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Accidents at the Construction Site in Northern Area:

Malaysian Experienced

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Abstract: Recent statistic indicates that there is increasing number of accidents at the construction site which leads researcher to choose the construction site located at Kuala Sungai, Alor Star, Kedah Malaysia as place to do a study in 2006 until 2007. Due to many accidents occurs in constructions site, this study will help government to have a proper standard in supervision at the constructions site and to identify whether employers and employees comply or not with Occupational Health and Safety Act (OSHA) made by the government. This study tries to identify whether the attitudes, training, skill and protection tools of the worker contributes to the accident happen at the contraction sites. In order to find out the reason of accident at the construction site, the researcher uses the SPSS by using the two tests on every variable which are T-test and ANOVA. As a result, all of the variables show the significant result which contributes to the reason of accidents happened at the construction site. These findings can be as a references and guidelines to workers and employers in order to prevent the accidents at the workplace, especially at the construction sites. As recommendation, all parties have to concern about what the best measurements should be practiced to prevent accidents happen again as well as to increase the level of safety and security at the workplace. In future research, government and third parties such as NGO and society should be part of awareness campaign or programme to avoid of accidents at the workplace. By this ways, it hopes can lead to a more conducive working environment.
Keywords: Accident; Construction; Site; OSHA; Employee; Employer; Safety; Health.

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1. INTRODUCTION

In Malaysia, law and regulation related to the safety and health of the worker are quite general. The enforcement of this rule and regulation will give tremendous improvement is not only to safety and health if the worker but also to the level of awareness of the worker and employer about the reason of accident in construction site. Since the introduction of The Occupational Safety and Health Act (OSHA) in 1994, the number of accident at the workplace had shown the reduction. This research is tried to identify the factor or reason of accident at the construction site in order to increase the level of awareness of the worker and employer. There might be a certain factor that never been realize by them that capable contribute to the accident the construction site. Nowadays, the government is always monitoring the OSHA performance that implements by the employer in order to reduce the number of accident at the workplace and also try to keep improving their OSHA standard. This role is not only relying on the government but the most essential is the worker attitude toward their safety and health at construction site. They must ensure their attitude are always positive and not against the rule and regulation of OSHA. This is very important in order to keep their safety and health at the construction site. On the other hand, they are certain part of the material of the workplace that can contribute to the accident in construction site.

This research is try to reveal the reason at the construction site as the guideline to the employer to enable them to more concern about the factor that might be never realize before. Employer has to play important role and give his fullest commitment to implementing the OSHA programs and ensure all the worker are follow specific procedure and process while there are working and not against the OSHA and organization policy. Employer is not also responsible to provide the safe place at the construction site but also have to monitoring worker activities. Every year, many people fall victim to injury, harm and even death through accidents on construction sites. These sites are rife with danger, but most sites follow strict health and safety rules to ensure that these dangers are not a threat to the workers on the site. However, accidents do happen, and these can result from a variety of causes. Construction site accidents could stem from negligence of other site workers, inappropriate behavior of other site workers, defective machinery on site and mistakes and negligence caused by drinking or drugs taken by others (http://www.lawcore.com).

2. PROBLEM STATEMENT

In many countries, occupational accidents represent a major problem in public health. This is usually involved with the situation that cannot be hold and control by other workers and employers at the workplace. In France, the number of occupational accidents declare and recognize in 1998, from the 14.5 million working people is 1,35 million, an increase of 3% compared with 1997. In addition, among these accidents, 51% had a sick leave and involve with the dead of workers (Dangelzer, Francais and Jacquin, 2002).The construction industry is a professional sector with a high rate of occupation accidents. 107 accidents with sick leave for 1000 workers in France in 1998. This is clearly shown that the number of accidents is always arising in the construction sites. The result of the statistic only based one country, which is France, but how about in another country, whether the occupational accidents also were stated the high rates of accidents? In fact, to know the answering, the researchers need to understand the major problem that happen in some countries that may lead to the occupational accidents like in construction sites(Dangelzer, Francais and Jacquin, 2002).

