 to below RM2000	82	54.7
	RM2000 to below RM2500	61	40.7
	RM2500 to below RM3000	5	3.3
	RM3000 to below RM3500	2	1.3
	RM3500 and above	0	0

Based on the frequencies shown in Table 1, the gender section is dominated by male employees at 100%, with no female employees on the construction site referring to the sample size of N = 150. Based on age group, the second category consisting of ages between 21 to 30 years has the largest percentage of employees at 48% or 72 respondents. This is followed by workers below the age of 20 years at 24.7% or 37 respondents, workers from ages between 31 to 40 years at 19.3% or 29 respondents, workers from ages between 41 to 50 years at 6.7% or 10 respondents and finally workers above the age of 50 years at 1.3% or 2 respondents; all these percentages are based on the sample size of N = 150.

Based on country of origin, about 96% of the entire workforce is made up of Indonesians, at 144 people out of the 150 respondents. The remaining 4% or 6 respondents come from the fourth group whose nationalities are either Thai people from Thailand, Vietnamese from Vietnam or Burmese from Myanmar, who are all from the northern region of the South-East Asia region. The reason for such grouping or breakdown is due to the similarities in culture, geographical location, ease of communication and even religious belief.

Based on experience, the largest group is made of employees who have been working between 5 to below 7 years in the company at 36.7% or 55 respondents followed closely by employees who have been working between 2 to below 5 years in the company at 34.0% or 51 respondents. The newer workers or those below 2 years of experience fall in third place in terms of the number of employees, at 24.7% or 37 respondents. In the lower end, there are only 5 people or 3.3% who are working between 7 to below 10 years and 2 people or 1.3% who have been working for more than 10 years in the company.

Based on the income of the workers, despite the minimum wage of RM1200 mandated by the government of Malaysia, the company also provides several allowances and mandatory overtime to compensate for the work time of shift change between morning and night. Hence, for this research, the total earnings of the workers are taken into consideration, where the biggest bracket of income group is the employees earning between RM1200 and below RM2000 at 54.7% or 82 respondents. The second bracket of income group is the employees earning between RM2000 and below RM2500 at 40.7% or 61 respondents. The minority groups are both brackets of earnings between RM2500 to below RM3000 and RM3000 to below RM3500, with 3.3% or 5 respondents and 1.3% or 2 respondents respectively. There is not one person who falls under the category of earning above RM3500.

Based on the demographic analysis of 150 respondents from Green Preserve Sdn. Bhd., all of them are males who are majority Indonesians with the remaining 4% being either Thai, Vietnamese or Burmese. Almost 48% of the workers are at the prime age of 21 to 30 years with 70.7% of them having between 2 to below 7 years of experience of work. As for the income or even having workers with long years of experience, the government forbids foreign laborers to remain in the country for more than 10 years as they are meant for blue-collar jobs that are labor intensive. Hence, to continue in the company, the worker will need to return after 10 years and then re-apply here as a fresh worker with their salaries reset to the minimum wage. If they want to remain here, each individual will need to pay at least RM6000 annually beginning from the 11th year of their tenure. This is why many workers will not continue after 10 years or even earn a higher salary.

**Descriptive Analysis:** In terms of descriptive analysis, there are two variables namely the mean and standard deviation are used to analyze both the independent variables and also the dependent variables. Results in Table 2 show that the dependent variable which is job stress shows a mean value of 3.208 and a standard deviation of 0.583.

As for the independent variables, the workload variable which is denoted at (WL) has the highest mean value at 3.382, followed by job factors (JF) with a mean value of 3.116 and the reward (ERI) variable with a mean value of 2.920. In terms of standard deviation, WL has the highest value of dispersion at 0.767, followed by JF at 0.536 and ERI at 0.438. The mean indicated that the average value is more on the positive side for this study and the value of standard deviation indicates that the average scatter of values is, around the mean. Taken together, especially along with the range, these statistics give us a good indicator of the sample.

**Table 2: Descriptive Analysis – Summary (N=150)**  
**Descriptive Analysis – Summary (N=150)**

Variables	Mean	Standard Deviation
Dependent Variables		
Job stress - Stress Analysis	3.2081	.58303
Independent Variables		
Job Factors	3.1164	.53641
Workload	3.3815	.76693
Reward	2.9200	.43750

Besides that, in this research, the second level of analysis is done since the job factors (JF) can be broken into 3 more categories, which consist of job demand (JD), job control (JC) and job support (JS), as shown in Table 3. Among the three variables, JD has the highest mean value at 3.472 followed by JC at 3.123 and JS at 2.755. As

for standard deviation, JD has the highest disparity at 0.859, followed by JC at 0.623 and JS at 0.428. These statistics indicate a good indicator of the sample.

