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**SAFETY MANAGEMENT PRACTICES AND SAFETY
BEHAVIOR AMONG EMPLOYEES IN PRESSURE
VESSEL FABRICATION COMPANY**



**MASTER OF SCIENCE
(OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT)
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**SAFETY MANAGEMENT PRACTICES AND SAFETY
BEHAVIOR AMONG EMPLOYEES IN PRESSURE
VESSEL FABRICATION COMPANY**

By



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UUM
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**Thesis Submitted to
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Master of Science (Occupational Safety and Health Management)**



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ABSTRACT

This study was conducted to determine the relationship between safety management practices and safety behavior among employees of a pressure vessel fabrication company. A total of 127 Whatsapp application forms have been distributed to the employees at the factory. The list of questions includes 4 parts; demographics, safety management practices, safety behaviors, and thriving at work. Then, the collected data was analyzed through the Statistical Package for Social Sciences (SPSS) software. The results indicate that management commitment, safety communication and feedback, workers' involvement, and thriving at work are among the factors that have a significant influence on safety participants. While management commitment, safety training, safety communication and feedback, and thriving at work have a significant impact on safety compliance. The results of this study can be used as a guide for researchers and practitioners to find solutions that can improve the quality of safety and health in the workplace. In addition, the findings from this study can reduce the perception of accidents caused by workers' unsafe behavior.

Keywords: Management Commitment, Safety Rules and Procedures, Safety Promotion Policies, Thriving at Work, Safety Behavior.



ABSTRAK

Kajian ini dijalankan untuk menentukan kaitan antara amalan pengurusan keselamatan terhadap perilaku keselamatan di kalangan pekerja syarikat pembuatan fabrikasi tangki bertekanan. Sebanyak 127 borang aplikasi Whatsapp telah diedarkan kepada pekerja-pekerja di kilang tersebut. Senarai soalan tersebut merangkumi 4 bahagian; demografi, amalan pengurusan keselamatan, perilaku keselamatan dan kemajuan di tempat kerja. Kemudian, data yang dikumpulkan dianalisis melalui perisian Statistical Package for Social Sciences (SPSS). Keputusan menunjukkan komitmen majikan, komunikasi dan maklumbalas keselamatan, penglibatan pekerja dan kemajuan di tempat kerja adalah antara faktor yang mempunyai pengaruh yang signifikan dengan penglibatan keselamatan. Manakala komitmen majikan, latihan keselamatan, komunikasi dan maklumbalas keselamatan dan kemajuan di tempat kerja mempunyai signifikan dengan kepatuhan keselamatan. Hasil kajian ini boleh dijadikan sebagai panduan kepada pengkaji dan pengamal untuk mencari penyelesaian yang dapat mempertingkatkan mutu keselamatan dan kesihatan di tempat kerja. Selain itu, dapatan daripada kajian ini dapat mengurangkan persepsi mengenai kemalangan disebabkan oleh tingkahlaku tidak selamat pekerja.

Kata kunci: Komitmen Majikan, Peraturan dan Prosedur Keselamatan, Polisi Promosi Keselamatan, Kemajuan di Tempat Kerja, Perilaku Keselamatan



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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
BBS	Behavior Base Safety
DOI	Digital Object Identifier
DOSH	Department of Occupational Safety & Health
DOSM	Departemnt Of Statistic, Malaysia
DV	Dependent Variables
IV	Independent Variables
MCO	Movement Control Order
OSH	Occupational Safety Health
OSH MS	Occupational Safety Health Management System
SPSS	Statistical Package for Social Sciences



CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Occupational Safety & Health (OSH) management are increasingly becoming a priority for multi-national companies in the oil and gas sector, manufacturing as well as construction. Here, the rapid rate of economic growth can not only increase household income, but the rate of workplace accidents also increases. In the industrial context, Malaysia's manufacturing sector has grown to be one of the country's most important economic contributors as well as backbones (Malaysia, 2010).

Department Of Statistic Malaysia (DOSM) claims that the manufacturing industry reported the highest sales value of RM142.4 billion with a growth of 18.8 percent in November 2021, compared to the same month of 2020. This expansion is also driven by the food and beverage and tobacco product sub-sector which is supported by the food product manufacturing industry and the electrical and electronic product sub-sector, especially in the computer, electronic, and optical product manufacturing industry. The manufacturing sector has experienced considerable growth, which has increased the demand for additional people, machinery, equipment, and technology. Saad et.al (2012) reported in the manufacturing sector has recorded approximately 20.60% of fatal casualties in total while 37.91% of the total disability accidents which include employees in the manufacturing industry in the year 2008. Besides, the workplace accidents frequency in manufacturing, outlined from 2016 to 2020, to the Department of Occupational Safety & Health (DOSH), is 2,315 cases in 2016. The accident recorded a slight decrease in 2017, at 1,691 cases. In 2018, the number of

cases increased to 3,228. In 2019, the number of workplace accident cases increase to 4,948 cases, but in 2020 the number of cases slightly decreased to 4,294. This decrease may be due to the Movement Control Order (MCO) during the 2020s pandemic caused by COVID-19 as per Table 1.1 below.

Table 1.1
Accident Cases in Manufacturing Sectors (Malaysia)

Year	Number of Accidents by Manufacturing
2016	2,315
2017	1,691
2018	3,228
2019	4,948
2020	4,294

Source: DOSH Report (2016 – Nov 2020)

Along with the increase of various manufacturing industries, workers are also exposed to various elements in the workplace environment that can cause workplace accidents. OSH needs urgent attention and a study deemed important.

1.2 Problem Statement

Research has already begun on people's safety behavior as an important occupational predictor of an accident earlier than 1940 when Heinrich (1941) came to the conclusion that unsafe act is to blame for 88% of workplace accidents. Heinrich's hypothesis indicates that it's crucial to study the human factor because it had the greatest impact on work accidents. Bowander (1987) concluded that the factors influencing occupational accidents are technical factors, technology, systemic failure, and human behavior safety factors. Gyekye (2010), on the other hand, found that workers' safety behaviors (unsafe acts) are the most important basis for occupational accidents, along with the work environment (unsafe conditions).

Although it is interesting to note that unsafe labor practices are primarily responsible for occupational accidents, several authors have various viewpoints that emphasize the influence of work and social systems (Brown, Willis, & Prussia, 2000); DeArmond, Smith, Wilson, Chen, & Cigularov, 2011; DePasquale, & Geller, 1999; Guldenmund, Cleal, & Mearns, 2012; Hamalainen, Takala, & Saarela, 2006; Shang, & Lu, 2009).

This study focuses on analyzing the elements that affect how employees behave in terms of safety by leading management's safety practices to comply with the safety aspects that are present in the plant.

Safe behavior can be defined as anything that workers strive to do following workplace safety procedures, rules, and the security rules of an organization while being able to maintain minimum workplace safety standards (Griffin & Neal, 2000; Neal *et al*, 2000; Inness, Turner, Barling & Stride, 2010). Ivascu & Cioca (2019) explained increasing occupational accident rates have resulted in a number of organizational deficiencies. Many of the member states have seen a rise in the frequency of accidents. Additionally, the growth in accidents tends to concentrate on specific industries and is more caused by the rise in the incidence rate than the expansion of the labour force. Jeong *et al.*, 2021 explained in their study that even though modular construction is safer than traditional onsite construction methods, accidents still occurs, therefore modular projects have characteristic safety risk. The study evaluated accidents cases related to modular construction that occurred in the United States from 2000 to 2018 and analyzed safety risk factors, such as the types and causes of accidents in these cases. From the research, they found that major accident causes are from unstable work platform, while defective material or equipment contribute second major accident

causes. Improper use and lack of Personal Protective Equipment (PPE) contribute the last causes of accidents.

While Ranganathan, P. (2022) in his research found that occupational accidents occurred due to weak documentation management and notification systems. Industries can enhance their safety cultures by focusing on five key areas management commitment, communication, safety priority, supportive environment and involvement. According to safety performance reports, these areas ultimately enhance worker and equipment performance as well as safety performance. Therefore, safety performance at the workplace depends on safety management practices, i.e., management actions taken or complied with to ensure employee safety, thus reducing work accidents (Vinodkumar & Bhasi 2010). This shows that the violation of safety standards and procedures is a serious problem and has implications for the organization and finances. According to the study by Zermane, A. et al., (2022), majority of fatality cases were analyzed and recorded by DOSH in 2010 – 2020. The output revealed that fatality cases from falls from height were the highest contributor to fatal accidents. Workers under contract were more vulnerable to fatal accidents in the construction industry. General workers were the most exposed category of workers to fatal accidents. The finding from the research provided valuable insights into workplace fatal accident patterns and strategies for prevention across industries. Thriving is also related to lower occupational stress and better overall wellness and good health. A focus on fostering success at work may also be a moderately cost-effective way to reduce stress and absenteeism, which are closely tied to medical expenses.

The correlation between safety behavior as well as safety management techniques was theoretically described by Dan Petersen's 1980s theory of behavior-based safety (BBS). Human behavior is the main emphasis of BBS theory analyses because they do that and then apply scientific intercession procedures to move forward human behavior. The term human refers to people who have expertise and skills, personality as well as motivation. Numerous factors influenced the human factor, for instance, education, exertion and comprehension level (Geller 1994).

Given the significance of workplace safety, this study looked at how safety management practices impacted, for instance, safety training, management commitment, safety communication and feedback, employee participation, safety rules and procedures, as well as safety promotion activities on safety behavior, i.e., safety participation and compliance.

1.3 Research Objectives

A study like this one was conducted to ascertain whether all six safety management variables may have an influence on worker compliance and participation in a pressure vessel fabrication company.

Generally, this study intends to:

- 1) To investigate how safety management practices in term of management commitment, safety training, workers involvement, safety communication and feedback, safety rules and procedures, and safety promotion policies affect safety behavior;
- 2) To investigate how thriving at work affects safety behavior.

1.4 Research Question

This study attempted to address the following general concerns about the safety management practice and employee safety behaviors in pressure vessel fabrication companies. Thus, questions to complete This investigation measure safety compliance and participation across all six independent factors to draw meaningful results and conclusions. Therefore, the proposed questions in this study are:

- 1) How do safety management practices, such as management commitment, safety training, workers involvement, safety communication and feedback, safety rules and procedures and safety promotion policies influence safety behavior in a pressure vessel fabrication company?
- 2) How would thriving at work can influence safety behavior in a pressure vessel fabrication company?

1.5 Significance of Study

The theoretical and practical aspects of this work both demonstrate its significance. This research clarified how safety behavior was found to be related to unsafe work behavior and can later increase risk of workplace accidents (Choudhry and Fang, 2008). The steel industry was considered inherently dangerous (Brown, Willies and Prussia, 2000). There are, nevertheless, few research that specifically address the behavioral characteristics of Malaysian employees. In addition to physical safety, researchers must also concentrate on behavioral antecedents. The absence of this type of study is probably due to our production that has been shut down to Western industry for various reasons. This study is also conducted with the employees of pressure vessel manufacturing companies in Malaysia, which is different from the Western perspective.

Generally, the outcome of this research may be important to the DOSH in Malaysia, since data and information on safety behavior are hard to get from past studies. This study will help DOSH develop new strategies to increase health compliance as well as workplace safety in workplaces, particularly in the manufacturing industry.

Most important, the study will provide industrial practitioners with a deeper understanding of all factors influencing safety behavior (for example, safety participation as well as safety compliance), specifically among employees in the pressure vessel manufacturing company in Malaysia. Therefore, the outcomes with regard to the present study, pressure vessel manufacturing companies will be able to improve efficiency by reducing unwanted incidents, accidents and deaths.

These results can guide management and improve safety-related issues in pressure vessel manufacturing companies. In addition, it may provide a basis for developing new policies, procedures, work instructions, training programs, and even rewards for workplace safety compliance.

Last but not least, through this study, DOSH Malaysia can identify safety management practices, for instance, safety training, leadership commitment, safety communication and feedback, employee safety participation, safety promotion practices as well as safety rules and procedures that impact employee safety compliance and participation in the pressure vessel fabrication company thus indirectly contribute to Malaysia's economic growth.

1.6 Thesis Organizations

The information in this study is divided into five chapters, the first of which includes the study's background, its organisation, problem statement, research questions, objective, the significance, as well as its overview.

The second chapter involved an overview of relevant OSH legislation, the definition of safety behavior, safety behavior conceptualizations, antecedents with respect to safety behavior, theory concerning safety behavior, as well as the relationship between safety behavior and safety management practices.

Next, in chapter three discussed the approach implemented in this study which is the establishment a study's conceptual framework, conceptual/operational definitions, development of the hypothesis, the foundation of sampling technique, measurement of variables or instrumentations, and the gathering and analysis of data.

Then, in chapter four explained the outcome of data gathering and analysis. The final chapter has presented a findings' discussion, conclusion, as well as future studies suggestions.

1.7 Definition of Key Terms

Safety Management Practices referring to 'policies, procedures, activities and strategies followed or implemented by the management of an organization targeting safety of their employee' (Vinodkumar & Bashi, 2010).

Management Commitment can be defined as effective environmental improvement is facilitated by senior management commitment. Top management is in charge of choosing which policies to establish and thoroughly disseminating them throughout the organization (Yusliza, M.Y et al., 2019).

Safety Communication and Feedback is defined as the process of promoting mutual understanding and two-way communication between the employer and employees on the organization's safety and goal requirements (Hassan et al as cited in Hassan, Z et al., 2019).

Safety Rules and Procedures is referred as the extent to which organizations create clear missions, assign clear roles and responsibilities, set up standards for monitoring employee behaviors and also institute systems for correcting workers ' unsafe behaviors (Lu & Yang as cited in Hassan, Z. et al., 2019).

Safety Promotion Policies are defined as a process that aims to ensure the presence and maintain the condition that is necessary to reach and sustain an optimal level of safety (Welander as cited in M.Mashi et al., 2017).

Thriving at work refers to a positive psychological state by a joint sense of vitality and learning (Kleine et al., 2019).

Safety Behavior refers to workplace behaviors that affect the extent to which individuals or the workplace in general are free from physical threat or harm includings behaviors that mitigate physical threat or harm (i.e., safe behavior), whether rule

prescribed or discretionary and also behaviors that subject individuals or the workplace to greater physical threat or harm (Beus et al., as cited in Xia et al., 2020).



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter specifies an overview with respect to safety management practices as well as safety behavior. This study also incorporates earlier investigations into the literature review on safety behavior, structure, theories, as well as comparison of variables. Here, the purpose of this chapter is to give a clearer description of the criterion and predictive variables selected in this study.

2.2 Safety Behavior

A person's behavior can be defined as everything that may be measured and observed (Vijayakumar, 2007). Safety compliance as well as safety participation are employed to define safety behavior (Neal & Griffin, 2006). Safety behavior describes what employees should do to prevent workplace accidents and occupational, safety, and health requirements (Mahmood, 2010). As previously mentioned, Krause and Russell (1994) found that most instances of accidents and injuries involve workers who often participate in hazardous behavior. Once a mishap or injury is reported that occurs in conjunction with the behaviors, likely posture has not resulted in an injury during former experience.