In Malaysia, the finding is stated that Malaysia is also one of the countries that cannot leave from this problem. This is because from time to time, the finding was found that accidents in construction site was always happen and sometimes increase by years. Thus, it shows that in Malaysia, this problem also cannot be void and became as one of the major problem that stated the number of accidents and death of the workers during working hours. This is truly can be proven when the NIOSH Chairman, Datuk Lee Lam They, in 1998, he stated there were 1,195 confined space accidents which 122 workers suffered permanent disabilities and 7 others killed compared to 1,365 cases in 1997 which recorded 44 permanent disabilities cases and 6 fatalities (www.niosh.com.my).According to the Minister of Human Resources, Datuk Seri Dr. Fong Chan Onn also remained concerned with this situation. He said that the problems that is still happens

because there are certain contractors and sub contractors continued to flout safety rules, one of the which was the use of unskilled workers to erect scaffolding for high-rise construction. This is too dangerous when the scaffolding is not up to the specifications because it could collapse that may result in death or serious injury to the workers.

When the accident happens, there must be some actions that need to be taken to investigate the real causal of the problems. So, The Minister also said that the number of the scaffolding collapsed and workers falls to their death or suffering serious injury has been rising, especially in the Klang Vally. Recently, there is cases that involve with the cause of scaffolding collapses, which is in 10 January 2007. In these accidents, two workers dead and 10 injured when scaffolding collapsed. The incidents were happen in Jalan Bukit Bintang where 2 workers, a local and a Myanmar died at construction sites when scaffolding on which they were working on collapsed. They are believed to be working on 15 m scaffolding with eleven others when incident happens. The victims are Liew wan Chew, 52 and Myanmar's citizen, Boi Nei Thang,35 are dead when they having serious injury in their heads when falls down. So, this is unsafe conditions that may happens and become the problem that wants to be studied by the researchers to know further about the situation (www.niosh.com.my).

As the evidence, the number of accidents in 2003 was involved with 4,654 cases with 95 deaths from the number of cases. Then, in year 2004, the number of accidents is decrease but it still has the death of workers that were stated 81 deaths and in year 2005, 3,150 cases with 77 deaths (www.niosh.com.my).

Even the number of accidents is going down, but it still need to be worried because it can become a serious problem if the prevention action cannot be taken immediately. The results of the statistic supposed be worried by every person in this country to ensure the safety of the workers can be ensured during perform their duties. According to the Minister of Human Resources, Datuk Seri Dr. Fong Chan Onn also remained concerned with this situation. He said that the problems that is still happens because there are certain contractors and sub contractors continued to flout safety rules, one of the which was the use of unskilled workers to erect scaffolding for high-rise construction. This is too dangerous when the scaffolding is not up to the specifications because it could collapse that may result in death or serious injury to the workers.

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3. LITERATURE REVIEW

According to Sophie Hide and Sarah Atkinson (2003), a full-time researcher from Health & Safety Ergonomics Unit, Department of Human Sciences, Loughborough University said that the nature of construction accidents are multi-causal. That's mean; these accidents are not always happen at the construction sites without coinciding of the combination of causes and factors. Some of the reason that stated is influenced by their attitudes toward safety, their knowledge and skill, and their alertness and health. These reasons and factors are related by peers pressure, education and training, working hours, payment schemes, previous injuries or ill-health and so on. All of these hazard can influence planning and preparation, supervision, housekeeping, project management and safety culture (Gibbs, Hide, Haslam and Hastings, 2001).

One of the recommendations of this article is greater attention should be given to the design and selection of tools, equipment and materials (Frank and Ronald, 1982). Safety, rather than prize, should be the paramount consideration. Besides that, the other recommendation of this article is a greater opportunity should be taken to learn from failures, with implementation of accident investigation procedures, both by employers and HSE, structured by reveal contributing factors earlier in the causal chain (Sophie and Atkinson, 2003). That's mean, the accident at the construction sites can be avoid from take some lesson of the mistake that happen before. From this way, the accident at the construction sites can be reducing from time to time. The other past research indicates that, some workers through the perception of 'safety measure' as detrimental to performance, by slowing the job down and reducing earning potential. Other attitude of workers that mentioned safety measure sometimes introduce new risks like safety barriers, creating trip hazard of harnesses hindering safe escape in emergency situation. Also the view that expressed that increasing implementation of safety measures had led to relinquishment of personal responsibility for safe working behavior (Myers, 2003). The attitudes of workers that unwilling to follow the rules and regulation in construction also will be the causal for the influencing accidents occur (Donald, 1995).