**Table 3: Job Factors - Summary (N=150)**

**Job Factors - Summary**

Variables	Mean	Standard Deviation
Job Factors	3.1164	.53641
Job Demand	3.4720	.85868
Job Control	3.1227	.62252
Job Support	2.7547	.42798

**Reliability Test:** Based on the research conducted by Sekaran & Bougie (2010), the minimum required reliability to conduct the test will be 0.6 and above, as 0.6 is considered moderate, whereas data that is considered at least well begins at a coefficient of 0.7 (Sekaran & Bougie, 2010). Based on the reliability data that has been generated, it is clear that all the attained data from the survey conducted are considered as 'reliable' using Cronbach's Alpha coefficient as the guide.

To further illustrate, data from Table 4 shows that the 'workload' section of the survey is considered a 'strong' level of reliability whereas both 'job factors' are considered as 'very good' levels of reliability. Both the data collected for the 'reward' and the 'stress analyses are considered 'good' levels of reliability. Since the reliability of the attained is proven, therefore, further analysis can be conducted using the very same data to meet the project objectives.

**Table 4: Cronbach Alpha**

Variables	No. Items	Cronbach's Alpha
Dependent Variables		
Job Stress - Stress Analysis	9	0.778
Independent Variables		
Job Factors	15	0.865
Workload	9	0.912
Reward	10	0.747

**Pearson's Correlation:** Pearson's Correlation analysis is conducted to determine the level of covariance between two different continuous variables, which includes both independent and dependent variables. This correlation analysis focuses on two different elements, where the positive or the negative symbol denotes the direction of the relationship of these two variables and the value shown represents the amplitude of the correlation.

Results in Table 5 show that the correlation between job factors (job demand, job control and job support) on the job stress of foreign workers at the construction site, the correlation value is 0.676 with  $p < 0.01$ , this correlation is considered as positively 'moderate'. Further, the correlation between workload on job stress of foreign workers at the construction site. In this case, the correlation value is 0.583 with  $p < 0.01$ , this correlation is considered as positively 'moderate'. Finally, the correlation between rewards on job stress of foreign workers at the construction site. In this case, the correlation value is -0.123 with  $p > 0.01$ , this correlation is considered as negatively 'very weak'.

**Table 5: Pearson's Correlation Analysis (N=150), Pearson's Correlation Analysis**

	Job Factors	Workload	Reward	Job Performance (Stress Analysis)
<b>Job Factors</b>	1			
<b>Workload</b>	.746**	1		
<b>Reward</b>	-.109	.004	1	
<b>Job stress (Stress Analysis)</b>	.676**	.583**	-.123	1

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

**Multiple Regression:** Based on the multiple regression analysis, a value of 0.483 which is 48.3% determines that all the independent variables such as job factors, workload and reward have a 48.3% influence on job stress. In terms of significance value, the 'p' which is supposed to be below 0.05 has shown a 0.01 significance, therefore this relationship is statistically accepted.

As for the analysis of variance, also known as ANOVA, the F value shows 33.9% with a significance value of 0.01, still below the 0.05 error margin. This result shows that there is at least one of the independent variables which have a significant result with the dependent variable.

The next step is to assess each of the independent variables based on its beta value, whereby the higher the amplitude of the value the more significant it is to the dependent variable. Based on the results in Table 6, the job factor has the highest significant influence on job stress with beta value at  $\beta = 0.510$ ,  $p = .000$ , followed by workload at  $\beta = 0.207$ ,  $p < .05$ . Reward is not significant with  $\beta = -0.111$ ,  $p = .878$ . In other words, the job factors which consist of job demand, job control and job support have the most influence on job stress, be it positive or negative followed by workload. The reward, on the other hand, shows a lack of significance in influencing the job stress of employees.

**Table 6: Coefficients - Multiple Regression Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.763	.437		1.748	.083
	Job Factors	.555	.100	.510	5.564	.000
	Workload	.157	.069	.207	2.268	.025
	Reward	-.015	.095	-.011	-.153	.878

a. Dependent Variable: Job Stress

**Hypotheses Testing Results:** Hypothesis H1 is confirmed as 'acceptable' that there is a significant relationship between job factors (job demand, job control and job support) on the job stress of foreign workers at the construction site.

