

The Influences of Occupational Safety and Health Awareness Factors Among Workers: A Case Study in A Company in North Malaysia

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Abstract: Occupational Safety and Health (OSH) is an essential area that concerns the protection, health, and safety, including the welfare of people or workers in any type of employment. This study was conducted to identify the factors influencing the workers' awareness of OSH and the level of OSH awareness among the workers in a manufacturing company in northern Malaysia. The questionnaire was distributed to 60 employees manually and collected within one week. The Statistical Package for the Social Sciences (SPSS) version 20 was used to analyse the data and present it in descriptive statistics, which are in percentage, frequency, and mean. The results of this study found that the OSH awareness level is high with an average mean score of 4.23 and indicated that OSH policy is the highest influence factor with a mean score of 4.47, while the lowest is Safety and Health Committee (SHC) with a mean score of 3.87. The activities such as safety week, OSH awareness campaigns, accident prevention training, posters, and safety talks can raise awareness in the workplace and help workers achieve a higher level of OSH awareness. The purpose of the OSH activities is to reduce occupational injuries and illnesses and foster the development of a safe culture in the workplace. Hence, OSH training and practises are very important and the best way to educate and raise the OSH awareness of employers and employees.

Keywords: Awareness factor, OSH, safety awareness, safety policy

1. Introduction

Occupational Safety and Health (OSH) is a branch of public health intended to improve safety and health in the workplace, it examines trends in injury and illness among workers and offers suggestions on ways to mitigate the risks and hazards they face in the workplace (Safeopedia, 2022). There are safety and health risks associated with every job, and it is the responsibility of every employer to ensure that their employees can do their jobs as safely as possible. There are various machines, equipment, and hazardous materials on the production floor that need special attention regarding safety procedures. OSH is a very large umbrella. It covers not only first aid allocation and the safe use of any type of machine but also ergonomic best practices, infection prevention, and workplace violence response. OSH is concerned with conserving and protecting workers and facility resources in the workplace and helping them to restrain themselves from becoming ill or being injured due to hazards in their workplaces (Mark & James, 2007). It is also concerned with improving the quality and efficiency of the organization's management.

OSH is suitable for all branches of business, commerce, and industry, including information technology companies, traditional industries, health services, universities, schools, care homes, offices, and leisure facilities (Hughes & Ferrett, 2016). Economically, legally, and morally, OSH has become an important issue in the world. Most companies that address environmental, safety, and health issues are more than just good business practises while the companies that have strong environmental, safety, and health programmes may be more likely to survive (Mark &

James, 2007). Work-related diseases and occupational accidents have a great impact on individuals and their family's physical or emotional well-being throughout their whole life; economic growth; retarded business; disruptions of production processes; productivity; restraining the competitiveness and reputation of supply chains business; lifestyles; and society (ILO, 2019). With many new challenges to safety and health at work, employers, employees, governments, and other stakeholders are important to grab immediately the opportunities to create a safe and healthy environment for future work.

OSH is a core aspect of decent work, and decent work is safe work (ILO, 2003). All workers should be safe in their workplaces, reassured that they are not exposed to undue risks and hazards. The workers will feel safe doing the job, more productive, accountable, and engaged in work when they work in an environment with the proper safety precautions. The physical and mental conditions of the workplace and the work environment, in general, have a strong impact on workers' well-being and living conditions. Modern companies must create working conditions that are not only safe and maintain health and life but are also optimal for the needs and psychosocial capacities of workers (Koradecka, 2010). Every occupation has OSH risks associated with it, and every employer needs to ensure that their employees can carry out their work as safely as possible. Employers need to understand the relevant legislation and regulations and also have an effective OSH committee, while workers should understand work hazards and safe work practises (Patrick et al., 2019).