The past researchers that mentioned there is certain workers that unable to provide the insufficient safety training. This include with the failure of them to know the proper way to handle the equipments using and also undertaking the accident event task. This situation mat resulted to the potential accident as stated by the past researchers, insufficient training among the workers as the general root cause the accident in contraction sites (AbdelHamid and Everett, 2000). Safety training is very important that should be provided by management for all workers in the workplace. Lack of safety training will result a bad impact for the workers as they did not have knowledge and the education to prevent the accident (HSE, 2002). Thus, as a worker they should get sufficient safety training in order to make them knowledgeable with the certain condition if the accident occurs. Safety training also can ensure the worker can prevent their safety during perform job. Safety training is very useful to give more directive instruction as to how an act should be performing (HSE, 1997). This will encourage workers to perform well when they get the sufficient training. Their act will be more effective and they have guidelines how to perform well during working without facing a tendency potential accident occurs (Drever, 1995).Therefore, with a poor understanding of what they are going, especially they did not learn how to perform the task through a variety of informal method, it will be the rot cause of accident occurs in contraction sites. Lack of safety training will be burden the worker to perform job and their safety also will be put in dangerous everyday they perform (Snashall D, 1990).

Based on statements from chairman of NIOSH, Datuk Lee Lam Thye, accident in workplace in every sector of industry are increases and always occur cases of accident. The statement above mentioned that Socso had receive 114,134 reported cases of accident in 1999, means that, the amount of reported about accident in workplace is very high, so that why the researcher always try to come out with research about it, and the try find the reason behind the high amount of accident cases reported. Besides that, the researcher also tries to find and create the best method to reduce accident in workplace. This is due to the increased by 19 % industrial accidents in some period from 1995 to 1999 (www.niosh.com.my).

However, there have some recommendations due to this problem by Datuk Lee Lam Thye in order to reduce the cases of accidents. He mentioned that, all level of management in all sector of industry must give full commitment to achieve a safe and a safe and healthy workplace through the promotion of Occupational Safety and Health (OSH) awareness, education and training for all. Besides that, the other recommendation by him is to develop special module and consultation services for Small and Medium Industries through seminar and workshop, exhibitions and so on.

He also mentioned that one of the major factors that contribute to the accidents in workplace is because the lack of skills among the workers. This poor of skills may leads to the accidents potential if did not take care and concern very well. The past research also agreed with the lack of skills among the workers can be accidents occur in construction sites. Lack of skills if did not handle very well by the workers and employers will give bad results to the organization, as the injuries and death will increased (Rigby,1970). There are eight root causes of accidents like lack of proper training, safety equipment not provided, deficient enforcement of safety, unsafe equipment, poor safety attitude, isolated duration of prescribed behavior, method and lastly, the lack of skills among workers while perform task. The lack of skills also one

of the factors that contribute to the accident in construction sites, as agreed and mentioned by the Chairman of NIOSH, Datuk Lee Lam Thye.

Based on the statement that has been mentioned by Frank Harris and Ronald McCaffer (1982), there must be protective clothing for the worker, especially for those that work in construction sites to wear the protective clothing. It is because the heads, eyes, hand and feet is the part of the body that should be protected in order to ensure accident did not occur and let say if the accident happens. It still can reduce the death of worker if they wear the protective clothing. If it significant for all worker is construction sites to wear the equipment as tools such as wearing the helmet to protect heads and also wearing goggle to ensure the eyes protection for certain dust. The most important is the protective equipment that has been provided it should be the minimum standard that has been required by law (Brady and Hong, 2006). It mean that all the equipment or tool should get the approval by the law in order to ensure the protective clothing in provided to the worker.