Safety behavior expresses how an employee carries out safety practices and adheres to OSH regulations so as to avoid mishaps from occurring in the workplace (Zin & Ismail, 2012). The behavior is impacted through initiators, antecedents, and outcomes (Miltenberger, 2012).

Choudhry et al. (2007) claim that a safety behavior approach is a systematic application of psychology research on human behavior to alter risky behavior into safe behavior. Safety behavior is therefore, a logical or data-driven approach, which is followed by critical behavior-based safety interventions, which target people by observing employees providing feedback on safety behavior, conducting routine work tasks, as well as mentoring and coaching. A change in frontline safety behavior will improve safety performance, with a gradual diffusion into the organization until it becomes a cultural norm. According to Cox et al. (2004), the mode of safety intervention substantially enhances employee safety behavior.

2.3 Previous Studies on Safety Behavior

Several studies have been carried out by researchers to determine the causes of unsafe behavior and to take action that could curb unsafe work behavior among workers. Previous research (Suchman, 1961; Wigglesworth, 1978; Coyle et al., 1995; Gillen et al., 2002) made the assumption that employees' perceptions and attitudes affect their behavior, which will either raise or reduce the risk that accidents will happen. A number of investigations have explored at key variables affecting the safety climate in a certain industry, for instance, construction (Dedobbeleer & Beland, 1991); (Siu et al., 2004), manufacturing (Brown & Holmes, 1986), energy (Ostrom et al., 1993; Lee, 1996), airports (Cabrera et al., 1997; Diaz and Cabrera, 1997), road administration (Niskanen, 1994) as well as health care services (Coyle et al., 1995). According to earlier research (Heinrich, 1931; Suchman, 1961; Wigglesworth, 1978; Coyle et al., 1995; Gillen et al., 2002), worker perceptions and perspectives possess a primary influence on safety performance.

Lu & Shang (2005) utilised exploratory factor analysis (EFA) to analyze their data to look into the safety culture among operators of container terminals.

The workplace safety perceptions influence in comprehending procedure for handling industrial accidents was studied by Hayes et al. (1998) that indicated a similar direction of the association. According to the findings of these studies, employee compliance with safety behavior and accident-related factors like accident rates and anxiety are linked to perceptions of workplace safety difficulties.

Regression analysis by Subramaniam et al. (2016) indicated a significant connection between safety behavior and adherence to management commitment, safety regulations, safety training, as well as safety procedures. Besides, the interpretation by Yong and Rowlinson (2014) found that the interactions between the individuals and group according to relational phenomena influenced safety behavior among the team members. It remains that both of the studies concluded that safety behavior among employees of pressure vessel fabrication companies affected the degree of adherence to the instructions, policies, and procedures.

Generally, the result of safety behavior resulting in a rise in the safety level of the manufacturing sector. These related to the statement by Curcuruto et al. (2015) who asserted that the benefits could be obtained by recognizing the difference between passive and active safety behavior while aiming to improve safety performance.

2.3.1 Safety Compliance

Safety compliance relates to task performance, which relies on employees satisfying expectations include following guidelines that are task-oriented as well as correlated to the job descriptions of the personnel (Goncalves et al., 2008). Adherence to desirable safety behavior, like according to requirements or using PPE, contributes to personal safety (Ersen & Bilgic, 2018). It illustrates the idea that people must establish routines based on workplace safety and health requirements, which involves adhering to a prescribed set of tasks that have a profound effect on organizational safety outcomes (McCoy, Roy, & Sirkman, 2013). In addition to following formal directions, safety programs should be based on the environment for workplace safety and strategy (Kines et al. 2010).

Safety compliance is determined by whether employees completed the task safely, highlighting the need for mental ability in learning and processing orders to ensure they satisfy all requirements (Locke, Frederick, Lee & Bobko, 1984; Spitzmuller, Sin, Howe, and Fatimah, 2015). The process of compliance with safety regulations should begin with the development of goals (Greenglass & Fiksenbaum, 2009). Employers must maintain safety behavior and accident prevention as a default goal to achieve successful performance. Therefore, safety procedures must be followed by employees to achieve their goals (Locke & Latham, 1990; Rofle, 2006; Rotundo & Sackett, 2005).

Previous research has shown that age along with job experience has been found to influence safety attitudes in unfavorable conditions. Due to their aptitude for risk-taking, upper management has a negative attitude towards safety compliance, if their service duration as well as work history have given them more ability to foresee

accidents (Heyer et al., 1992; Warr, 1990). Motivational mechanism self-confidence and self-efficacy refer to employees' belief that their goals are attainable and will lead to favorable consequences for everybody (de Jonge et al., 2004). An individual's level of self-confidence in safety is based on their assessment of their capabilities to plan as well as implement a set of activities to accomplish a particular safety behavior (Katz-Navon, Naveh, & Stern, 2007). Positive safety attitudes towards safety will promote self-confidence in adhering to safety compliance due to the strong and significant relationship (Conchie, 2013; Dzewaltowski, Noble, & Shaw, 1990; Haas et al., 2019).

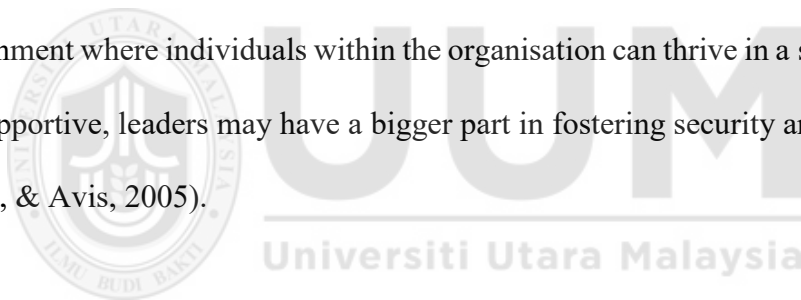
2.3.2 Safety Participation

According to Clissold, Buttigieg, and Cieri (2012), safety participation involves aiding leaders and peers with occupational safety issues or volunteering for activities that improve workplace safety, for instance, throwing input regard to safety matters, attending safety committee meetings, or work-related safety issues (Liu, Zhao, Jiang, & Li, 2015). Extra-role behavior is frequently associated with safety participation instead of alternative organisational behavioral patterns like prosocial behavior or organisational citizenship behavior (Belschak & Den Hartog, 2010; Schmitt, Den Hartog, & Belschak, 2016).

Whistleblowing is critical because employees must feel comfortable reporting safety concerns, provided that this is harmful to them or their social connections (Hu et al., 2018). For the benefit of the entire organisation, this activity aims to promote an encouraging, healthy environment (Grant, 2013).

The idea of interpersonal and intrapersonal relationships distinguishes safety compliance from safety participation (Judge, LePine, & Rich, 2006). Safety compliance is especially bounded to personal safety and is discerned cognitively and internally (Welbourne, Johnson, & Erez, 1997). Meanwhile, the connections among an organization's members make safety participation stronger and more realistic throughout the organisational structure (Greenslade & Jimmieson, 2007).

The key ideas of safety participation include assisting others, for instance, leaders or team members, in accomplishing the set goal (Mohammed Mathieu, Barlett, & Wiley, 2011). The most crucial element of team safety circumstances is helping behavior (O'Connell, Hartman, McDaniel, Grubb, & Lawrence, 2007). By building an environment where individuals within the organisation can thrive in a safe, favourable, and supportive, leaders may have a bigger part in fostering security and trust (Lahuis, Martin, & Avis, 2005).



2.4 Safety Management Practices

Safety management practices were expressed as the management level's dedication to developing rules and procedures, safety policies as well as the action enforced by the management of an organization to guarantee the personnel safety (Vinodkumar & Bashi, 2010). According to Kirwan (1998), safety management refers to the actual practises, roles, and responsibilities connected with staying safe. Often, it is viewed as a component of overall organisational management and is performed using a variety of safety management practises in conjunction with the organization's safety management system. Safety management systems are ones that are built within the business (Labodova, 2004). Furthermore, it is commonly recognized as the the

organization's or institution's preliminary system is followed by an organizational safety management system that consists of numerous personnel safety practices.

Management commitment, worker involvement, safety training, safety communication and feedback, safety regulations and procedures, as well as safety promotion policies are the six elements that comprise safety management practices (Subramaniam et al., 2016). Zulkifli et al (2021) highlighted that the significance of owner-managership safety management practices either enhancing or slowing down safety performance. Cohen (1975) reviews that any organization or institution that values personnel's safety should establish safety management standards. This is so that it can comprehend or identify any hazards that may arise in the future and be able to overcome them. According to Cohen et al. (1975), organizations should play a role in establishing a safe working environment so that employees may perform their duties with fewer risks and incur fewer incidents.

Provan et al. (2020) described safety management practices delineates two mechanisms by which safety is attained by safety management through centralized control, which aims to align and control the organizations and its people through the central determination of what is safe. Safety management through guided adaptability aims to enable the organization and its people to safely adapt to emergent situations and conditions. The initial crucial step for safety and health professional is to recognise that their current function is constrained by a centralised control framework, resulting in an excessive allocation of safety resources towards reactive, fragmented, and defensive measures.

Safety management programs are designed to mitigate risk of workplace injuries and create a safe working environment. According to Dale et al. (2020), the study was to evaluate the relationship between contractors safety management programs and workers perceived safety climate and safety behaviors among subcontractors. Among safety management programs conduct are sub-contractors interviews about their safety policies and procedures, common safety practices and companys safety programs. From the final result, the study revealed that large differences in safety management program between small, medium and large contractors and subcontractors.

2.4.1 Relationship between Safety Management Practice and Safety Behavior

2.4.1.1 Management Commitment and Safety Behavior

According to Cooper (2006), management commitment is defined as an organization's engagement and involvement in the pursuit of a goal. According to a large number of occupational research, management commitment is the most crucial factor (Sulastre Mat Zin & Faridah Ismail, 2011). By displaying the organization's commitment to safety, the management team should effectively assist the business and its employees in achieving organizational safety goals. To show their dedication to safety, employers must rigorously comply to the regulations and make sure that everyone in the company is aware of their responsibilities (Fernando et. al., 2008). A manager's commitment to achieving safety compliance in the workplace can be influenced by a variety of factors, he continued, including managers' accountability to joint safety and health committees, joint health and safety committees at the departmental and site levels, engagement of health and safety representatives with safety and health practitioners, as well as others. The provision of facility time for the safety and health representatives to carry out duties such as interaction between line managers as well as local area within the

formation of safety and health representatives, health inspection and joint safety, making representations to managers, establishment of safety and health investigations of employee complaints, and other activities, access of safety and health representatives to employees, involvement of safety and health representatives in reporting and monitoring on OSH, as well as access to training for safety and health representatives are all addressed in dialogue between line managers and local area (Walters and Nicholas, 2006).

The majority of the literature agrees that management commitment is essential for safety; the general justification for this is that management is accountable for setting objectives, coming up with strategies, allocating resources, developing and implementing systems, as well as modeling behavior via its role (Levitt, 1987). This is because management generates and maintains a situation's surroundings is where it happens.

Management's commitment to safety and welfare will motivate their employees. Increased managerial safety commitment will directly incentivize participating in workplace safety among employees (Su, 2021). Therefore, it is considered that:

H1_a: Management commitment is positively related to safety compliance.

H1_b: Management commitment is positively related to safety participation.

2.4.1.2 Safety Training and Safety Behavior

OSH includes training as a key component. All those in charge of OSH must get adequate and efficient training in order for any OSH programme at the workplace to be successful.

Vinodkumar et al. (2010) highlighted safety training as a key safety management strategy that forecast compliance, motivation, knowledge, as well as engagement in safety. Furthermore, any organization that wishes its employees to be active participants in safety initiatives should give them with sufficient training. Similar to this, safety training may be utilized to forecast accidents (Mashi, 2014). The importance of safety training as a critical safety management strategy that forecasts compliance, motivation, knowledge, and engagement in safety was emphasized. For instance, risk assessment training as well as hazard identification should be included in the mandated safety training that is required as part of the first-day safety awareness and organization inductions program. Training has gotten a lot of focus in the safety literature, and there are already few comprehensive reviews (Ma & Yuan, 2009). Both researchers recommended that improving workers' safety training is crucial. To prevent workplace injuries, safety training should be prioritized. Management support is another crucial element in manufacturing issues. Training constitutes among the most essential components of any health and safety program. Supervisors may need to receive training when performing their duties, while employees may need to be updated on the latest technological advancements and new workers may need orientation. There are several aspects of training, including not only educating personnel about their safety and health responsibilities, but also training them in specific job techniques regularly and systematically, ensuring that new employees receive immediate comprehensive safety training following their hiring, the time allocated, as well as the training efficacy. Moreover, it results from the addition of new equipment for the job or a modification in the manner that old equipment are employed (Hughes & Ferret, 2007).

Thus, it is hypothesized that:

H2_a: Safety training is positively related to safety compliance.

H2_b: Safety training is positively related to safety participation.

2.4.1.3 Safety Communication and Feedback and Safety Behavior

A safe, productive as well as healthy workplace relies on effective communication. Moreover, it is essential to ensure that directions and roles are understood, to forewarn against dangers, to discourage unsafe conduct, to encourage vital emergency response, and in specific, to educate oneself on the hazards and concern that workers experience. Poor safety communication would not facilitate the company increase worker safety, as claimed by Nur Atiqah Jumain and Haslinda Abdullah (2014). It is an effective management practice to maintain regular communication between managers, supervisors, and workers regarding workplace safety issues (Vinodkumar & Bashi, 2010). In contrast, Nor Azimah et al. (2009) stated that safety communication is an interpretation of safety communication that involves communication transparency. Two-way communication indicates its presence and relationship with the employee's safe behavior. As a result, the communication between the employer and employee highlights suggestions and problems experienced by employees while influencing their safe behavior. In addition, Parker et. al (2001) suggested that a communication session for a discussion and presentation regards to safety should be held to facilitate matters of compliance and implementation at the workplace.

Meetings, phone talks, emails, writing memos, information boards, and face-to-face communication were all forms of communication in the organization. With regards to safety and health, there are three fundamental types of communication. There are three:

graphic, written, as well as verbal. Two mechanisms for improving communication quality must be addressed to ensure the efficacy of communication inside the organization. They are message repetition, which minimizes the amount of variance or distortion around the message as well as content verification, which minimizes message bias (Guetzkow, 1965). Workers must be aware of the connection between the health, safety and environment in their actual job activities, communications lead organizations to exchange business-critical information (Nielsen, 2000).

Therefore, it is hypothesized that:

H3_a: Safety communication and feedback are positively related to safety compliance.

H3_b: Safety communication and feedback are positively related to safety participation.

2.4.1.4 Workers' Involvement and Safety Behavior

The worker involvement component was made up of positive group norms, personal attitudes, personal drive, including constant worker involvement. The perspectives of employees may be influenced by peer group norms and motivated by personal goals (Fang et al. 2006). Workplace safety committees can help to increase worker motivation towards safety by reporting and rectifying risks in their operations, assessing regular hazards within each step of a process or task, and so on.