Occupational accidents and illnesses have a significant economic cost, social, and human, that we should endeavour to eliminate by ensuring safety in all workplaces. (ILOSTAT, 2022). Nevertheless, the ILO has reported that 6,300 people die every day due to occupational accidents and illnesses. (ILO, 2017). The rate of accidents and illnesses varies extremely among countries, with significant differences between developing and developed countries. In Malaysia, from 2015 to 2020, the average percentage of occupational accidents per 1,000 workers was 2.54%, while the occupational fatality rate per 100,000 workers was 4.11% (DOSH, 2022). Meanwhile, the statistics from 2015 to 2021 revealed that the investigated total number of occupational accidents (i. e. deaths, permanent disability, and non-permanent disability) in the manufacturing sector has an average of 3355 cases, with a maximum of 4948 (the year 2019) and a minimum of 2041 (the year 2015) (DOSH, 2022).

The high rate shows that OSH awareness can play an important role in reducing the rate of occupational accidents and illnesses among workers in all sectors. Safety awareness is an important aspect of the organisation to ensure safety rules and procedures are followed so that accident rates among employees can be reduced (Juhari & Arifin, 2020). Awareness activities can be used to reinforce positive attitudes, working behaviours, and safety culture among the workers. Occupational Safety and Health awareness helps the worker fit into their work by receiving the proper knowledge and skills. This assists in making the right decisions about the achievement and acquisition of good working conditions and environments (Alli, 2008). Ibrahim et al. (2017) concluded in their study that OSH awareness affected workers' consciousness of their work environment.

Nowadays, most people must work because of the necessities of life and economic pressures. Many people work in highly hazardous sectors such as construction, mining, and some manufacturing sectors, even in service industries such as housekeeping and retail, which are assumed to be lightly hazardous but can still cause serious injuries and illnesses (Kriebel et al., 2011). In manufacturing industries, it is impossible to avoid workplace accidents and injuries. Safety management in the company must be able to identify the factors that influence safety awareness among all employees before any action is taken to increase their OSH awareness. Getting a safe workplace is an ongoing process that involves safety awareness, a safety culture, and as well as safe practices and procedures.

According to Awang et al. (2017), it is indicated that the level of awareness of safety behaviour, the safety of rules and procedures, safety training, safety promotion and policy, safety communication and feedback, workers' involvement, and management's commitment were high among Malaysian small and medium enterprise workers. A study by Said et al. (2020) conducted among workers in the Malaysian manufacturing sector revealed that employee involvement, management commitment, and workplace environment were the influencing factors of workplace safety and health. It is even better to know the level of employee OSH awareness in many manufacturing companies in Malaysia. Therefore, this study was conducted to identify the influence factors on the workers' awareness of OSH and the level of OSH awareness among the workers in a manufacturing company in Northern Malaysia. The findings of the study can provide an overview of the influence factors that contribute to the OSH awareness level of manufacturing workers.

2. Methodology

This study is a survey of knowledge and awareness of OSH in the workplace among the workers at one company in Seberang Perai, Penang, Malaysia. The company produced spare parts for vehicles, especially motorcars. The study was conducted on 60 workers in six (6) working sections. The questionnaire is divided into six (6) parts: (1) Demography; (2) Occupational Safety and Health Policy (OSHP); (3) Standard Operating Procedure (SOP); (4) Training; (5) Safety and Health Committee (SHC); and (6) Commitment and Attitude (CA). Items (2) to (6) are used to determine the factors that are employed to the level of OSH awareness of the respondents. Most of the sources of the questionnaires are adapted from a previous research study by Idrus et al. (2004). For demographic factors, the scale

used is nominal, while for OSH awareness factors, the Likert Scale was used: 1 means strongly disagree; 2 means disagree; 3 means unsure; 4 means agree; and 5 means strongly agree.

The questionnaire was distributed to employees manually and collected within one week. The total number of questions is 25. The data were analysed using the Statistical Package for the Social Sciences (SPSS) version 20 and presented in descriptive statistics, which are in percentage, frequency, and mean. A pilot study is the first step of the entire research process, and a small sample size is used to assist in the modification and planning of the main study and analyse its validity (Thabane et al., 2010). A pilot study sample size suggested by Isaac and Michael (1995) is between 10 and 30 respondents. In this study, a pilot study was conducted on 20 related respondents.