The recommendation is all the employer supposed to provide all the protective clothing that can be a benefit to the worker to used it in order to ensure the safety when perform their job (Suter, 2002). Beside that, the other research indicates that they also made some recommendation to employer to supervise their worker from time to time whether the worker wears the protective equipment or not (Lusk, 1999). This is because to make sure the worker will always follow the rule, to wear the safety tools in order to keep their safety is always as a priority when perform jobs in construction sites.

4. METHODS & MATERIALS

A cross-sectional survey was conducted in Alor Star, Kedah 2006 until April 2007 using a quantitative towards respondents. A total of 100 respondents were selected as respondents due to larger size of population. The data was analyzed using statistical Statistical Package for the Social Science (SPSS) in getting data and information. By this SPSS, the researchers used the analysis method like Descriptive Statistic, T-test and ANOVA.

5. RESULTS & DISCUSSION

5.1 Profile of Respondents

In this section, the researchers discuss about the respondents demographic such as gender, age, marital status, race, monthly salary and level of education. Based on the Table 1, all of the respondents are male which representing 100% (n=100).

In the Table 2, majority of the respondents are Malay which representing 78% (n=78), 9% (n=9) representing Chinese respondents and 13% (n=13) representing Indian respondents.

Based on the Table 3, majority of the respondents are single which representing 60.0% (n=60). Meanwhile 4 0% (n=40) of the respondents are married.

As indicated in table 4, Respondents are categorized into five age groups which range from less than 25 years old, 25-35 years old, 36-45 years old, 46-55 years old and more than 56 years old. From the table, majority of the respondents' age are less than 25 old which representing 40% (n=40), followed by 25% (n=25) under group of 36-45 years old, 25% (n=25) under group 25-35, 5% (n=5) under both group of 46-55 years old more than 56 years old.

In the Table 5, majority of the respondents' education level are unfinished school which representing 55 % (n=55), 25% (n=25) which representing UPSR/PMR level, 15% (n=15) which representing SPM/ STPM level and 5% (n=5) representing others.

Table 1: Gender of Respondents

Gender		Frequency	Percent
	Male	100	100.0
	Total	100	100.0

Table 2: Race of Respondents

Race		Frequency	Percent
	Malay	78	78.0
	Chinese	9	9.0
	Indian	13	13.0
	Total	100	100.0

Table 3: Marital Status of Respondents

Marital Status		Frequency	Percent
	Single	60	60.0
	Married	40	40.0
	Total	100	100.0

Table 4: Age of Respondents

Age		Frequency	Percent
	<25 years	40	40.0
	25-35 years	25	25.0
	36-45 years	25	25.0
	46-55 years	5	5.0
	>56 years	5	5.0
	Total	100	100.0

Table 5: Education Levels

Education Levels		Frequency	Percent
	Unfinished School	55	55.0
	UPSR/PMR	25	25.0
	SPM/STPM	15	15.0
	Others	5	5.0
	Total	100	100.0

5.2 Result of Findings

The result from ANOVA and T-test shows extensions of independent variables are significant with one another and with dependent variable. Table 6.1 is the summary of ANOVA for first variable for training which shows that 'employer always provide the safety training for the employees' significant at .617 followed by 'employer responsible to ensure their employees get sufficient training in order to prevent the accidents at the workplace' significant at .584. In Table 6.2 shows that T-test result has the significant between 2 variables which are indicates 0.823 and majority the worker get the sufficient safety training and they satisfied with the rules and regulations at the workplace.