Employees in the workplace, according to Vredenburg (2020), are the most qualified persons to suggest improvements and are reliable to address safety and health issues in their organizations. Employee authority, responsibility, as well as accountability for

choices makes it more likely that employees and management will share a same vision and participate in setting objectives and goals (Cohen & Cleveland, 1983). Minter (2003) discovered that companies that encouraged employee participation in health and safety-related issues were typically distinguished by a drop in injury as well as accident rates. He added that both productivity and hazard awareness have enhanced. Workers' empowerment and engagement have been related to the direct linkage between their participation and their involvement in safety (Vinodkumar et al., 2010). DePasquale et al. (1999) demonstrated that workers' voluntary participation is among the key success aspects that contribute to the safety behavior implementation. Whereas an organization could require some degree of compelled participation, it has been established that such approaches would deny the employee the chance to grow personally, resulting in a halt to programs to enhance safety behavior (Shang et al., 2009). Involving the workers in the safety management process was crucial for an organization's performance in terms of safety since it gave the employees psychological power via their involvement in safety committees (Ford & Tetrick, 2011). Therefore, it is hypothesized that:

H4_a: Worker involvement is positively related to safety compliance.

H4_b: Worker involvement is positively related to safety participation.

2.4.1.5 Safety Rules and Procedure and Safety Behavior

Vinodkumar & Banshi (2010) described employee safety behavior at work as improved by safety procedures that have been appropriately formulated, recorded, and implemented by an organization. Management must interact with them in a language that employees can easily grasp and comply with them. Safe behavior includes following company safety procedures and policies and voluntarily taking part in safety

initiatives (Neal & Griffin, 2002). This is due to the findings of earlier studies indicating that safety regulations and rules possess an impact on employees' safety behavior (Legg & S.J, 2015). The essential tasks that must be performed to maintain the workplace safe are pertinent to safety compliance and directly affect employee safety. Safety participation was used to define actions that indirectly assist workplace safety while not directly affecting employee personal safety. Cox and Chyne, (2000) reviewed that safety regulations and rules possess a substantial connection to safety behavior. Employees working on the beach understand that preparation regulations and safety procedures are the most important factors influencing accident rates. If the organization constantly informs staff of the repercussions of not following safety measures. Turkova, V. et al (2022) found in their research that to have valuable investigation tools in accident prevention, there are set of safety procedures that shall be followed by the investigator. The government urged train operators to provide safety rules and procedures to improve the emergency transportation system. These measures will lessen the harm and negative societal effects brought on by railway offenses. Employees who see the overall safety atmosphere of their company as favorable are more likely to participate in positive safety behavior, according to study by Amponsah-Tawaih & Adu (2016). Particularly, employees appear to follow safety regulations and procedures than willingly participate in safety activities when they regard safety communication, safety systems, as well as training as positive or excellent. It is hypothesized that:

H5_a: Safety rules and procedures are positively related to safety compliance.

H5_b: Safety rules and procedures are positively related to safety participation.

2.4.1.6 Safety Promotion Policies and Safety Behavior

Welander et al., (2004) found that safety promotion is a policy that encourages safety and aims in making sure that the conditions necessary to accomplish and maintain a high degree of safety are retained as well as present. To attain that primary goal, synchronized initiatives by individuals, organizations, communities, and nations are required. The rules, standards as well as procedures related to rewarding and assigning advantages to employees for a job done and motivating or anything given in acknowledgment with respect to effort or achievement comprise an organization's reward system. The reward has a direct impact on desirability when it enhances (Geller and Wiegard, 2005). Various studies have demonstrated the importance of employees reporting safety incidents to prevent workplace incidents (Chen et al., 2014).

According to the research conducted by Ab Aziz and Intan (2002), by promoting workplace safety issues, organizations should always assume responsibility for the safety of their employees. Employees will be informed of the hazards present at their place of employment and what must be done to prevent injuring them as a consequence. Employee motivation appears to be vital for successful results, and a well-functioning systematic occupational health and safety management system is advantageous for employees as well as organizations. Based on Bergman Bruhn, Asa., Lindahl, Cecilia., Anderson, Ing-Marie., & Rosen, Gunar (2022), in addition to being required by law, comprehensive OSH management is a crucial tool for promoting professional well-being and happiness. The use of safety promotion policies demonstrates management's commitment to safety as well as how proactive they are in dealing with it. I.J.M. Zwetsloot, Gerard., & de Bruin, Theo. (2022) suggested that more consideration should be given to the agency and possible beneficial contributions

of surviving families and survivors of catastrophic accidents to preventive and safety promotion within safety theory and practice. Indeed, Vinodkumar et al. (2010) mentioned studies have shown how effective safety promotion as well as policies can be in reducing workplace injuries and accidents. Thus, it is hypothesized that:

H6_a: Safety promotion policies are positively related to safety compliance.

H6_b: Safety promotion policies are positively related to safety participation.

2.5 Thriving at Work

Thriving is described as the psychological condition where people feel alive and have the desire to learn (Porath 2011). Based on Spreitzer et al 2005, a psychological condition known as thriving is made up of the shared experiences of vitality and learning. A person who is thriving enjoys development and momentum characterised by a sense of vigour and being continually energising and improving themselves (learning). Thriving is conceptualized here as an adaptive function given it provides a way for individuals to assess their progress forward. Therefore, the ability to thrive has the potential to improve a number of important outcomes for people, including plans for professional growth and general health, in addition to benefit a company via improved performance.

Spreitzer et al. (2005) established a socially embedded model of flourishing at work, outlining how thriving is defined, differentiated from related conceptions, and changed by the setting in which an individual is embedded. The researcher described flourishing as an adaptive function since it gives people an internal cue to access their positive progress.

Consequently, individuals' attempts to advance their careers and general health, as well as the organization's ability to operate more effectively and spend less on healthcare, might all benefit from thriving.

2.5.1 Thriving at Work and Safety Behavior

By promoting workplace conduct that fosters a favourable psychological as well as social climate that can allow workers to thrive at work, organisations functioning in more uncertain contexts can develop a lasting competitive edge (Nawaz, Abid, Arya, Bhatti, & Farooqi, 2018). Caver (1999) defined vitality is a person's subjective sense of feeling energized, learning is described as the application and acquisition of skills and knowledge to enhance one's ability and confidence (Nix et al 1999).

Results from previous studies show that positive outcomes are created when organizations and individuals thrive (Abid, Khan, & Hong 2016). When an employee is highly motivated and goes above and beyond to use their abilities and knowledge at work, they are actively engaged in their work. According to research by Qaiser, Abid, Arya, and Farooqi (2018), flourishing is positively correlated with job satisfaction. People who excel at work frequently seek out learning opportunities, develop their skills, set professional goals, and locate career prospects. Additionally, they acquire the psychological tools necessary to overcome roadblocks to their professional advancement and adjust to various organisational contexts (Jiang, 2017). When workers flourish at work, they are more innovative, efficient, self-adaptive, and content with their occupations (Paterson et al., 2014). Thriving, according to Carmeli and Spreitzer (2009), refers to a powerful predictor of innovative behavior. Employees who succeed grow their self-confidence, which promotes the creation and application

of new concepts. According to other researchers, flourishing is a significant predictor of subjective well-being, organizational citizenship behavior, life satisfaction, that is change-oriented, as well as collective affective commitment (Basinska, 2017).

Nevertheless, researchers acknowledge the significance of thriving in an organizational setting (Spreitzer & Sutcliffe, 2007), but very less research has examined antecedents that impact employee thriving at work (Mahomed & Rotthman, 2019). Hence, it is hypothesized that

H7_a: Thriving at work is positively related to safety compliance.

H7_b: Thriving at work is positively related to safety participation.

2.6 Self-Efficacy Theory

The theory was introduced by Albert Bandura (1977). A person who possesses a positive sense of self-efficacy believes they have the chances, competence, or intrinsic talent in completing a task effectively and come out on top. Additionally, he said that one's capability to execute the necessary courses of action in handling certain scenarios is a matter of personal judgment. Furthermore, self-efficacy expectations influence whether a person can engage in coping behaviors and how long effort will be maintained in the face of challenges. Self-efficacy, according to Bandura's (1977) hypothesis, affects an individual's decision-making, effort, and persistence. Besides, people who have low self-efficacy in their ability to complete a task may avoid it, whereas those who possess high self-efficacy are more inclined to take part.

When there is a high level of safety management practises, it is expected that self-efficacy will also be high, leading to an improvement in safety behavior among employees.

According to Bandura, our capability to achieve a task or accomplish a goal is influenced by our belief in our own competence (self-efficacy) as well as our expectation of positive outcomes (outcome expectations).

The level of effort individuals exert in a task is significantly impacted by their perceived self-efficacy. When individuals possess high self-efficacy for a particular activity, they demonstrate resilience and persistence when confronted with challenges. On the other hand, individuals with low self-efficacy for the same task may withdraw or avoid the situation altogether.

According to a theory of self-efficacy, individuals gather data to evaluate their own efficacy beliefs from four main sources, including active mastery experiences (actual performances), observation of others (vicarious experiences), a form of persuasion, both verbal and nonverbal, and physiological and effect states from which individuals partially judge their capability, strength, and vulnerability to dysfunction (Bandura, 1997). Moreover, enactive mastery experiences can offer the most direct, genuine proof of a person's capacity to amass the personal resources required for success, according to study.

Several reasons motivate unsafe behavior, combining work pressure as well as a lack of worker involvement in safety. Adopting engineering control methods is critical for

reducing harmful acts and unsafe worker behavior. Moon et al. (2015) wrote that to determine safety design policies, establish a more specific safety design, and undertake a safety review for accidents involving any of the hazards listed. By initiating such endeavors, the safety climate can also be elevated, as workers who perceive their working environment to be free and safe of dangers possess a high level with respect to safety climate, and as a consequence, are more motivated to adhere with developed safety standards as well as take part in safety activities. Based on Peker et al. (2019), the significance of supervisor behavioral integrity in the relationship between the safety climate at the organizational level and safety performance offers important observation into safety research as well as practice. Moreover, non-engineering solutions which includes hiring relying on safety criteria, safety training, progressive disciplinary programs, as well as firing habitual offenders are critical.

2.7 Research Framework and Hypothesis

The goal of the research was to determine how safety management practices as well as behavior in pressure vessel fabrication companies relate to one another. The independent factors that safety management practices encompassed were management commitment, safety training, safety communication and feedback, employee engagement in safety, safety promotion policies, safety regulations and procedure, including thriving at work. In the meantime, safety-related behavior is demonstrated by involvement and compliance. Figure 2.1 below shows the connection between the Independent Variables as well as Dependent Variables.

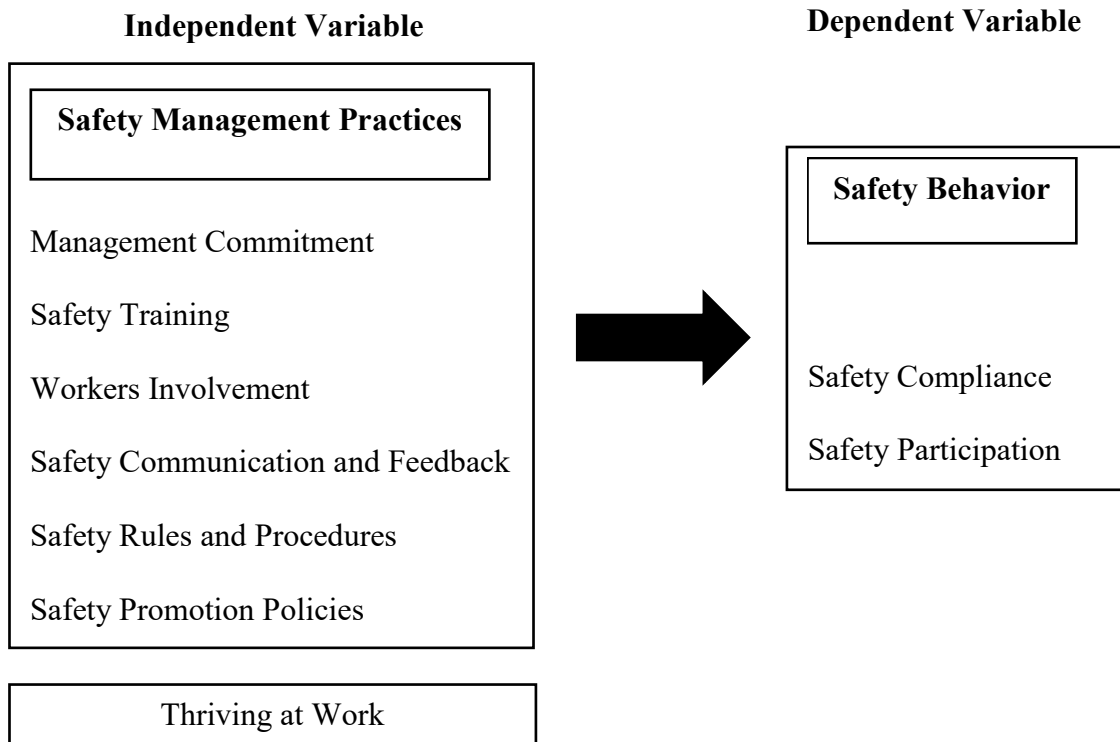


Figure 2.1
The Relationship between Independent and Dependent Variable

2.8 Summary

This chapter's information referred to the definition and previous studies on safety behavior as well as safety management practices among personnel in pressure vessel fabrication companies. The explanation of the variable will show the predictive relationship between these variables in the next chapter, where the research framework as well as methodology employed to perform the study will be detailed explained.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter discusses the methodological aspects of data collection. This chapter also described the study design, population, sampling, and data management. Moreover, the operational and conceptual definitions and justifications of the independent and dependent variables are given. As a result, additional information about the study was provided on the instrument population, scale, analytical units, and data analysis.

3.2 Research Design

A framework for conducting research is known as a guide for the researcher to collect their data, and researchers did so by following the research question. Based on the statement by Majid (2018), to give the tools and framework for the research, the research design uses evidence-based practices, protocols, and recommendations. while conducting a research study. To comprehend the research problem, quantitative methodologies would be used in this study (Creswell, 2012).

This study adopted the method of quantitative research design to attempt and observe the relationship between the dependent and independent variables. The reason are these methods capable to investigate the connections among several variables by statistical techniques in selected populations. These coincided with Sekaran and Bougie (2016) proposed that the researchers were capable to gather the highest number of samples that could normalize for the entire population. As a result of the quantitative research design, the researcher was able to use a more trustworthy, valid, and

consistent instrument in this study. The questionnaires based on these instruments were selected and distributed to the employees of the pressure vessel fabrication company as the respondent, based on the applied sampling technique.

3.2.1 Population

A population is a group of people, events, or items of interest that the researcher wants to investigate (Sekaran and Bougie, 2010). It is known as the collection of individuals, events, or items of interest that regarding which the researcher wants to make conclusions using a sample of data.

A total of 190 population, which is employees at the pressure vessel fabrication company includes non-management staff such as supervisors, leaders, draughtsmen, welders, store assistants, and general workers. The non-managements staff are those employees who report to the management staff. Random sampling was employed on the complete sample population, giving everyone an equal chance to be chosen as respondents and provide input.

3.2.2 Sample

This sampling strategy was chosen for two primary reasons. To begin, each component in the community has an equivalent probability of being selected as a sample (Zikmund et al. 2013). Furthermore, it is simpler to employ and fairly illustrates the general populace.