The interpretation of the level of awareness possessed by the respondents in this study is based on the 5-level scale of the mean score introduced by Ghafar (1999), as shown in Table 1. The score of very high and high level (3.5 - 5.0) range indicates that the respondent had extensive knowledge of OSH awareness and high confidence about details. A score of moderate level (2.5 - 3.49) indicates a moderate knowledge of OSH but with some uncertainty about details. Low and very low levels (1.0 - 2.49) indicate inadequate or less knowledge of OSH with less uncertainty about details.

Table 1 - Interpretation of mean score of motivational levels

Scale	Mean range	Motivational Level	Score range
5	Strongly agree	Very high	4.5 – 5.0
4	Agree	High	3.5 – 4.49
3	Unsure	Moderate	2.5 – 3.49
2	Disagree	Low	1.5 – 2.49
1	Strongly disagree	Very low	1.0 – 1.49

3. Results and Discussion

3.1 Pilot Study

Cronbach's Alpha or coefficient alpha (α) is one way of measuring the strength of the internal consistency or reliability of any given measurement that is a consistent measure of a concept, a set of scales, or test items. Table 2 shows the recommended Cronbach's Alpha value and the internal consistency used in this study as a rule of thumb for interpreting alpha (Stephanine, 2020). Based on Table 2, if the value of the alpha coefficient is less than 0.6, i.e., poor reliability, it is necessary to improve the items of the questions in the questionnaire to increase the value of the alpha coefficient.

Table 2 - Rule of thumb of Cronbach's Alpha

Cronbach's Alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

The result of the reliability test of the pilot study is shown in Table 3, which indicates the Cronbach's Alpha ranging between 0.80 and 0.92 for each section. The section of OSHP is the highest (0.92) alpha coefficient, while the lowest (0.80) is SOP and SHC. The overall value of the alpha coefficient for the five sections is 0.85, which shows that the questionnaires had good reliability and consistency. It means that all the questions in the questionnaire are good and acceptable.

Table 3 - Reliability test result of a pilot study

Section	No of items	Cronbach's Alpha
Occupational Safety and Health Policy (OSHP)	4	0.92
Standard Operating Procedure (SOP)	5	0.80
Training	4	0.82
Safety and Health Committee (SHC)	5	0.80
Commitment and Attitude (CA)	7	0.91
Overall	25	0.85

3.2 Demography

The analysis of the data on demography shown in Table 4 is based on the 60 respondents who answered the questionnaire. The data gathered was classified as the personal background of the respondents based on gender, age, years of working, and education. In this study, most of the respondents were male (75%), and the remaining were female (15%). The largest age group of the respondents is 21 - 30 years old (40%), followed by a group of 31 - 40 years old (36.7%), and none is below the age of 20 years old. The data indicated that 45% of the respondents have served less than five (5) years of work experience, and 25% served between six (6) to ten (10) years of work experience. Both groups indicated that those involved in this study should have a good understanding of safety and health regulations and practices. The largest education group level is SPM holders (61.7%), followed by Diploma holders (21.7%), and none from STPM holders.

Table 4 - Socio-demographic of the respondents

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	45	75
	Female	15	25
Age (years)	< 20	0	0
	21 – 30	24	40
	31 – 40	22	36.7
	41 – 50	8	13.3
	> 51	6	10
Years of working	< 5	27	45
	6 - 10	15	25
	11 - 15	5	8.3
	16 - 20	3	5
	> 21	10	16.7
Education	Bachelor	5	8.3
	Diploma	13	21.7
	S.T.P.M	0	0
	Certificate	5	8.3
	S.P.M	37	61.7

Note: S.T.P.M = Sijil Tinggi Persekolahan Malaysia; S.P.M = Sijil Pelajaran Malaysia

3.3 OSH Awareness Level

In this research, the influencing factors on OSH awareness level are Occupational Safety and Health Policy (OSHP), Standard Operating Procedure (SOP), OSH Training, Safety and Health Committee (SHC), and Commitment and Attitude (CA). The mean score results for each factor are presented in Table 5. The average mean score is 4.23, which is a high level. It means that the level of OSH knowledge and awareness among the workers is high. It is clearly shown that the worker's knowledge and understanding of OSH practices are high. The factor with the highest level of awareness is OSHP, with a mean score of 4.47, while the factor with the lowest level of awareness is SHC, with a mean score of 3.87. Although the awareness level is high, the SHC factor did not contribute much to the level of the workers' awareness, as the mean score is lower than the other factors. It means that the OSHP factor is the dominant factor that affects the knowledge and awareness level, while the less affected factor is SHC. It was indicated that the factor of SHC needs more attention from the company's management and is required to do an activity to ensure awareness levels will be at a better level. Even though all the factors are at a high level, none of them is at a very high level. Therefore, the company's management must implement an OSH intervention programme to ensure all factors can be improved to a very high level.