Table 6.1: Result of Finding ANOVA (Variable Training)

		Sum of Squares	df	Mean Square	F	Sig.
INSUFFICIENT SAFETY TRAINING CAN CAUSE THE ACCIDENT AT THE WORKPLACE	Between Groups	6.842	3	2.281	5.089	.005
	Within Groups	16.133	36	.448		
	Total	22.975	39			
IF THE EMPLOYER PROVIDE THE SUFFICIENT SAFETY TRAINING TO THEIR EMPOYEES THE ACCIDENT AT THE WORKPLACE CAN BE PREVENT	Between Groups	2.742	3	.914	2.311	.093
	Within Groups	14.233	36	.395		
	Total	16.975	39			
EMPLOYER RESPONSIBLE TO ENSURE THEIR EMPLOYEES GETS SUFFICIENT SAFETY TRAINING IN ORDER TO PREVENT THE ACCIDENT AT THE WORKPLACE	Between Groups	.700	3	.233	.656	.584 **
	Within Groups	12.800	36	.356		
	Total	13.500	39			
WITH SUFFICIENT SAFETY TRAINING, EMPLOYEES CAN TAKE A RIGHT ACTION WHEN THE EMERGENCY CASES AT THE WORKPLACE	Between Groups	2.967	3	.989	2.042	.125
	Within Groups	17.433	36	.484		
	Total	20.400	39			
YOUR EMPLOYER ALWAYS PROVIDE THE SAFETY TRAINING TO YOU	Between Groups	1.042	3	.347	.603	.617 **
	Within Groups	20.733	36	.576		
	Total	21.775	39			

** Significant is 0.5 levels

Table 6.2: Result of Finding T-test (Variable Training)

Group Statistics

	Do You Get Sufficient Safety Training	N	Mean	Std. Deviation	Std. Error Mean
Are You Satisfied With The Rules & Regulations At Your Workplace	Yes	27	2.78	1.013	.195
	No	13	2.38	.961	.266

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ARE YOU SATISFIED WITH THE RULES & REGULATIONS AT YOUR WORKPLACE	Equal variances assumed	.051	.823	1.169	38	.250	.393	.336	-.288	1.074
	Equal variances not assumed			1.191	24.975	.245	.393	.330	-.287	1.073

Table 7.1 is the summary of ANOVA for second variable for attitude which shows that 'you satisfy with the rules and regulations at your workplace' significant at .848. In Table 7.2 shows that T-test result has the significant between 2 variables which are indicates 0.973 shows that attitude of the worker will cause accident at the workplace.

Table 7.1: Result of Finding ANOVA (Variable Attitude)

		Sum of Squares	df	Mean Square	F	Sig.
RULES & REGULATIONS CAN HELP WORKER TO IMPROVE THEIR ATTITUDE	Between Groups	4.376	3	1.459	.998	.405
	Within Groups	52.599	36	1.461		
	Total	56.975	39			
BY FOLLOW THE RULES & REGULATION AT THE WORPLACE CAN SECURE YOUR SAFETY	Between Groups	4.930	3	1.643	3.985	.015
	Within Groups	14.845	36	.412		
	Total	19.775	39			
ARE YOU SATISFIED WITH THE RULES & REGULATIONS AT YOUR WORKPLACE	Between Groups	.854	3	.285	.268	.848**
	Within Groups	38.246	36	1.062		
	Total	39.100	39			
WORKERS ARE NOT INTERESTED TO FOLLOW RULES & REGULATIONS	Between Groups	5.418	3	1.806	1.349	.274
	Within Groups	48.182	36	1.338		
	Total	53.600	39			

** Significant is 0.5 levels

Table 7.2: Result of Finding ANOVA (Variable Attitude)

Group Statistics

	DO YOU AGREE THE ATTITUDE OF WORKERS CAN INFLUENCE THE ACCIDENTS AT THE WORKPLACE	N	Mean	Std. Deviation	Std. Error Mean
ATTITUDE OF THE WORKER THAT UNWILLING TO FOLLOW RULES & REGULATIONS CAN CAUSE ACCIDENT	YES	35	2.09	.818	.138
	NO	5	1.80	.837	.374

Independent Sample Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ATTITUDE OF THE WORKER THAT UNWILLING TO FOLLOW RULES & REGULATIONS CAN CAUSE ACCIDENT	Equal variances assumed	.001	.973	.729	38	.471	.286	.392	-.508	1.079
	Equal variances not assumed			.716	5.155	.505	.286	.399	-.730	1.302