3.2.3 Sampling Technique

There are two types of sampling which are probability and non-probability sampling. According to Zikmund (2003), probability sampling is a sampling technique in which every member of the population has a chance of being selected in the sample. Whereas, for non-probability sampling, the unit of samples are based on personal judgement or convenience (Zikmund, 2023).

In this study, the probability sampling method is selected. The method used is the simple random sampling. Simple random sampling is a sampling procedure that allows each individual in the defined population to have an equal and independent chance of being included in the sample (Zikmund, 2003). This method is chosen because of the following:

- 1) it is free of classification error
- 2) it requires minimum advance knowledge of the population other than the frame
- 3) its simplicity also makes it relatively easy to interpret data collected in this manner
- 4) it does not favor any part of the population.

Hence, this research adopted the sample criterion by Krejcie and Morgan (1970) in determining the relevant sample size, as demonstrated in Table 3.1. The proposed sample size for total employees in this pressure vessel fabrication company with a sample population of 190 is approximately 127 respondents. All responders will be given enough time to complete the survey, which will be collected once completed. These processes are estimated completed in a month.

Table 3.1
Krejcie & Morgan Sample Size Table

Table 3.1									
<i>Table for Determining Sample Size of a Known Population</i>									
N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

3.3 Questionnaire Design

The survey instrument consists of (8) pages of questionnaires and two pages of a cover letter that equips a brief overview of the research to the respondent. The survey was simultaneously also interpreted into Bahasa Melayu using a back translation approach, it was later finalized to account for any abnormalities that might be discovered. After being modified, another translator received it and re-translated it into English to ensure language consistency to the greatest extent feasible. A back translation is not a guarantee that the real translation will be equal or linguistically adequate, according to empirical data from this study (Behr, 2016). Thus, by using committee or team techniques, including qualified translation, content, and survey experts, and

thoroughly documenting the translation process, including issues and deliberate departures from a source questionnaire, efforts should be made to ensure the quality of the translation itself. There are currently few alternatives to back-translation for evaluating the accuracy of translation employed in cross-cultural social research, and there are no signs that this practice will change anytime soon (Tyupa, 2011).

The questionnaire was ready in bilingual, which are Bahasa Melayu and English as the respondents were among employees of various backgrounds, and multi races and speak many languages. Then, a copy of the 8-page questionnaire was distributed to the employee through Google Forms.

Questionnaires are divided into four (4) section

1) Section A Demographic Information

A section of the demographic information required the respondents to declare ages, level of education, years of working experience, marital status, occupational accidents, and frequency of safety training.

2) Section B Safety Management Practices

This section comprises thirty fives (35) items which required respondents to assess the priority of rules, safety as well as procedures followed by management, corrective action taken by management, managers/supervisors shown interest in safety practices and management prepared to make compromises on safety for improvement.

3) Section C Safety Behavior

This section comprises seven (7) items on safety behavior. They needed to evaluate the employee's safety compliance and safety participation.

4) Section D Thriving at Work

This section comprises ten (10) items and respondents are required to evaluate their thriving at work. A sample item for thriving at work is I find myself learning often.

3.4 Pilot Study

As per Flynn et al. (1994), a pilot study is performed to guarantee the validity and reliability of the questionnaire while conducting research. Therefore, this study conducted a pilot study on 30 employees of the pressure vessel fabrication company involved of managers, engineers, executives, supervisors, and general workers, to achieve continuity and dependability within and to guarantee the research purpose is achieved. The questionnaire was distributed randomly and manually to the employees and required to complete all of the questions.

3.5 Measurement of Variables or Instrumentation

In their study, Vinodkumar and Bashi (2010)'s questionnaire was employed, which the researcher altered. Management commitment, worker participation, safety rules and procedures, safety training, safety communication and feedback, safety promotion policies, as well as thriving at work were the six dimensions of safety management methods that were implemented. Safety behavior consists of two components i.e. safety participation as well as safety compliance.

A 5-point Likert scale is employed to score each dimension's items (1 = strongly disagree, 2 = disagree, 3 = moderate, 4 = agree, and 5 = strongly disagree). Appendix A contains the questionnaire used in this investigation.

Table 3.2

The Dimensions, Operational Definitions, Items and Sources

No	Variables	Operational Definition	Adapted Items	Sources
01	Management Commitment	The determination of the administration to pursue safety programs and to employ methods for the prevention of occupational accident in workplace (Arboleda et al., 2003)	<ol style="list-style-type: none"> 1) Safety is given high priority by the management. 2) Safety rules and procedures are strictly followed by the management. 3) Corrective action is always been taken when the management level is told about the unsafe practices. 4) There's a shortage of organisational or supervisory commitment with regard to the welfare and safety of the employees. 5) The management put equal importance on safety and production. 6) The attendance of safety meetings by members of the management is insufficient. 7) I feel that management is willing to compromise on safety for increasing production delivery. 8) When near-miss accidents are reported, my management acts quickly to solve the problem. 9) My company provides sufficient personal protective equipment for the workers. 	Vinodkumar & Bashi (2010)
02	Safety Training	The acquisition of knowledge and technical skills that enhance safety performance for the prevention of accidents and injuries at the workplace	<ol style="list-style-type: none"> 1) My company provide comprehensive safety and health training to the workers. 2) Newly recruits are trained adequately to learn safety rules and procedures. 3) Safety issues are given high priority in training programs. 4) I am adequately trained to respond to emergency situation in my workplace. 5) Management encourages the workers to attend safety training programs. 6) Safety training provide to me is adequate to enable me to assess hazards in workplace. 	Vinodkumar & Bashi (2010)
03	Workers Involvement	Involvement of individuals or groups of employees in the of safety and health programs and in the decision-making progress within the organization (Khan, 2010)	<ol style="list-style-type: none"> 1) Management always welcomes opinion from the workers before making final decisions on safety related matters. 2) My company has safety committees consisting of representative of management and workers. 3) Management promote workers involvement in safety related matters. 4) Management checks with workers regularly about safety and health issues. 5) Workers do sincerely participate in identifying safety problems. 	Vinodkumar & Bashi (2010)

Table 3.2 (Continued)

No	Variables	Operational Definition	Adapted Items	Sources
04	Safety Communication and Feedback	The provision of information and data on the safety level of an organization to identify the degrees of risk that result in accidents at the workplace (Bentley & Haslam, 2001)	<ol style="list-style-type: none"> 1) My company have a hazard reporting system where employees can communicate hazard information before incidents occur. 2) Management operates an open door policy on safety issues. 3) There is sufficient opportunity to discuss and deal with safety issues in meetings. 4) The target and goals for safety performance in my hospital are clear to the workers. 5) There is an open communication about safety issues in this company. 	Vinodkumar & Bashi (2010)
05	Safety Rules and Procedures	The degree to which an organization creates a clear mission, responsibilities and goals, setting up of standard of behavior for employees, and the establishment of a safety system to correct workers behavior (Lu & Yang, 2010)	<ol style="list-style-type: none"> 1) The safety rules and procedures followed in my company are sufficient to prevent incident occurring 2) The facilities in the safety department are adequate to meet the needs of my company. 3) My supervisors and managers always try to enforce safety working procedure. 4) Safety inspections are carried out regularly. 5) The safety procedures and practices are useful and effective. 	Vinodkumar & Bashi (2010)
06	Safety Promotion Policies	Policies that aim to ensure presence and maintenance of conditions that necessary to reach and sustain an optimal level (Welander et al., 2004)	<ol style="list-style-type: none"> 1) Safe behavior is considered as a positive factor for job promotions. 2) Employees are rewarded for reporting hazards (thanked, cash or other rewards, recognition in newsletter, etc) 3) Safety week celebration and other safety promotional activities arranged by the management are very effective in creating safety awareness among the workers. 4) There exists very healthy competition among the workers to find out and report unsafe condition and acts. 5) Our supervisor becomes very happy and angry when employees find out and report unsafe conditions and acts in our section. 	Vinodkumar & Bashi (2010)

Table 3.2 (Continued)

No	Variables	Operational Definition	Adapted Items	Sources
07	Safety Compliance	The employee adheres to safety procedures and the behavior exhibited in performing work safety (Neal et al., 2000)	<ol style="list-style-type: none"> 1) I carry out work in a safe manner. 2) I use all necessary safety equipment to do my job. 3) I use the correct safety procedures for carrying out my job. 4) I ensure highest level of safety when I carry out my job. 5) I put extra effort to improve the safety of workplace. 6) I help my co-workers when they are working under risky or hazardous conditions. 7) I voluntarily carry out tasks or activities that help improve workplace safety. 	Griffin and Neal (2000)
08	Safety Participation	Employee behavior that does not directly contribute to individual's personal safety, but helps to develop an environment that supports safety (Neal et al., 2000)	<ol style="list-style-type: none"> 1) I help my co-workers when they are working under risky or hazardous conditions. 2) I always point out to the management if any safety related matters are noticed in my company 3) I put extra effort to improve the safety of the workplace 4) I voluntarily carry out tasks or activities that help to improve workplace safety. 5) I encourage my co-workers to work safely 	Zohar (1980)
09	Thriving at work	Psychological state in which individuals experience both a sense of vitality and learning (Porath 2011)	<ol style="list-style-type: none"> 1) I find myself learning often. 2) I continue to learn more as time goes by. 3) I see myself continually improving. 4) I am not learning. 5) I am developing a lot as a person. 6) I feel alive and vital. 7) I have energy and spirit. 8) I do not feel very energetic. 9) I feel alert and awake. 10) I am looking forward to each new day. 	Elahi (2019)

3.6 Data Collection Procedure

This study started with sending a letter to the pressure vessel fabrication company through their Human Resource Department representative to obtain permission to collect data from the employees. Then the survey started by developing the questionnaire using Microsoft Office's MS Word and then rearranging the questionnaire in Google Forms and sent to the respondents using the WhatsApp application. The employee needed about 15 minutes to complete the questionnaire for

each distribution session until the study sample had the necessary 30 respondents. This method was selected for this study because of several factors such as respondents limited rest time, use of smartphones among employees, educational background among the respondents required continuous explanation, and the ability to receive back the questionnaire within the time frame. The data collection period occurred within one (1) month from February 2023.

3.7 Data Analysis

To examine the data gathered for this research, descriptive methods will be utilized. For this approach, the SPSS Statistic version 26 for Microsoft Windows will be used. The software was selected for this study because suitable and matched for descriptive analysis of statistical data. Then, the data were screened, interpreted, and verified before data entry.

3.7.1 Data Validity and Reliability

The likelihood of obtaining reliable conclusions from techniques for studying sample populations is reflected in the validity of a specific set of data (Creswell & Hirose, 2019). To assess the instrument's adequacy, validity, and consistency, questionnaires were shared and assessed by the research supervisor as reviewers, getting their feedback on the instrument. The level to which the dependent and independent variables consistently reflect what is intended in a questionnaire is known as reliability (Sanjeevkumar & Yanan, 2011). Higher variables and their relationship to indicators. Cronbach's alpha measures were employed to evaluate the variables dependability. This is performed by measuring each variable in determining the internal consistency

of time. The greater the coefficient value, the higher the level of item reliability. Internal consistency is measured using the alpha coefficient (Pallant, 2005).

According to Majid Konting et al, (2009), any alpha coefficient value between .80 and .95 is regarded as reliable in the context of its reliability. Scales with an alpha coefficient of.60 to.70, on the other hand, were classified as having moderate dependability. While the alpha coefficient is less than 0.60, indicating poor reliability, as seen in Table 3.3.

Table 3.3
Cronbach Alpha

Cronbach Alpha (α)	Consistency
0.91 < α < 1	Excellent
between 0.81 to 0.90	Good
between 0.71 to 0.80	Acceptable
between 0.61 to 0.70	Questionable
between 0.51 to 0.60	Poor
Less than 0.5	Unacceptable

Source: Pallant J. (2007)

3.7.2 Data Examination

While collecting the questionnaires from respondents, the objective of the information examinations was to ensure data entry correctness, anomaly detection, and distribution properties. Additionally, this served to guarantee the accuracy of the information gathered before data analysis started.

Any value that is missing from the completed questionnaire will be excluded from the data analysis since irregular replies provided by respondents typically reflect human

error. A determination of the outliers will also be made if the data provided had no aspects of deviation. Next, the multi-collinearity test and normality test were handled.

3.7.3 Descriptive Statistic

The characteristic of the research in this study is described through descriptive analysis to analyze the obtained raw data. Referred to Zikmun et al., (2013), descriptive analysis acts as a method to abstract the raw data received from the respondents into an additional comprehensive format. The data provided more convenience to expose the data into simplistic information, such as presented in table and graph. To achieve the desired outcome, this study employed a frequency tool, a central tendency measurement, a dispersion measurement of standard deviation and range, and an examination of the probability distribution. While only the mean was employed for the data analysis, the central tendency technique also included the mode and median. For this, the mode approach is defined as the most commonly occurring value, while the mean method is presented as the arithmetic average. The measurement was used in this investigation along with data preparation, data cleaning, a normality test, an outlier test, and data transformation, as specified.

3.7.4 Inferential Statistic

The inferential statistic was utilized to evaluate the sample size data in this research to justify and make inferences about the sample size selection. To see if there are any notable discrepancies in the connection means and to analyze the differential of the dimension in employees' perception, for this investigation, using ANOVA to connect the means of two or more independent groups. The results are considered significant if the p-value is less than .01.

3.7.5 Pearson Correlation

As per Sekaran and Bougie (2016), correlational analysis refers to a statistical technique employed to determine the significance, nature, strength as well as direction of a correlation between two variables. As a result, the hypothesis test and correlational analysis were utilized to ascertain how the independent and dependent variables relate to one another in this study. The findings were put to use in defining that connection and calculating correlation coefficients.

3.7.6 Multiple Regression

Using multiple regression analysis, the significance of each Independent Variables in forecasting the Dependent Variables was also assessed as well as examined, which was used in this study as a statistical tool. According to Olive (2005), the analysis was used to assess the relationship between multiple IVs (predictor) as well as a single DV (criterion). Thus, in this research, multiple regression analysis will be utilized to examine the strength with respect to the IV that signified safety management practices as well as employee safety behavior and to explain the DV among the employees in the pressure vessel fabrication company.

3.8 Summary

The methodology of this chapter concerning study addresses the research structure, sampling, data collection methodologies, instruments, data analysis procedures, variable evaluation, and statistical analysis. It is a common and crucial technique used to guarantee that a quantitative study may be conducted practically and methodically with a guarantee of efficiency and trustworthy results for the study's main body. Then, all of the data analysis results for this research are demonstrated in Chapter 4.

CHAPTER 4

RESEARCH FINDINGS

4.1 Introduction

This chapter reported the study's findings relying on the data collected and the analytical procedure, which was carried out by the research objectives. SPSS version 26 was employed to analyze the data for descriptive, inferential, correlation, and regression purposes. The processes started with the response rate analysis and the demographics of the respondent's reports. The data was then reviewed and coded before being subjected to inferential and descriptive analysis. The presence of correlations between the independent variables (IVs) and the dependent variable (DV) was then ascertained using the Pearson Correlation statistical method. Regression analysis was then employed to determine which IVs are most important to the employee's safety management practices as well as safety behavior at a pressure vessel fabrication company.

