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The Effect of OHS Procedures and Worker Competence on Occupational Safety and Health with Worker Communication as a Mediator at Public Company (PERUM) Jasa Tirta II

Prastono Wijayanto
Universitas Widyatama, Indonesia
praswijayanto@gmail.com

ABSTRACT

Occupational safety and health (OHS) is crucial for ensuring a safe and healthy workplace, reducing work-related accidents, and enhancing productivity. This study aims to analyze the effect of OHS Procedures and Worker Competence on Occupational Safety and Health (OHS) with Worker Communication as a mediator at Public Company (PERUM) Jasa Tirta II. The approach used in this research is quantitative with a survey method, which aims to test hypotheses through numerical data analyzed statistically. The population in this study were all employees at PERUM Jasa Tirta II, with sampling techniques using simple random sampling. The number of samples used was 95 employees, which was determined using the Slovin formula with an error rate of 5%. The results showed that OHS procedures and worker competence had a significant effect on occupational safety and health. In addition, worker communication acts as a mediator that affects the relationship between OHS procedures and worker competence with occupational safety and health. The findings confirm that proper implementation of OHS procedures, improvement of worker competencies, and effective communication between workers can improve work safety in the company. This study makes an important contribution to efforts to improve occupational safety and health through an approach that involves procedures, worker skills and effective communication.

Keywords: OHS procedures, worker competence, Occupational Safety and Health (OHS), worker communication, mediator, public company jasa tirta II.

INTRODUCTION

Occupational safety and health is a form of effort to create a safe and healthy workplace so as to protect workers and reduce the number of work accidents which in turn can increase work efficiency and productivity (Bando et al., 2020). In Article 1 of the Government Regulation of the Republic of Indonesia Number 50 of 2012 concerning the Implementation of the Occupational Safety and Health Management System states that occupational safety and health or abbreviated as K3 is all activities to ensure and protect the safety and health of workers through efforts to prevent work accidents and occupational diseases (Indonesia, 2012). Occupational safety and health need to be observed by the company in order to create a comfortable and safe work area for workers as a guarantee of work. Accidents caused at work can harm various parties, especially the workers themselves, which can reduce the effectiveness of work (Sitompul, 2022)

For this assignment, PERUM Jasa Tirta II has an obligation to carry out the management and utilization of water resources in line with the company's vision, namely "Becoming the Leading Water Resources Management and Business Company in Southeast Asia in 2030". To support this obligation, PERUM Jasa Tirta II implements occupational safety and health

standards contained in the Occupational Safety and Health Management System Guidelines (SMK3) with a legal basis based on Government Regulation No. 50 of 2012 concerning the Implementation of the Occupational Safety and Health Management System. As a state-owned water resources management company, PERUM Jasa Tirta II targets in every operation that workers implement occupational safety and health procedures in accordance with PP no. 50 of 2012 concerning Occupational Safety and Health Management Systems, namely zero accidents. But in reality, work accidents often occur as the following data on work accidents that occur at PERUM Jasa Tirta II:

Table 1. Number of work accidents at the Public Company Jasa Tirta II for the period 2017-2022

Year						Causes of Accidents		Accident Result		
2017	2018	2019	2020	2021	2022	Pain	Work accident	Minor injuries	Severe Injury	MD
2	0	2	0	1	0	0	5	0	3	2

Source: PERUM Jasa Tirta II 2024

Based on the data in table 1, it can be explained that in 2017 and 2019 there were 2 workers who suffered work accidents, while in 2021 there was 1 worker who suffered a work accident and in 2018 and 2022 there were no accidents. From this data, during the study period there were 5 work accidents experienced by 5 workers, 3 of whom were seriously injured and 2 others died. Work accidents are events that no one wants either from the company, the workers or the family. The factor that determines the implementation of occupational safety and health is the implementation of good K3 procedures and involves workers as actors in implementing these procedures as a result of research conducted by Utami (2020) with the research title Applied Standard Operating Procedures for Occupational Safety and Health (SOP K3). The results of this study indicate that the delivery and implementation of occupational safety and health in accordance with the K3 SOP requires the involvement of workers in the preparation and distribution of these procedures so as to reduce the number of work accidents in workers.