Table 8.1: Result of Finding ANOVA (Variable Skills)

		Sum of Squares	df	Mean Square	F	Sig.
THE WORKERS THAT LACK OF SKILL WILL AFFECT THE OTHER WORKER WHILE WORKING	Between Groups	.692	2	.346	.510	.605**
	Within Groups	25.083	37	.678		
	Total	25.775	39			
LACK OF SKILL IS THE MAJOR FACTOR OF ACCIDENT AT THE CONSTRUCTION SITE	Between Groups	.042	2	.021	.041	.960**
	Within Groups	18.733	37	.506		
	Total	18.775	39			
SKILLS ARE VERY IMPORTANT TO PREVENT ACCIDENT AT THE WORKPLACE	Between Groups	.625	2	.313	.574	.568**
	Within Groups	20.150	37	.545		
	Total	20.775	39			
THIS IS VERY IMPORTANT FOR THE WORKER THAT ARE LACK OF SKILL TO BE SEND TO TRAINING	Between Groups	.117	2	.058	.069	.934**
	Within Groups	31.483	37	.851		
	Total	31.600	39			

** Significant is 0.5 levels

Table 8.2: Result of Finding T-test (Variable Skills)

Group Statistics

	DOYOU HAVE GOOD SKILLS TO PERFORM THE JOB	N	Mean	Std. Deviation	Std. Error Mean
LACK OF SKILL MAY CAUSE ACCIDENT AT THE WORKPLACE	YES	32	1.75	.622	.110
	NO	8	1.75	.886	.313

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
LACK OF SKILL MAY CAUSE ACCIDENT AT THE WORKPLACE	Equal variances assumed	2.974	.093	.000	38	1.000	.000	.268	-.543	.543
	Equal variances not assumed			.000	8.800	1.000	.000	.332	-.754	.754

As indicated in Table 8.1 is the summary of ANOVA for third variable for skills which shows that 'lack of skills is the major factor or accident at the construction site' significant at .960, followed by 'important for the worker that lack of skill to be send to attend training' significant at .934. Significant value at .605 also found for the item 'The workers that lack of skills will affect the other workers while working' and item 'skills are very important to prevent accident at the workplace' significant at .568. In The table 8.2 shows the result of T-test about the lack of the skill among the worker may cause accident at the workplace and whether the worker has the good skills to perform the job. The result shows there are no significant between these two variables which indicate 0.093. The researcher can conclude the worker may involve with the accident at the workplace although they have good skill to perform the job.

Table 9.1 is the summary of ANOVA for second variable for protection tools which shows that item 'protection tools is an important mechanism to prevent accident at the workplace' significant at .530. In Table 9.2 shows that T-test result has the significant between 2 variables which are indicates 0.962 shows that result there is a significant between workers wearing protection tools and the failures to wear protection tools among workers can contribute to the accidents occur in construction sites.

Table 9.1: Result of Finding ANOVA (Variable Protection Tools)

		Sum of Squares	df	Mean Square	F	Sig.
MANAGEMENT SHOULD PROVIDE PROTECTION TOOLS FOR ALL WORKERS	Between Groups	2.439	2	1.220	2.832	.072
	Within Groups	15.936	37	.431		
	Total	18.375	39			
THERE IS NEED TO HAVE THE LATEST PROTECTION TOOLS IN ORDER TO PREVENT ACCIDENT AT THE WORKPLACE	Between Groups	1.752	2	.876	1.185	.317
	Within Groups	27.348	37	.739		
	Total	29.100	39			
THERE IS NEED TO WEAR PROTECTION TOOLS BY WORKERS WHILE WORKING	Between Groups	1.607	2	.803	1.661	.204
	Within Groups	17.893	37	.484		
	Total	19.500	39			
PROTECTION TOOLS IS AN IMPORTANT MECHANISM TO PREVENT ACCIDENT AT WORKPLACE	Between Groups	1.498	2	.749	.646	.530**
	Within Groups	42.877	37	1.159		
	Total	44.375	39			
WORKERS ARE NO NEED PROTECTION TOOLS WHILE WORKING BECAUSE THEY ARE COMPETENCE ENOUGH	Between Groups	8.657	2	4.328	1.922	.161
	Within Groups	83.318	37	2.252		
	Total	91.975	39			