4.2 Data Screening and Data Coding

The purpose of the data screening and data coding carry out is to ensure the actual data used during data analysis, where extraneous, illogical, and incomplete data are excluded. Data cleaning and management were including re-coding existing variables, reverse scoring of negatively phrased items, creating new variables from existing variables, data labeling and formatting, and correcting the errors of the datasets. Therefore, any inappropriate data shall be cleaned before the process and analysis are performed.

4.3 Response Rate

Google Forms was used to create the survey, which was then distributed to the employees of the pressure vessel fabrication company through WhatsApp applications. The respondents were provided brief explanations regarding the study's objective and were assured of the privacy of their responses. Due to the time-consuming and limited interpretation, the online poll was closed after reaching 127 respondents. The percentage of respondents for this study is in line with the recommendation of Krejcie and Morgan (1970). Table 4.1 provides the following return rate information:

Table 4.1
Response Rate

Items	Total	Percentage (%)
Distributed Questionnaires	127	100
Collected Questionnaires	127	10
Unreturned Questionnaires	0	0
Completed Questionnaires	127	100

4.4 Demographic Analysis

According to Table 4.2, skilled employees make up the majority of respondents (31.5%), professionals (27.6%), managers (18.1%), technicians (15%), and clerical (7.9%). The study's overall findings were gathered primarily from low-level workers engaged in operational work rather than managers and engineers who are more active in management tasks.

The data analysis revealed that male respondents outnumbered female respondents. Out of the 127 responders, 107 were male and 20 were female. Male respondents

constituted 84.3% and female respondents constituted 15.7% of the total 127 respondents.

The respondents' ages are separated into four categories, which are < 23 years old represented by 1 respondent or 8%, 23 – 30 years old represented by 31 respondents or 24.4%, 31 – 40 years old represented by 60 respondents, or 47.2% and above 40 years old represented by 35 respondents or 27.6%.

In terms of working experiences, employees that have been with the company for over ten years contributed to 62.2% or 79 of the respondents. Then some people have worked for six to 10 years (31.5% or 40 respondents) and lastly one to five years (6.3% or 8 respondents).

Employees with one to five years of service make up the largest group of respondents, accounting for 79 (62.2%). Following this are those who have worked for six to 10 years (28 respondents or 22%), employees who worked less than a year constituted 14 respondents or 11%, and lastly above 10 years (6 respondents or 4.7%).

The trend of respondents' levels of education showed that 43 (33.9%) of the respondents had a degree, making up the largest group of respondents. Holding 30 (23.6%) of the respondents, individuals holding certificates made up the second-largest category. Following this are responders who have earned a diploma, which consisted of 24 respondents (18.9%) and respondents with secondary qualifications consisting of 22 respondents (17.3%) from overall respondents and the last group of background is employees with Master's degree qualifications which is 8 respondents (6.3%).

Married status were 105 respondents (82.7%), 22 respondents (17.3%) are single and there are no respondents for divorced or widowed. According to the findings, most of those who responded provided feedback were married employees of a pressure vessel fabrication company.

A large percentage of respondents (99%) stated that they have not been involved in an accident since beginning work with the current organization. Here, only 28 people (22%) said they experienced one to three accidents while at work for a pressure vessel fabrication company.

The organization has provided safety training to its employees. 101 respondents or 79.5% have attended safety training since working at the pressure vessel fabrication company. However, there were 26 respondents (20.5%) are absence from the safety training. A majority of those surveyed (63 or 49.6%) said they had taken the safety training at the minimum requirements once a year, 34 respondents or 26.8% mentioned they have attended once in six months, 3 respondents (2.4%) stated once in three months while 5 respondents (3.9%) on every month.

Table 4.2
Respondents Characteristic

Demographics	Frequency	Percentage (%)
Job Title		
Manager	23	18.1
Professional	35	27.6
Technician	19	15.0
Clerical	10	7.9
Skill workers	40	31.5
Gender		
Male	107	84.3
Female	20	15.7

Table 4.2 (Continued)

Demographics	Frequency	Percentage (%)
Age		
< 23 years old	1	8
23 – 30 years old	31	24.4
31 – 40 years old	60	47.2
> 40 years old	35	27.6
Working Experience		
1-5 years	8	6.3
6 – 10 years	40	31.5
Above 10 years	79	62.2
Working With Current Company		
< less than 1 year	14	11.0
1 – 5 years	79	62.2
6 – 10 years	28	22.0
Above 10 years	6	4.7
Highest Education Level		
Secondary School / Sekolah Menengah	22	17.3
Certificate / Sijil	30	23.6
Diploma / Diploma	24	18.9
Degree / Ijazah	43	33.9
Master above / Master ke atas	8	6.3
Marital Status		
Married / Berkahwin	105	82.7
Single / Bujang	22	17.3
Occupational Accident		
Yes / Ya	28	22.0
No / Tidak	99	78.0
Frequency of Occupational Accident		
1 – 3 times	28	22.0
4 – 8 times	-	-
9 – 15 times	-	-
Lebih / Over 15 times	-	-
Safety Training		
Yes / Ya	101	79.5
No / Tidak	26	20.5
Frequency of Safety Training		
Not at all / Tiada Langsung	26	20.4
Every month / Setiap bulan	5	3.9
Once in three month / Sekali dalam tempoh tiga bulan	3	2.4
Once in six month / Sekali dalam tempoh enam bulan	34	26.8
Once a year / Sekali setahun	63	49.6

4.5 Reliability Analysis

Another essential measuring instrument whether the tool employed in the study is dependable or admission is the reliability test. Cronbach's Alpha is employed in this test to measure the tool's reliability, where the allowed alpha coefficient exceeds 0.7 (Hair and Anderson, 2010). Sekaran & Bougie (2010) mentioned the closer the dependability coefficient approaches 1.0, the better, and values above 0.80 are considered good. A value of 0.70 is regarded as acceptable, while values less than 0.60 are regarded as unsatisfactory. As per Table 4.3, the majority of Cronbach's Alpha is amongst 0.70, except the alpha value for safety compliance is 0.80. There are 52 initial items with a dependability range of -.50 to 0.80. The reliability varied from 0.70 to 0.80 when eight components were removed (management commitment 1 item, safety training 1 item, workers involvement 1 item, safety communication and feedback 2 things, safety rules and procedures 2 items while safety promotion and policies 1 item).

Table 4.3
Reliability Analysis Before and After Items Deleted

Variables	No. Of Initial Items	Cronbach's Alpha	No. Of Final Items	Cronbach's Alpha
Management Commitment	9	0.69	8	0.74
Safety Training	6	0.47	5	0.71
Workers Involvement	5	0.36	4	0.71
Safety Communication and Feedback	5	-.52	3	0.76
Safety Rules and Procedures	5	0.41	3	0.75
Safety Promotion and Policies	5	0.36	4	0.72
Thriving At Work	10	0.74	10	0.74
Safety Compliance	4	0.82	4	0.82
Safety Participation	3	0.72	3	0.72
TOTAL	52		44	

4.6 Normality Assessment

A symmetrical bell-shaped curve is used to represent normality. To determine if the data is regularly distributed, the normality test is used or not (Hair and Anderson, 2010). According to Patrick J. Curran *et al.*, (1996), the parameter of skewness is less than 2.0 and Kurtosis less than 7.0. While Kline (1976) argued that if the value of skewness is greater than 3.0 (>3.0) as well as Kurtosis greater than 10.0 (>10.0), the data may indicate a problem, and if the value of more than 20.0 (>20.0) may indicate more serious issues. Based on the observation in Skewness evaluated the extent of variables distribution is symmetrical while Kurtosis referred to the “peakedness” or “flatness” of the distribution in comparison to a normal distribution (Hair and Anderson, 2010). The distribution curve for the DV as well as IVs for this research showed in Figures 4.1 and 4.2 below:

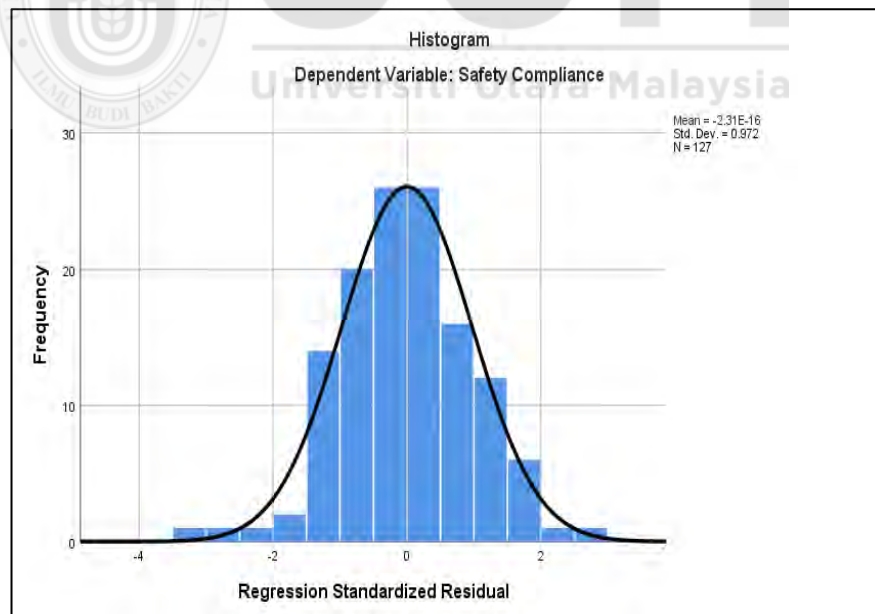


Figure 4.1
Normality Plot (Dependent Variable: Safety Compliance)

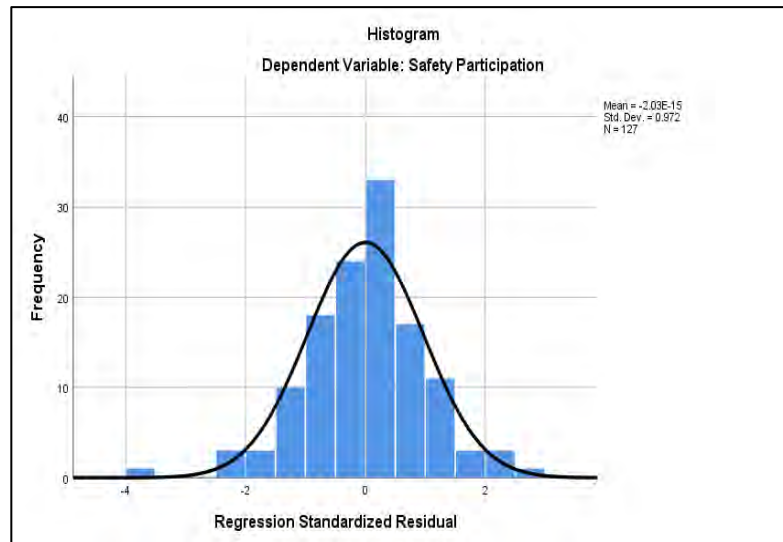


Figure 4.2
Normality Plot (Dependent Variable: Safety Participation)

4.7 Linearity Test

In this section, the study's data is plotted to determine the linearity of the data. Figure 4.3 and Figure 4.4 showed the accurate distribution normality data of the DV. Consequently, the observed residue is considered normal. The linearity plots shown below demonstrate that the linearity test is acceptable and can be used for further study.

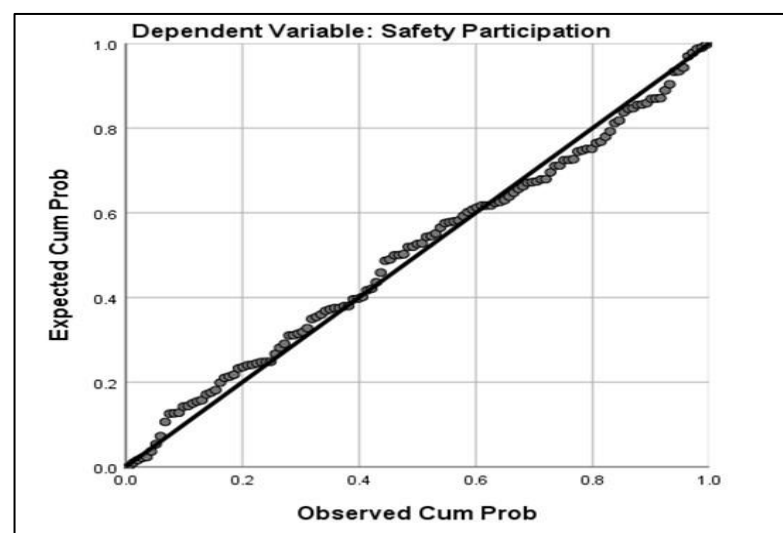


Figure 4.3
Linearity Plot (Dependent Variable: Safety Participation)

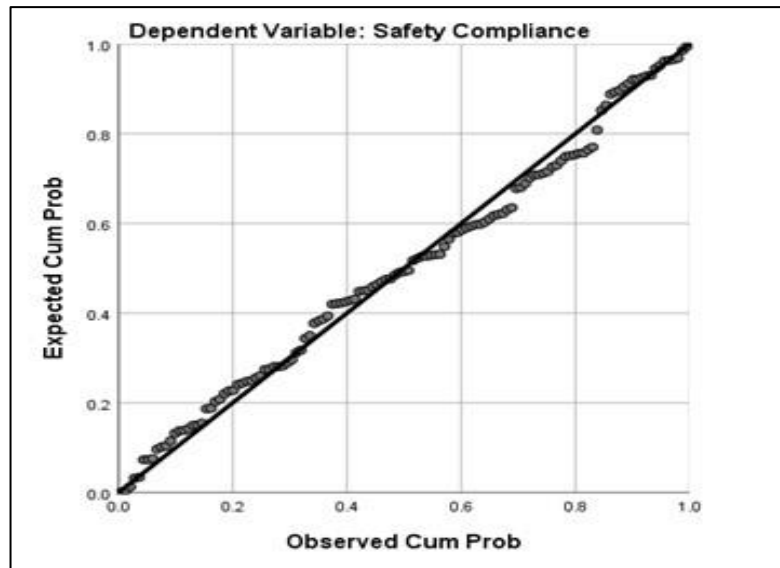


Figure 4.4
Linearity Plot (Dependent Variable: Safety Compliance)

4.8 Descriptive Analysis

The descriptive analysis of mean and standard deviation (SD) is employed to investigate the latent variable in the study. In this study, the independent and dependent variables were measured and referred to the Likert scale. IVs computed into 5-point Likert scale from 1 to 5 (1: "Strongly Disagree", 2: "Disagree", 3: "Moderate", 4: "Agree", 5: "Strongly Agree"). Davis (1971) mentioned that the level of the variable was defined as lower when the mean scored at 1.00 – 2.33, considered moderate if the result scored 2.34 – 3.67, and highest when the result scored at 3.68 – 5.00. According to Table 4.4, safety promotion policies had the lowest mean value of 1.98 when compared to other variables, and the standard deviation was 0.500, resulting in this variable being at a lower level. The highest mean of the IV was at 3.98 for "Safety Training" and the standard deviation was at 0.500, which is categorized as the highest level. For the other result mean and standard deviation, "Management Commitment" obtained 3.34 as the mean and a SD of 0.650 resulted in a moderate level. The result of mean as well as SD for "Workers Involvement" was 3.37 and 0.578 respectively,

which also resulted in a moderate level. For the result of “Safety Communication and Feedback”, the mean was at 3.32 and the SD was at 0.825, resulting in a moderate level. “Safety Rules and Procedures” also resulted in a moderate level when the mean was at 2.99 and the SD was at 0.804. Lastly, “Thriving at Work” obtained a 3.76 mean, with a SD of 0.482 which also resulted in a moderate level.