Table 5 - Level of OSH awareness

Factor	Mean score	Standard Deviation	Rating
Occupational Safety and Health Policy (OSH)	4.47	0.69	High
Standard Operating Procedure (SOP)	4.38	0.64	High
Training	4.19	0.62	High
Safety and Health Committee (SHC)	3.87	0.65	High
Commitment and Attitude (CA)	4.23	0.64	High
Average	4.23	0.65	High

The findings of the present study support the findings of a recent study by Jaafar et al. (2022), which found that the level of OSH awareness among non-academic staff in the workshop and laboratory of Universiti Teknologi MARA, Pulau Pinang, Malaysia is high, with an overall mean score of 4.41. The highest level of awareness factor is OSH policy with a mean score of 4.90, while the lowest awareness level is SHC with a mean score of 3.90. Another study conducted by Mukhtad et al. (2021) on healthcare workers in a paediatric hospital in Benghazi, Libya, found that the lack of training given to workers is the main cause of the low level of OSH awareness. Thus, any type of OSH training programme is required to close the gap among workers who had no OSH awareness. The result of this study agrees with the previous study by Ramli et al. (2019), who studied the safety procedures, training, tools and equipment, OSH committee, commitment and attitude, working environment, and safety policy among workers at Universiti Teknologi Malaysia. They found that there is a high level of awareness in OSH with an overall mean score of 4.26, and the safety policy is the highest factor with a mean score of 4.60, while the safety committee is the lowest factor with a mean score of 3.72.

A similar study by Eamizan and Mohamed (2018) on the OSH knowledge, attitude, and training factors among the workers in DENSO, Malaysia, revealed that the training factor is the most dominant factor influencing the staff's level of safety awareness and occupational health. The research conducted by Bakar et al. (2018) showed that the awareness level of safety and health among the workers at Amsteel Mill Sdn Bhd is high, with an average mean score of 3.79. The plant and material factors were found by the author to be the highest (mean score = 3.89), while the safety policy is the lowest (mean score = 3.84). Safety training is the major factor affecting the workers' awareness of occupational safety practises at one logistics company in Malaysia, with a mean score of 4.2, but the factors of safety policy and the safety committee do not much affect the workers (Shaain et al., 2015). Safety awareness standards emerged as a very important factor compared to the other six factors that were measured in the study of perceptions of employees in a multinational steel processing company in South Africa (Mojapelo et al., 2016). The other six factors are information and training, employee behaviour, the role of the supervisor, health and safety reporting mechanisms, workplace safety inspection, and workplace environment.

4. Conclusion

This study presented the five factors that influence the awareness level of OSH among the workers at one company in North Malaysia. A questionnaire survey was conducted on 60 workers in various working sections. The percentage, frequency, and mean were used to determine the awareness level of OSH among the workers. The results of this study found that the OSH awareness level is high, with an average mean score of 4.2. It indicated that OSH policy is the highest influence factor, with a mean score of 4.47, while the lowest is SHC, with a mean score of 3.87. The SHC should play an important role, supported by the company management, in holding various OSH activities. Hence the workers will be known that SHC is responsible for all the organised activities. The activities such as safety week, OSH campaigns, accident prevention training, posters, and safety talks can raise awareness and concern about OSH in the workplace. As a result, a better level of OSH awareness among the workers can be achieved, which ranges from a high level to a very high level. The goal of the OSH programmes is to reduce occupational injuries and illnesses and foster the development of a safe culture in the workplace. OSH training and practises are very important and the best way to educate and raise the OSH awareness of employers and employees.

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