** Significant is 0.5 levels

Table 9.2: Result of Finding T-test (Variable Protection Tools)
Group Statistics

	DO YOU WEAR PROTECTION TOOLS	N	Mean	Std. Deviation	Std. Error Mean
FAILURE TO WEAR PROTECTION TOOLS CAN CONTRIBUTE TO THE ACCIDENT IN CONSTRUCTION SITES	YES	26	1.65	.562	.110
	NO	14	1.50	.519	.139

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
FAILURE TO WEAR PROTECTION TOOLS CAN CONTRIBUTE TO THE ACCIDENT IN CONSTRUCTION SITES	Equal variances assumed	.002	.962	.848	38	.402	.154	.181	-.213	.521
	Equal variances not assumed			.869	28.646	.392	.154	.177	-.209	.516

6. CONCLUSION

In conclusion, the objective of this research to identify whether the attitude, skills, training and protection tools of the worker contribute to the accident at the construction site. The result shown there is a positive significant in relation and has been answered by result of findings. For the future research, the government should more find the best method as value added in OSHA at the workplace for al compliance by employee and employer. On the other hand, third parties such as NGO's and society should participate to give idea to the government in creating conducive working environment at large. By this advancement in rules and regulation, the numbers of accident occurs at the construction site will decrease accordingly.

REFERENCES

Abdel Hamid, T and Everett, J. (2000). Identify Root Causes of Construction Accident. *Journal. Construction. Eng. Manage*, pp.126, 52-60.

Brady, J. and Hong, S.O. (2006). Hearing Protection: Work Climate and Hearing Protection Behaviors in Construction Sites. *Journal of Protection Safety.*

Dangelzer, Francais and Jacquin. (2002). *Relationship between Some Individual Characteristics and Occupational Accident in the Construction Industry: A case Control Study on 880 Victims of Accident occurred during a Two Year Period.*

Donald, W, M. (1995). *Plant Monitoring and Inspecting Hand book.* Prentice Hall.

Drever, F. (1995). *Occupational Health: Decennial Supplement* (HMSO: London).

Frank, H, Ronald, M. (1982). *Construction Plant.* Granada Publishing Limited

Gibbs A, Hide, S, Haslam R and Hastings S. (2001). Identify the Root Cause of Construction Accidents-discussion. *Journal of Construction Engineering and Management,* pp 127, 3.

Health and Safety Executive (HSE). (1997). *Successful Health and Safety Management*. HSE Books: Sudbury, Suffolk, HSG 65.

Health and Safety Executive (HSE). (2002). *Revitalizing Health and Safety in Construction* (HSF Books: Sudbury, Suffolk).

Lusk. (1999). Effectiveness of an Intervention to Increase Construction Worker's Use of Hearing protection. *Human Factors*, pp. 289-295.

Myers. (2003). *Health and Safety Performance in the Construction Industry.* HSE: London.

Rigby, L. (1970). The Nature of Human Error. *Annual Technical Confess Transactions of the American Society for Quality Control*. pp 175-566.

Snashall, D. (1990). Safety and Health in the Construction Industry. *British medical Journal,* pp 31, 563-564.

Sophie and Atkinson. (2003). Causal Factors in Construction Accident. *Health and Safety Executive.*

Suter, A. H. (2002). Construction Noise: Exposure, Effects and the Potential for Remediation. A Review and Analysis. *American Industrial Hygiene Association journal*, pp.768-789.

(2006). *Construction Accidents* [On-line] Available http://www.lawcore.com/construction-accident.

Fadhal Ilahi. (2007). *Scaffolding Collapses, Two Die*. [On-line] Available http'//www.niosh.com.my.

Occupational Safety and Health Act (OSHA). 1994. Department of Occupational Safety and Health Ministry of Human Resources Malaysia (2006); http://dosh.mohr.gov.my/