Finally, based on the findings, the majority of the IVs affected the employee safety behavior of the pressure vessel fabrication company at a moderate level.

Table 4.4
Descriptive Statistics for Independent and Dependent Variables

Variables	Mean	Std. Deviation	N
Management Commitment	3.34	.650	127
Safety Training	3.98	.500	127
Workers Involvement	3.37	.578	127
Safety Communication and Feedback	3.32	.815	127
Safety Rules and Procedures	2.99	.804	127
Safety Promotion Policies	1.98	.500	127
Thriving at Work	3.76	.482	127
Safety Compliance	4.10	.658	127
Safety Participation	3.98	.623	127

4.9 Inferential Analysis

In this phase, data is subjected to inferential analysis. Moreover, correlation and multi-regression analyses are used. Correlation analysis can reveal the outcome of hypothesis testing.

4.9.1 Pearson Correlation

According to Sekaran and Bougie (2016), the linear relationship between IVs and DV is measured using correlation analysis. Therefore, Pearson's correlation analysis was employed to look at the relationship between the variables. Moreover, Table 4.5 below showed the detail of Pearson's correlation analysis results.



Table 4.5
Pearson Correlation Analysis

		Management Commitment	Safety Training	Workers Involvement	Safety Communication and Feedback	Safety Rules Procedures	Safety Promotion Policies	Thriving At Work	Safety Compliance	Safety Participation
Management Commitment	Pearson									
	Correlation	1	.308**	.051**	-.345	.584**	-.099	.622**	.642**	.448**
	Sig (2- Tailed)		.000	.571	.000	.000	.266	.000	.000	.000
	N	127	127	127	127	127	127	127	127	127
Safety Training	Pearson									
	Correlation	.308**	1	.121**	.286**	.194**	-.088	.207**	.115**	.213**
	Sig (2- Tailed)	.000		.175	.001	.029	.326	.020	.197	.016
	N	127	127	127	127	127	127	127	127	127
Workers Involvement	Pearson									
	Correlation	.051**	.121**	1	.303**	.147**	-.196	.060**	.066**	.018**
	Sig (2- Tailed)	.571	.175		.001	.099	.027	.503	.459	.837
	N	127	127	127	127	127	127	127	127	127
Safety Communication and Feedback	Pearson									
	Correlation	-.345	.286**	.303**	1	-.217	.176	-.236	-.246	-.143
	Sig (2- Tailed)	.000	.001	.001		.014	.048	.007	.005	.109
	N	127	127	127	127	127	127	127	127	127
Safety Rules and Procedures	Pearson									
	Correlation	.584**	.194**	.147**	-.217	1	-.219	.298**	.275**	.229**
	Sig (2- Tailed)	.000	.029	.099	.014		.013	.001	.002	.010
	N	127	127	127	127	127	127	127	127	127

Table 4.5 (Continued)

		Management Commitment	Safety Training	Workers Involvement	Safety Communication and Feedback	Safety Rules Procedures	Safety Promotion Policies	Thriving At Work	Safety Compliance	Safety Participation
Safety Promotion Policies	Pearson Correlation	-.099	-.088	-.196	.176**	-.219	1	-.071	-.200	-.396
	Sig (2- Tailed)	.266	.326	.027	.048	.013	.429	.024	.024	.000
	N	127	127	127	127	127	127	127	127	127
Thriving At Work	Pearson Correlation	.622**	.207**	-.060	-.236	.298**	-.071	1	.643**	.592**
	Sig (2- Tailed)	.000	.020	.503	.007	.001	.429	.000	.000	.000
	N	127	127	127	127	127	127	127	127	127
Safety Compliance	Pearson Correlation	.642**	.115**	.066**	-.246	.275**	-.200	.643**	1	.668**
	Sig (2- Tailed)	.000	.197	.459	.005	.002	.024	.000	.000	.000
	N	127	127	127	127	127	127	127	127	127
Safety Participation	Pearson Correlation	.448**	.213**	.018**	-.143	.229**	-.396	-.592	.668**	1
	Sig (2- Tailed)	.000	.016	.837	.109	.010	.000	.000	.000	.000
	N	127	127	127	127	127	127	127	127	127

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

Table 4.5 depicts the relationship between six areas of safety management practices and thriving at work in terms of safety participation as well as safety compliance. Only five variables (management commitment, safety training, worker involvement, safety rules and procedures as well as thriving at work) were discovered to have an encouraging significant corresponding with safety compliance. Thriving at work score the highest correlation at 0.643 followed by management commitment at 0.642, while workers' involvement shows no significant relationship at 0.066. Meanwhile, safety communication feedback and safety promotion policies were insignificant relationships at all when both scored at -.246 and -.200 respectively.

For safety participation, the results stated that only four variables (management commitment, safety training, workers' involvement as well as safety rules procedures) have been positively significant. Management commitment indicates the highest significant relationship with safety participation with 0.448 score, followed by safety rules and procedures at 0.213 and workers involvement score of 0.018. The other three variables (safety communication and feedback, safety promotion policies, and thriving at work) was a negative relationship with safety participation when scored at -0.143, -0.143, and -.396.

4.9.2 Multiple Regression

The goal of multiple regression analysis is to derive a clear picture from numerous data sets to answer the RQ and test the research analysis. Referring to Zikmund et al., (2013), multiple regression is stated as a procedure analysis while the IVs predicted the dependent variable's values. Hence, this research employed regression analysis to signify the correlation as well as influence between the IVs (management commitment

safety training, workers' involvement, safety communication and feedback, safety promotion policies, safety rules and procedures as well as thriving at work) and the DVs (safety participation and safety compliance). The findings of the analysis are illustrated in Table 4.6 below:

Table 4.6
Regression Analysis Results on Safety Compliance

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std Error	Beta		
(Constant)	1.464	.535		2.734	.007
Management Commitment	.533	.102	.526	5.238	.000
Safety Training	-.171	.095	-.130	-1.799	.074
Workers Involvement	.066	.078	.058	.844	.400
Safety Communication and Feedback	.034	.064	.042	.525	.600
Safety Rules and Procedures	-.130	.064	-.159	-2.047	.043
Safety Promotion Policies	-.213	.087	-.162	-2.449	.016
Thriving At Work	.536	.108	.392	4.968	.000

Note:

F value: 21.372 at $p < 0.05$

R: 0.746^a

$R^2 = 0.557$

Adjusted $R^2 = 0.531$

Independent/constant variable: Management commitment, Safety Training, Workers Involvement, Safety Communication and Feedback, Safety Rules and Procedures, Safety Promotion Policies and Thriving At Work

Dependent Variable: Safety Compliance

The multiple regression findings unveiled a significant correlation between management commitment as well as safety compliance ($\beta = 0.53$ at $p < 0.05$). It proposed that hypothesis H1_a, that is management commitment is positively related to safety compliance, was supported.

The correlation between safety training as well as safety compliance was negligible ($\beta = -.171$ at $p < 0.05$). As a result, hypothesis H2_a (safety training is positively related with safety compliance) was not supported.

Hypothesis H3_a suggested that safety communication and feedback are positively related to safety compliance. The result ($\beta = 0.34$ at $p < 0.05$) unveiled a significant correlation between safety communication and feedback as well as safety compliance. Hence, the hypothesis was supported.

The correlation between workers' involvement in safety compliance is highly significant. The result ($\beta = 0.66$ at $p < 0.05$) indicated a significant relationship. Therefore, hypothesis H4_a (workers' involvement is positively related to safety compliance) was supported.

Hypothesis H5_a (safety rules and procedures are positively related to safety compliance) suggested a significant relationship. However, the results show a negative value ($\beta = -.13$ at $p < 0.05$) meaning the hypothesis was unsupported.

Hypothesis H6_a stated that safety promotion policies are positively related with increased safety compliance. The research revealed no significant connection ($\beta = -$

0.21 at $p < 0.05$). As a result, the theory was rejected. Finally, hypothesis H7_a (thriving at work is positively related to safety compliance) was significant ($\beta = 0.53$ at $p < 0.05$). Therefore, the hypothesis was supported.

Table 4.7
Regression Analysis Results on Safety Participation

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std Error	Beta		
(Constant)	2.044	.540		3.787	.000
Management Commitment	.177	.103	.185	1.724	.087
Safety Training	.019	.096	.015	.193	.0847
Workers Involvement	-.062	.079	-.057	-.786	.433
Safety Communication and Feedback	.077	.065	.100	1.178	.241
Safety Rules and Procedures	-.065	.064	-.084	-1.013	.313
Safety Promotion Policies	-.484	.088	-.389	-5.517	.010
Thriving At Work	.636	.109	.492	5.852	.000

Note:

F value: 16.772 at $p < 0.05$

R: 0.705^a

$R^2 = 0.497$

Adjusted $R^2 = 0.467$

Independent/constant variable: Management commitment, Safety Training, Workers Involvement, Safety Communication and Feedback, Safety Rules and Procedures, Safety Promotion Policies, Thriving at Work

Dependent Variable: Safety Participation

H1_b hypothesized a substantial link between management commitment as well as safety participation. The results indicated that there exists a substantial association between management commitment as well as safety participation ($\beta = 0.17$ at $p < 0.05$). Therefore, hypothesis H1_b was supported.

Hypothesis H2_b stated that safety training is positively related with increased safety participation. Here, the findings signified that there exist a significant correlation between safety training as well as safety participation ($\beta = 0.19$ at $p < 0.05$). As a result, hypothesis H2_b was supported.

Safety communication and feedback, according to Hypothesis H3_b, are positively related with safety participation. The findings indicate a statistically significant association between safety communication and feedback as well as safety participation ($\beta = 0.07$ at $p < 0.05$). As a result, hypothesis H3_b was supported.

Workers' involvement, according to Hypothesis H4_b, is positively related with safety participation. The findings ($\beta = -0.06$ at $p < 0.05$) revealed no significant connection between worker involvement as well as safety participation. Consequently, hypothesis H4_b was not supported.

Hypothesis H5_b claimed that safety regulations and procedures are positively related with safety participation in a favorable way. According to the findings ($\beta = -0.06$ at $p < 0.05$), there is no significant link between safety rules and procedures as well as safety participation. Consequently, the hypothesis was not supported.

According to hypothesis, H6_b, safety promotion policies do not show a significant positive association with safety participation, as indicated by the findings ($\beta = -0.48$, $p < 0.05$). Consequently, the hypothesis was not supported.

Meanwhile, the hypothesis H7_b (thriving at work is positively related to safety involvement) result ($\beta= 0.63$ at $p<0.05$) suggested a positive relationship between thriving at work as well as safety participation. As a result, the hypothesis was supported.

Table 4.8
Summary of Hypothesis

Hypothesis	Outcome
H1 _a : Management commitment is positively related to safety compliance	Supported
H1 _b : Management commitment is positively related to safety participation	Supported
H2 _a : Safety training is positively related to safety compliance	Not Supported
H2 _b : Safety training is positively related to safety participation	Not Supported
H3 _a : Safety communication and feedback are positively related to safety compliance	Not Supported
H3 _b : Safety communication and feedback are positively related to safety participation	Not Supported
H4 _a : Workers' involvement is positively related to safety compliance	Not Supported
H4 _b : Workers' involvement is positively related to safety participation	Not Supported
H5 _a : Safety rules and procedures are positively related to safety compliance	Not Supported
H5 _b : Safety rules and procedures are positively related to safety participation	Not Supported
H6 _a : Safety promotion policies are positively related to safety compliance	Not Supported
H6 _b : Safety promotion policies are positively related to safety participation	Not Supported
H7 _a : Thriving at work is positively related to safety compliance	Supported
H7 _b : Thriving at work is positively related to safety participation	Supported

4.10 Summary

This chapter explores the demographic profiles, the reliability test, Pearson's correlation analysis as well as multiple regression analysis. Eight of the fourteen theoretical predictions proved to be true. Thus, the discussion of the current study's limitations, conclusion, and advice will be further elaborated in the next chapter.



CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the study's findings were examined, focusing on the investigation of the effects of six management practice variables, including thriving at work, safety compliance and safety participation among employees in a pressure vessel fabrication company. The findings of this study encompass the outcomes of the current research, along with a practical approach to enhance safety compliance as well as safety participation among employees. The limitations of the study are addressed towards the end of this chapter. Additionally, the chapter concludes with the overall findings and conclusions of the current research.

5.2 Discussion

All the objectives outlined in Chapter 1 have been successfully achieved, as indicated by the findings presented in the preceding chapter. Subsections outlined below discuss the findings corresponding to each of these objectives.

5.2.1 Management Commitment with Safety Compliance and Safety Participation

The study posited a hypothesis suggesting a significant correlation between management commitment as well as safety behavior, specifically safety compliance and safety participation. The research findings support this hypothesis, indicating a strong relationship between management commitment as well as safety compliance. Moreover, the findings support prior empirical research in the manufacturing sector

(Fernandez - Muniz, 2009; Parker et al., 2001 Zohar, 1982) and among hospital staff (Vrendenburgh, 2002).

There are multiple potential reasons for the significant association between the joint safety as well as health committee at the departmental and workshop levels and the involvement of management in safety issues (Zohar 2008; Zhou et al., 2008). Additionally, managers are responsible for ensuring workplace safety and health through various actions. These include actively participating in safety and health committees at both the workshop and departmental levels, engaging in discussions with safety and health practitioners, facilitating dialogue among local area and line leaders to establish safety and health representatives, participating in safety and health inspections and investigations, cooperating in OSH reporting and monitoring, providing access to safety and health representatives as well as facilitating training opportunities for safety and health representatives (Zohar, 2010).

In conclusion, the role of top management as the chairman of the organization's safety and health committee is crucial. In this regard, management can enhance their commitment to foster a positive team working environment as well as promote positive peer influences within teams, as suggested by Zhou et al. (2008). As indicated by Hale et al. (2010), Wu et al. (2008), and Khader (2004), top management participation could improve this. Employee perception of management commitment, it can be argued, provides an overall picture derived from the employee's assessment of the management's interest in employees' safety and health as demonstrated in a variety of initiatives and activities of the management towards safety (Vinodkumar & Bhashi, 2010).

This study discovered a substantial association between safety participation as well as management commitment relying on the findings of the SPSS analysis. These positive outcomes supported the initial hypothesis between management commitment as well as safety participation. As per to Yazdani, A. et al. (2017), management commitment is not just supported by the provision of people and financial resources; the commitment should come from all managerial levels and should originate globally. Furthermore, dedication must begin from the top, working its way down. Participation of workers in safety and health program not only can reduce risk, but also the organization can improve quality and productivity.

5.2.2 Safety Training with Safety Compliance and Safety Participation

Based on the hypothesis, a significant correlation was expected between safety training, compliance as well as participation in safety. However, the study's findings did not support a significant association between safety compliance as well as safety training. The outcomes were not supported due to less training provided to the employees. Management shall focus on related safety and health training rather than other training. The relevant safety and health training and competencies can enhance safety and health awareness for employees in the workplace and archived zero accidents.