Hypothesis H2 is confirmed as 'acceptable' that there is a significant relationship between workload and job stress of foreign workers at the construction site. In other words, the relationship is statistically significant.

Hypothesis H3 is confirmed as 'not acceptable' and that there is no significant relationship between reward and job stress of foreign workers at the construction site. In other words, the relationship is statistically not significant.

**Discussion:**

**Significance of Job Factors on Job Stress:** Based on the first research objective, this study is required to determine the relationship between job factors and job stress. Overall, results from the regression analysis also indicate a significant influence of job factors on job stress ( $\beta=.510$ ,  $p<.000$ ). This is supported by the study by Chen, McCabe, & Hyatt, (2017); Wu et al. (2018); Aronsson, (2020); Olanrewaju, Tan, & Kwan, (2017) and Wu, Wu, Li, & Dan, (2018).

It can be concluded that job functions have a very critical influence on job stress and employers have to look into this as due to 'job stress,' the person's job performance and the person's compliance with job safety might be compromised as their goal of finishing the required job is higher than participating in job safety initiatives. In short, if a person has low morale and his or her surroundings are very unfavorable, the job will turn out to be less bearable, ergo very demanding (Wu et al., 2018).

Employers also have to look into job functions as lack of guidance and lack of clear instruction from the top management, which all boils down to a problem in organizational function and culture. When clear guidance is not given to the downlines, this might majorly affect the day-to-day tasks, leading to poor planning, inadequate resource allocation and staffing and bad crisis management mechanisms. When top-bottom communication fails, the bottom-top feedback of information will also collapse into dissatisfactions and grumblings by the on-site workers.

Regardless of the type of job functions that can be provided, the goal of this study is to facilitate employers and employees to reduce the number of workers 'exiting' the company and increase job performance by their respective workers which indirectly boosts the company's performance while maintaining a healthy relationship among team members.

**Significance of Workload on Job Stress:** Based on the second research objective, this study is required to determine the significance of the relationship between workload and job stress. Overall, results from the regression analysis also indicate a significant influence of workload on job stress ( $\beta=.027$ ,  $p<.025$ ). This is supported by the study by Chan, Nwaogu, & Naslund, (2020); Holden & Sunindijo, (2018), and Shobe, (2018). In this case, the harsh working conditions can be further improved by the organization but cannot be eradicated, hence, a certain amount of resilience is required to accept such a job. This is because a healthy mind and body are required as the majority of the tasks at the construction site are taxing to both the mind and the body. Otherwise, the worker eventually falls sick often and this will lead to more than just stress issues but also physical exhaustion that might affect work performance and the quality of output.

**Significance of Reward on Job Stress:** Based on the third research objective, this study is required to determine the significance of the relationship between reward and job stress. According to the findings, since the significant p-value is not below 0.05, this proves that the reward does not have a significant influence on job stress. Overall, results from the regression analysis indicate a non-significant influence of workload on job stress ( $\beta=-.011$ ,  $p=.878$ ).

This is contradicted by the findings by Azeez, Gambatese, & Hernandez, (2019) and Jahan, (2021). However, it is too early to dismiss the relationship. Further study needs to be done to better understand the results., as for rewards, normally many workers would want to focus more on work-life balance and a better work environment. In addition, it also reduces stress (Azeez, Gambatese, & Hernandez, 2019; Jahan, 2021).

**5. Managerial Implications and Recommendations**

One of the research's shortcomings is that it was designed with the construction industry in mind; as a result, it may not be appropriate for application in other sectors like manufacturing, food, or healthcare. This is because various industries call for a variety of workers, abilities, and even races and religions, as well as several issues that might not be prevalent elsewhere.

**Conclusion:** The purpose of this research was to examine the significance of job factors, workload, and reward in influencing job stress. Results show that workload and job factors are major sources of job stress. While foreign superiors must find ways to impose numerous restrictions to improve a person's life, it is crucial to



execute any type of improvement healthily so that foreign employees can improve their work style and attitude to doing their tasks. The main factor is for all parties to tackle this matter holistically to fulfill employee expectations while guaranteeing that the company requirements are addressed in this difficult business environment.

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