Insufficient resources especially in term of the financial budget has effectively implemented safety and health training program. Provided that safety and health training is a must, management must make adequate resources available to ensure the efficient execution of internal or external safety and health training. Employee behavior change and engagement may be hampered by management's lack of

commitment to safety (Lunt et al., 2008). As a result, it will result in inadequate education and training programs, inadequate safety and health awareness campaigns, inadequate accident prevention plans, and bad inspection programs (Abdul Rahim et al., 2008).

However, this study's results indicated that safety training substantially influences the safety participation of employees in pressure vessel fabrication companies. The study's findings confirmed the initial hypothesis that there exists a significant correlation between safety training and the level of engagement in safety practices. The company conducts regular safety training programs, providing every employee with the opportunity to participate. As a result, when employees are given the chance to receive proper safety and health training, they perceive that the organization prioritizes their safety as well as well-being. The employees are also given the chance to submit case studies and are required to actively participate in discussions to inspire them (Vinodkumar and Bashi, 2010).

5.2.3 Safety Communication and Feedback with Safety Compliance and Safety Participation

It was suggested that there exists a significant correlation between safety compliance and safety communication and feedback. These positive outcomes supported the initial hypothesis between safety communication and feedback as well as safety compliance.

People communicate their thoughts, feelings, information, and knowledge through communication, according to Cigularov et al. (2010). An earlier empirical study showed that management may efficiently track workplace faults and correct variances

by using appropriate safety communication and feedback. Moreover, regular communication concerning safety issues between supervisors, management as well as employees has been cited by Vinodkumar and Bashi (2010) as an effective management practice to enhance workplace safety and health. According to research by Shannon, Mayr, and Haines (1987), Smith, Cohen, Cohen, & Cleveland (1978), and Zohar (1980), one of the key characteristics that separate organizations having a greater number of accidents as well as injuries from those with a minimal number of injuries is proper safety communication and feedback.

In the meantime, the hypothesis between safety communication and feedback signifies that they are positively correlated to safety participation. These positive outcomes supported the initial hypothesis between safety communication and feedback as well as safety participation. In this organization, safety and health communication between management, supervisor, and employees was discussed through their safety and health committee. Moreover, they are communicated to the foreign workers via their individual department heads, supervisors as well as team leaders after the safety and health committee, meeting once every three months, has discussed the issues. A variety of other safety messages are carried out routinely, including conversations on safety participation and compliance, notice boards, newsletters, posters, and booklets.

5.2.4 Workers' Involvement with Safety Compliance and Safety Participation

This study proposed the hypothesis that a significant association exists between employee involvement and adherence to safety compliance. These positive outcomes supported the initial hypothesis between and safety compliance as well as workers' involvement. Involving workers and their representatives is an essential component of

OSH MS implementation contributing to the primary objective of enhancing working conditions for the mutual benefit of employers as well as employees (Daniel Podgorski, 2005). Participation of workers holds specific significance in the risk assessment and prevention areas as it keeps the workers' rights to safeguard their safety and health. Contrarily, organizations that manage OSH without involving workers in the decision-making process tend to have poorer performance indicators, such as higher injury rates. Worker involvement in OSH-related activities fosters the adoption of effective prevention principles within the organization and enhances workers' understanding of safe practices.

Employee engagement has a vital role in implementing organization's safety program aimed at reducing accidents as well as injuries (Vinodkumar & Bashi, 2010). Employee involvement resembles the extent to which employees can control as well as influence OSH management matters within the workplace (Masso, 2015). Essentially, employee involvement in safety management entails the upward flow of communication among groups or individuals and the decision-making process within the organization (Vredenburg, 2000). Here, employees often provide suggestions for safety improvements, particularly when new technologies as well as materials are introduced (Butler & Park, 2005).

Similarly, workers' involvement and safety participation have no meaningful connection. These outcomes did not support the initial hypothesis between workers' involvement and safety participation. This is possible because senior staff and supervisors, rather than regular employees and foreign workers, were primarily involved in the design concerning safety and health policies, procedures as well as

rules. According to Blair and Geller (2000), the employer is in charge of preventing accidents at work and is required to establish policies and procedures as well as to implement changes and make choices. Experts or the top management alone shouldn't make decisions on safety and health (Johnstone et al., 2005). The employee himself is the most competent candidate to improve workplace safety since he is most familiar with the work and workplace (Vredenburg, 1998).

Malay and English are also the primary languages utilized by the company to communicate with its employees. When compared to foreign workers, local employees can more easily understand safety and health information. Foreign workers were unable to directly report any workplace incidents due to the language barrier. Additionally, this is likely to discourage foreign laborers from engaging in safety and health activities within organizations, for example, attending safety briefings or toolbox sessions, participating in safety and health induction programs as well as engaging in safety and health programs.

5.2.5 Safety Rules and Procedures with Safety Compliance and Safety Participation

The absence of a significant relationship between safety regulations and procedures as well as safety participation and compliance suggest that employees may perceive insufficient provision of safety rules and procedures by their employers. It is possible that some employees may even violate the established safety rules and procedures. Oyvind Dahl (2013) highlighted that violations of safety rules and procedures are frequently known as significant contributing factors to workplace accidents. He outlined three main factors that an organization cruelly needs to have a good safety

management system that is accessible, user-friendly, and training. Based on the data studied employees of pressure vessel fabrication companies believed their employers didn't provide the three main factors for the safety management system. Here, the majority decisions on procedures and policies were only within the management staff (managers and senior staff). During interviews, most of the employees didn't know the organization had a safety management system and no training is given before using the system.

Thompson, Hilton, & Witt (1998) explained that safety rules and procedures resemble the management responsibilities. They shall formulate the policy, set goals related to production and safety and health, establish safety rules and procedures, and further help workers complete their tasks securely.

5.2.6 Safety Promotion Policies with Safety Compliance and Safety Participation

The current study anticipated a significant correlation between safety compliance, safety promotion policies as well as safety participation. However, the research findings indicate that there is no significant relationship between safety promotion policies and both safety participation as well as safety compliance. Whereas Welander et al (2004) explained that safety promotion is a policy that promotes safety and strives to ensure that the circumstances need to accomplish and maintain a high degree of safety are present and retained. Vinodkumar and Bashi (2010) also discovered that safety promotion policies are among the factors improving workplace safety. They conclude that promotions, rewards, incentives for reporting hazards, and safety program celebrations are encouraging employees to report safety issues and reduce

accidents in the workplace. It is challenging to cultivate safety compliance among foreign workers and semi-skilled employees due to language barriers and educational levels, even though numerous safety promotion programs, including first aid, communications, safety training, and accident investigation, annual audiometric test, and regular local exhaust ventilation maintenance are conducted.

Additionally, there is no correlation between safety participation among employees in pressure vessel fabrication enterprises and safety promotion policies. The outcome showed that most employees don't involve in safety promotion conducted in the organization. On the contrary, a past study indicates a strong association between safety participation as well as safety promotion policies. Ajmal et al. (2000) emphasized the use of rewards and incentives as motivators for enhancing safety practices among employees. They further highlighted that recognizing and appreciating behavioral safety can increased workers' engagement in managing workplace hazards for their own well-being. Consequently, implementing a well-structured rewards system contributes to the enhancement of behavioral safety and underscores the goal of reducing workplace accidents.

5.2.7 Thriving at Work with Safety Compliance and Safety Participation

This study proposes that among employees of pressure vessel fabrication companies, a strong connection exists between thriving at work and observing safety compliance. These positive outcomes supported the initial hypothesis between thriving at work and safety compliance. There were previous studies carried out on thriving at work and other disciplines such as job performance, civility, and compassion. Employees who are flourishing at work are more capable to recognize and evaluate how they are

performing, which encourages participation in the process of establishing self-worth as well as self-control (Mustaq, Abid, Sarwar & Ahmed, 2017; Spreitzer et al., 2005). Christensen-Salem, et al., (2020) explained creative self-efficacy can produce creative outcomes. Individuals will pursue or avoid a task depending on whether they are thriving, which suggests that thriving may be a key element in stimulating improved creative performance.

The last hypothesis, between thriving at work and safety participation also indicates a positive relationship. These positive outcomes supported the initial hypothesis between thriving at work as well as safety participation. Here, the results align corresponding to a past empirical study on the correlation that exists between thriving at work, self-efficacy as well as workplace safety behavior. Creativity is important for employees' and organizations' performances because it contributes to the development of or aids in the discovery of improved practices, procedures, goods, and amenities (Gong et al., 2009). Various cognitive and motivating behaviors lead to creative performance (Amabile, 1989).

5.3 Implications

The significant correlation between the dimensions of the independent variables (IVs) and the dependent variables holds significant theoretical as well as practical implications for the employees within the pressure vessel fabrication company.

5.3.1 Theoretical Implications

This study was performed to ascertain the impact of safety management practices on safety behavior of employees, comprising safety participation as well as safety

compliance). Many such studies have been performed across a range of sectors, including utility, telecommunications, healthcare, and even government entities (Szer, 2012). Multiple previous studies have explored the impact of safety management practices on safety behavior. Consequently, the scope of this particular study was broadened to include a pressure vessel fabrication company, with the aim of evaluating the effectiveness of six safety management practices, including thriving at work, which have received scholarly recognition.

This study included additional elements that were thriving at work, which gives non-western researchers a new chance to demonstrate how safety management practices has an effect on safety compliance as well as safety participation. Here, the absence of research among Malaysian pressure vessel fabrication companies makes this study valuable and worthwhile for the academic community.

The findings of this investigation imply that, in theory, the management of the pressure vessel fabrication company should putting a focus on safety training, management commitment, safety rules and procedures as well as safety promotion policies to encourage employee participation in and adherence to safety regulations. The current study also contributes by highlighting how safety management practices and correlation that exists between safety behaviors may be acknowledged if both safety participation as well as safety compliance are considered at the same time.

5.3.2 Practical Implication

Safety behavior (safety compliance and participation) stands as a crucial element because it needs to be followed within the company. Managers are therefore expected

to consistently promote employee participation in and adherence to safety policies. Considering the results, which emphasize the significance of safety management practices to promote safety behavior (safety compliance and participation), this study makes several recommendations.

This study's findings indicate that safety training, management commitment, and safety promotion policies as well as safety rules and procedures are the antecedents of safety behavior (safety compliance and participation). Managers must therefore encourage these six factors to increase employee safety compliance and participation. The first variable is management commitment predicts safety compliance. A key point that managers can derive from the findings is the need of establishing a culture of safety compliance. Managers should to direct their attention towards both managerial commitment and the means through which safety compliance is achieved. It will assist the workers in maintaining a healthy and risk-free working environment. Managers possess the capacity to engage in the creation, assessment, and enhancement of written safety and health policies on a periodic basis.

Second variable is safety training. Previous study has provided evidence that safety training as predictors of safety compliance and safety participation. Manager and Head Of Departments (HODs) should ensure different types of safety training (e.g. new amendment on OSH legal requirements, risk assessment, emergency responses procedures) are well implemented in order to encourage safety behavior among employees. Managers should set up a safety and health committee that does regular inspections and audits of the workplace. This is to make sure that safety training is done the same way for everyone.

The last variable is thriving at work which the finding showed a positively related to safety behavior. Top management should provide a good vibes of working environment to their employees in order to improves their safety behavior. In conjunction of that, managers and HODs shall ensure five main aspects physical, emotional, social, spiritual and intellectual of their employees and working environment well maintained.

5.4 Limitations of Research

Recognizing the research barrier is particularly helpful because future research on the same topic may utilize them to improve existing findings. The main constraint was the language barrier and education level. Despite the fact that the survey questions in the present research were written in both languages (Malay and English), several survey participants had trouble understanding the questions' wording and reading. For this study, the researcher thoroughly clarified all of the questions so that the foreign workers would be particularly capable of responding to the surveys. Therefore, the researcher might take into account various languages based on the respondent's origin while creating the questionnaires to lessen this restriction in future studies.

Another constraint discovered during data collection is the deployment of technology. The majority of pressure vessel fabrication company employees are above 40 and have some difficulty responding to the questionnaire. Since the questionnaire is distributed via the WhatsApp application, the researcher must manually brief respondents. This explanation takes some time, and the researcher needs to pay close attention to reduce and minimize mistakes during data management.

The last limitation is the researcher's experience in conducting research papers. As a part-time research student, experience in producing academic papers of such a large size individually seems to be a slight problem in collecting data, processing, and interpreting the data for academic purposes.

5.5 Recommendation for Future Studies

In this research conducted by a pressure vessel fabrication company, the main focus was to examine the correlation between six safety management practices, including thriving at work, as well as safety-related behaviors, for instance, safety participation and safety compliance. In addition, further research may be done to ascertain how other steel base fabrication companies in Malaysia perceive safety behavior. This could offer information and proof of the actual accident rate experienced in Malaysia's various fabrication businesses.

Besides, the level of safety behavior and safety management practices may vary relying on particular sectors. There may be some doubt about generalizability because the current study concentrated on the fabrication company. Considering this, future research might concentrate on the oil and gas industry or the construction industry, as both industries appear to share a lot of the same homogenous traits.

5.6 Conclusion

The findings of this research provided evidence to support the dependability as well as accuracy of six safety management practices in a pressure vessel fabrication company. These practices include the promotion of a positive work environment, compliance with safety regulations as well as active employee engagement in safety-related

activities. Moreover, the study findings indicated that factors such as management commitment, safety training, safety communication and feedback, worker's involvement, safety promotion policies, safety rules and procedures as well as thriving at work were crucial in reducing the occurrence of accidents and injuries among employees in the industry.

This study is thought to be helpful for all necessary participants in the educational sector, including academic researchers, students, and numerous safety professionals and behavior management who are trying to identify ways to increase workplace health and safety.



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APPENDICES

Appendix A: Research Questions



Date :

Dear Respondent,

I am a Postgraduate student in Universiti Utara Malaysia and carrying out a survey regarding safety behaviour, in order to fulfil the degree of Master requirement of Universiti Utara Malaysia. The objective of this research is to determine the relationship between safety management practices with safety behaviour.

Attached alongside this letter is a short questionnaire that addresses the element of safety management practices in your organisation alongside your safety uncertainty and safety behaviour as an employee in the same organisation. I realize that your time is priceless and very precious; however, your involvement in this survey, which will need only 10 - 15 minutes of your time, will contribute to the success of this study.

There is no right or wrong answer to the statements listed in the questionnaire. Your sincerity and honesty is highly required in answering these statements. Please be rest assured that all your responses will be kept confidential and will be strictly used for the academic research purposes only.

With this I highly appreciate your cooperation and participation in this study and wish to convey my thanks in advance.

If you are interested in this study and it's outcome, please contact me via email at wanazuadi@gmail.com or call me at 0123841406.

Thank you for your time and attention

Yours sincerely,

Wan Azuadi bin Wan Ahmad (823233)

Tuan/Puan,

Saya adalah pelajar Sarjana dari Universiti Utara Malaysia yang sedang menjalankan satu kajian mengenai tingkah laku keselamatan, untuk memenuhi prasyarat Sarjana dari Universiti Utara Malaysia. Objektif kajian ini adalah untuk menentukan hubungan antara amalan pengurusan keselamatan dengan tingkah laku keselamatan.

Soal selidik yang disertakan bersama-sama dengan surat ini merangkumi elemen pengurusan keselamatan di dalam organisasi anda serta ketidakpastian mengenai keselamatan dan tingkahlaku keselamatan anda sebagai pekerja di dalam organisasi. Saya sedar bahawa masa anda sangat berharga dan bermakna; walau bagaimanapun, penglibatan anda selama 10 - 15 minit bagi menjawab soal selidik ini, akan menyumbang kepada kejayaan kajian ini.

Tidak ada jawapan yang betul atau salah dalam soal selidik ini. Hanya keikhlasan dan kejujuran anda diperlukan dalam menjawab soalan. Untuk makluman, semua maklumbalas anda akan dirahsiakan dan hanya digunakan bagi tujuan penyelidikan akademik sahaja.

Dengan ini saya sangat menghargai kerjasama dan penglibatan anda dalam kajian ini dan saya dahului dengan ucapan terima kasih.

Jika anda berminat dengan kajian ini dan dapatannya, sila hubungi saya melalui e-mel wanzuadi@gmail.com atau menghubungi saya di talian 0123841406.

Terima kasih atas kerjasama dan perhatian anda.

Yang Benar;

Wan Azuadi bin Wan Ahmad (823233)

SECTION A: DEMOGRAPHIC INFORMATION
BAHAGIAN A: MAKLUMAT DEMOGRAFI

Please fill in blank and tick (✓) in the appropriate boxes that corresponds to your answer to each of the following questions below.

Sila isikan tempat kosong dan tandakan (✓) untuk mewakili jawapan anda pada semua soalan di bawah.

1. Job title/ *Jawatan* : _____

2. Gender/ *Jantina* : Male/ *Lelaki* Female/ *Perempuan*

3. Age/ *Umur* : _____ years/ *tahun*

4. How long have you been working?/ *Sudah berapa lama anda bekerja?* : _____ years/ *tahun*

5. How long have you been working with the present organisation?/

Sudah berapa lama anda bekerja dengan organisasi sekarang? : _____ years/ *tahun*

4. Highest Educational level/ *Tahap pendidikan tertinggi* :

Secondary school/ *Sekolah Menengah*

Diploma/ *Diploma*

Certificate/ *Sijil*

Degree/ *Ijazah*

Master above/ *Master ke atas*

Others/ *Lain-lain* :

5. Marital status/ *Status perkahwinan* :

Married/ *Berkahwin*

Single/ *Bujang*

Divorced/ *Bercerai*

6. Have you ever had any occupational accident ever since you started working in this organisation/

Adakah anda pernah mengalami kemalangan di tempat kerja sepanjang bekerja di organisasi ini?

Yes/ *Ya*

No/ *Tidak*

If yes, how many accidents have you had while working in this organisation?/

Jika ya, berapakah bilangan kemalangan yang pernah dialami sepanjang bekerja di organisasi ini?

1 - 3

4 - 8

9 - 15

Over 15

8. Have you attended any occupational safety training?

Pernahkah anda pernah menghadiri latihan keselamatan?

Yes/ *Ya*

No/ *Tidak*

9. How often do you have to attend safety training?

Berapa kekerapan latihan keselamatan yang anda perlu hadiri?

Every month/ *Setiap bulan*

Once in three month/ *Sekali dalam tempoh tiga bulan*

Once in six month/ *Sekali dalam tempoh enam bulan*

Not at all/ *Tiada langsung*

Once a year/ *Sekali setahun*

SECTION B: SAFETY MANAGEMENT PRACTICES
BAHAGIAN B: AMALAN PENGURUSAN KESELAMATAN

Considering only your perception, please circle the most appropriate answer to you based on the scale below:

Dengan hanya mengambil kira pandangan anda, bulatkan jawapan yang paling tepat kepada anda berpandukan pada skala jawapan di bawah:

1	2	3	4	5
Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Moderate <i>Moderasi</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>

	Statements/Pernyataan	Answer/Jawapan				
1	Safety is given high priority by the management/ <i>Keselamatan diberikan keutamaan oleh pihak pengurusan</i>	1	2	3	4	5
2	Safety rules and procedures are strictly followed by the management/ <i>Peraturan dan prosedur keselamatan dipatuhi oleh pihak pengurusan</i>	1	2	3	4	5
3	Corrective action is always taken when the management is told about unsafe practices/ <i>Pihak pengurusan membuat pembedulan segera atas amalan tidak selamat apabila dimaklumkan</i>	1	2	3	4	5
4	In my workplace manager or supervisors do not show interest in the safety of workers/ <i>Pengurus atau penyelia di tempat kerja tidak menunjukkan minat terhadap keselamatan pekerja</i>	1	2	3	4	5
5	Management considers safety to be equally important as production/ <i>Pihak pengurusan mementingkan keselamatan sama seperti penghasilan produk</i>	1	2	3	4	5
6	Members of the management do not attend safety meetings/ <i>Wakil pihak pengurusan tidak menghadiri mesyuarat keselamatan.</i>	1	2	3	4	5
7	I feel that management is willing to compromise on safety for increasing production/ <i>Saya merasakan pihak pengurusan sanggup bertolak ansur terhadap hal keselamatan demi meningkatkan pengeluaran</i>	1	2	3	4	5
8	When near-miss accidents are reported, my management acts quickly to solve the problems/ <i>Pihak pengurusan bertindak pantas untuk menyelesaikan masalah berpunca dari kejadian hampir kemalangan yang telah dilaporkan</i>	1	2	3	4	5
9	My company provides sufficient personal protective equipment for the workers/ <i>Pihak pengurusan menyediakan peralatan perlindungan keselamatan secukupnya untuk pekerja-pekerja</i>	1	2	3	4	5
10	My company gives comprehensive training to the employees in workplace health and safety issues/ <i>Pihak pengurusan memberi latihan kesihatan dan keselamatan yang komprehensif untuk pekerja di tempat kerja</i>	1	2	3	4	5
11	Newly recruits are trained adequately to learn safety rules and procedures/ <i>Pekerja baru diberikan latihan secukupnya mengenai peraturan dan prosedur keselamatan.</i>	1	2	3	4	5

	Statements/Pernyataan	Answer/Jawapan				
		1	2	3	4	5
12	Safety issues are given high priority in training programmes/ <i>Isu keselamatan diberikan keutamaan dalam program-program latihan</i>	1	2	3	4	5
13	I am not adequately trained to respond to emergency situations in my workplace/ <i>Saya tidak diberikan latihan secukupnya untuk bertindak balas terhadap situasi kecemasan di tempat kerja</i>	1	2	3	4	5
14	Management encourages the workers to attend safety training programmes/ <i>Pihak pengurusan menggalakkan pekerja untuk menyertai latihan-latihan keselamatan</i>	1	2	3	4	5
15	Safety training given to me is adequate to enable to me to assess hazards in workplace/ <i>Latihan keselamatan yang diberikan kepada saya adalah mencukupi untuk membolehkan saya menilai bahaya/hazad di tempat kerja</i>	1	2	3	4	5
16	Management always welcomes opinion from employees before making final decisions on safety related matters/ <i>Pihak pengurusan sentiasa mengalu-alukan pendapat pekerja sebelum membuat keputusan akhir mengenai hal-hal berkaitan keselamatan</i>	1	2	3	4	5
17	My company has safety committees consisting of representatives of management and employees / <i>Jawatankuasa keselamatan di syarikat saya terdiri daripada wakil pihak pengurusan dan wakil pihak pekerja</i>	1	2	3	4	5
18	Management promotes employees involvement in safety related matters/ <i>Pihak pengurusan menggalakkan penglibatan pekerja dalam hal-hal keselamatan</i>	1	2	3	4	5
19	Management consults with employees regularly about workplace health and safety issues / <i>Pihak pengurusan sering berunding dengan pihak pekerja mengenai isu kesihatan dan keselamatan di tempat kerja</i>	1	2	3	4	5
20	Employees do not sincerely participate in identifying safety problems/ <i>Penglibatan pekerja adalah tidak ikhlas dalam mengenalpastian masalah keselamatan</i>	1	2	3	4	5
21	My company doesn't have a hazard reporting system where employees can communicate hazard information before incidents occur <i>Syarikat tidak mempunyai sistem laporan bahaya/hazad untuk membolehkan pekerja menyampaikan maklumat punca kemalangan sebelum ia berlaku</i>	1	2	3	4	5
22	Management operates an open door policy on safety issues <i>/ Pengurusan mengamalkan dasar keterbukaan mengenai isu-isu keselamatan</i>	1	2	3	4	5
23	There is sufficient opportunity to discuss and deal with safety issues in meetings/ <i>Terdapat peluang yang secukupnya bagi membincangkan dan menangani isu-isu keselamatan di dalam mesyuarat</i>	1	2	3	4	5
24	The target and goals for safety performance in my organization are not clear to the workers / <i>Sasaran dan matlamat prestasi keselamatan kepada para pekerja di organisasi ini tidak jelas</i>	1	2	3	4	5

	Statements/Pernyataan	Answer/Jawapan				
		1	2	3	4	5
25	There is open communications about safety issues in this workplace / <i>Terdapat komunikasi terbuka mengenai isu keselamatan di tempat kerja</i>	1	2	3	4	5
26	The safety rules and procedures followed in my company are sufficient to prevent incidents occurring/ <i>Peraturan dan prosedur keselamatan di organisasi ini adalah cukup untuk mencegah berlakunya kemalangan</i>	1	2	3	4	5
27	The facilities in the safety department are not adequate to meet the needs of my organization/ <i>Fasiliti di jabatan keselamatan tidak mencukupi untuk memenuhi keperluan organisasi</i>	1	2	3	4	5
28	My supervisors and managers always try to enforce safe working procedures/ <i>Penyelia dan pengurus saya sentiasa cuba untuk menguatkuasakan prosedur kerja yang selamat</i>	1	2	3	4	5
29	Safety inspections are carried out regularly/ <i>Pemeriksaan keselamatan kerap dijalankan</i>	1	2	3	4	5
30	The safety procedures and practices in this organization are useful and effective/ <i>Prosedur dan amalan keselamatan dalam organisasi ini adalah berguna dan berkesan</i>	1	2	3	4	5
31	In my company safe conduct is considered as a positive factor for job promotions/ <i>Dalam syarikat ini amalan keselamatan adalah faktor positif yang boleh membantu kenaikan pangkat</i>	1	2	3	4	5
32	In my company employees are rewarded for reporting safety hazards (thanked, cash or other rewards, recognition in newsletter, etc.)/ <i>Dalam syarikat ini pekerja diberikan ganjaran kerana melaporkan bahaya/hazad keselamatan (ucapan terima kasih, imbuhan wang atau penghargaan di dalam bulletin, dll)</i>	1	2	3	4	5
33	In my company safety week celebration and other safety promotional activities arranged by the management are very effective in creating safety awareness among the workers/ <i>Dalam syarikat ini minggu keselamatan dan lain-lain aktiviti promosi keselamatan yang dianjurkan oleh pihak pengurusan adalah berkesan untuk mewujudkan kesedaran keselamatan di tempat kerja</i>	1	2	3	4	5
34	There exists very healthy competition among the employees to find out and report unsafe condition and acts/ <i>Wujud persaingan yang sihat di kalangan pekerja untuk melaporkan keadaan dan tingkahlaku yang tidak selamat</i>	1	2	3	4	5
35	Our supervisor becomes very unhappy and angry when employees find out and report unsafe conditions and acts in our department/ <i>Penyelia kami tidak berpuas hati dan marah jika pekerja mengetahui dan melaporkan keadaan dan tingkahlaku yang tidak selamat yang berlaku di bahagian kami</i>	1	2	3	4	5

SECTION C: SAFETY BEHAVIOUR
BAHAGIAN C: TINGKAH LAKU KESELAMATAN

Considering only your perception, please circle the most appropriate answer to you based on the scale below:

Dengan hanya mengambil kira pandangan anda, bulatkan jawapan yang paling tepat kepada anda berpandukan pada skala jawapan di bawah:

1	2	3	4	5
Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Moderate <i>Moderasi</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>

No.	Statements/Pernyataan	Answer/Jawapan				
		1	2	3	4	5
01	I carry out work in a safe manner. <i>Saya melaksanakan kerja saya dengan cara yang selamat.</i>	1	2	3	4	5
02	I use all necessary safety equipment to do my job. <i>Saya menggunakan semua peralatan keselamatan yang sesuai untuk melakukan kerja saya.</i>	1	2	3	4	5
03	I use the correct safety procedures for carrying out my job. <i>Saya menggunakan prosedur keselamatan yang betul ketika menjalankan kerja saya.</i>	1	2	3	4	5
04	I ensure highest level of safety when I carry out my job. <i>Saya memastikan tahap keselamatan paling tinggi apabila saya melaksanakan tugas saya.</i>	1	2	3	4	5
05	I put in extra effort to improve the safety of workplace. <i>Saya membuat usaha tambahan untuk membaiki keselamatan di tempat kerja.</i>	1	2	3	4	5
06	I help my co-workers when they are working under risky or hazardous conditions. <i>Saya membantu rakan-rakan sekerja ketika mereka melakukan tugas yang berisiko atau merbahaya.</i>	1	2	3	4	5
07	I voluntarily carry out tasks or activities that help improve workplace safety. <i>Saya membantu menjalankan tugas atau aktiviti-aktiviti untuk membaiki keselamatan di tempat kerja secara sukarela.</i>	1	2	3	4	5

SECTION D: THRIVING AT WORK
BAHAGIAN D: KEMAJUAN DI TEMPAT KERJA

Considering only your perception, please circle the most appropriate answer to you based on the scale below:

Dengan hanya mengambil kira pandangan anda, bulatkan jawapan yang paling tepat kepada anda berpandukan pada skala jawapan di bawah:

1	2	3	4	5
Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Moderate <i>Moderasi</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>

No.	Statements/Pernyataan	Answer / Jawapan				
		1	2	3	4	5
01	I find myself learning often. <i>Saya mendapati diri saya kerap belajar.</i>	1	2	3	4	5
02	I continue to learn more as time goes by. <i>Saya belajar secara berterusan dari masa ke semasa.</i>	1	2	3	4	5
03	I see myself continually improving. <i>Saya melihat diri saya bertambah baik secara berterusan.</i>	1	2	3	4	5
04	I am not learning. <i>Saya tidak belajar.</i>	1	2	3	4	5
05	I am developing a lot as a person. <i>Saya berkembang sebagai seorang manusia.</i>	1	2	3	4	5
06	I feel alive and vital. <i>Saya berasa hidup dan penting</i>	1	2	3	4	5
07	I have energy and spirit. <i>Saya mempunyai tenaga dan semangat.</i>	1	2	3	4	5
08	I do not feel very energetic. <i>Saya berasa sangat tidak bertenaga</i>	1	2	3	4	5
09	I feel alert and awake. <i>Saya berasa berwaspada dan berjaga-jaga.</i>	1	2	3	4	5
10	I am looking forward to each new day. <i>Saya ternanti-nanti setiap hari baru.</i>	1	2	3	4	5

THANK YOU