The occurrence of work accidents can also be caused by a lack of worker competence in implementing work safety procedures as a result of research conducted by Gumelar (2021) with the title of his research Optimizing Ship Crew Competence in Implementing Work Safety on the Frans Kaisiepo Training Ship. The results of this study indicate that the application of the above work safety procedures on the training ship. Frans Kaisiepo is still not applied in work by the crew including the lack of skills or knowledge about the application of work safety procedures and the lack of work safety familiarization for the crew on board. Work accidents that occur on the crew of the Frans Kaisiepo training ship are caused by several factors such as, lack of crew experience in working on the ship, lack of discipline and understanding of the application of work safety procedures. So that it results in losses for the crew and for the agency. In addition, research conducted by Lestariani (2020) with the research title Application of Occupational Safety and Health (K3) Material Related to Attitudes and Competencies of Tata Boga Students of SMK Negeri 1 Pogalan Trenggalek provides research results that students who have good competence are able to change bad attitudes and habits that can endanger themselves while working. Students who have good competence will be able to do anything for self-progress in order to achieve the desired goals, especially in terms of applying K3 material and to make it happen, the right strategy is needed, including how the strategy can

develop student competence based on students' abilities, attitudes, traits and behavior so that students like the learning process. The occurrence of work accidents is thought to occur as a result of barriers to communication by workers based on the level of education, work experience, worker status and position held by workers. These things can be influential in creating effective communication related to work safety as the results of research conducted by Sulistyo (2020) in his research entitled Communication Strategy in shaping Work Safety Culture through the Implementation of PEKA Observation (Work Safety Observation) at PT. X.

Empirically, research related to worker communication, worker competence, OHS procedures and occupational safety and health has been studied by previous researchers. The research was researched by Amran (2021) with the research title is Analysis of occupational safety and health (K3) on workers in the Minas Gas Turbine (MGT) environment of PT Chevron Pacific Indonesia (CPI), Minas. By using quantitative research, the results of this study indicate that worker competence and work safety procedures and regulations affect occupational safety and health. In addition, there is a strong enough influence between the work environment on the safety and health of employees at PT Cevron Pacific Indonesia in Minas. Then in another study conducted by Ajeng (2021) with the title Application of Safety Culture and Safety Behavior to Spun Pile Workers at PT. X plant Cibitung resulted in the conclusion that organizational culture consisting of worker communication and worker competence has a significant effect on occupational safety and health which is moderated by occupational safety and health procedures for spun pile workers at PT X Plant Cibitung. Furthermore, research conducted by Sitompul through the title of his research, namely Construction Occupational Safety and Health during the Covid-19 Pandemic in the Construction of the Integrated Lecture Building of Palangkaraya University, resulted in the conclusion of the research, namely factor analysis shows that the construction OHS factors during the Covid-19 pandemic in the construction of the Integrated Lecture Building of Palangka Raya University are worker involvement factors, OHS procedure implementation factors, and worker communication factors. And the dominant construction OHS factor during the Covid-19 pandemic is the worker involvement factor where the factor is ranked 1 in the interpretation of the results.

Based on this background explanation, the author is interested in examining more deeply the application of occupational safety and health with the research title "The Effect of K3 Procedures and Worker Competence on Occupational Safety and Health with Worker Communication as a Moderator at the Public Company Jasa Tirta II". On the basis of the results of research conducted by previous researchers, namely research conducted by Gunawan (2021) and Sulistyo (2020) which provides the conclusion of the research results that as one of the factors and independent variables that have contributed to occupational safety and health, worker communication can effectively improve occupational safety and health, so the novelty in this study is the role of worker communication as a moderating variable that strengthens or weakens the influence between the variables of K3 procedures and worker competence on worker safety and health at PERUM Jasa Tirta II which has never been studied by previous researchers.

Management Theory

Management is the science and art of managing the process of utilizing human resources and other resources effectively and efficiently to achieve certain goals (Hasibuan, 2021). In general, management can be defined as a process of organizing or managing an organization in achieving its goals. Management can also be interpreted as a series of resource management activities in an organization by the human resources in the organization to achieve organizational goals. Management is the core of the implementation of all operational activities in an organization. With good management, of course, it will achieve maximum organizational goals and vice versa without good management, organizational goals will be very difficult to achieve (Salsabila, 2023). In addition, management can be defined as the management of resources owned by the organization which include people, money, methods, materials, machines, and marketing which are carried out systematically in a process (Saputra & Sriyanto, 2021). Management is a personnel function related to the procurement, development, compensation, integration and maintenance of an organization's personnel with the aim of contributing to the achievement of the organization's main goal or objective (Rahardjo, 2022).

Occupational Safety and Health (OHS)

Occupational Safety and Health (K3) is a thought and effort to ensure the integrity and perfection of both physical and spiritual labor in particular, and humans in general, work and culture to become a just and prosperous society (Kenanga et al., 2020). Occupational Safety and Health is an activity that ensures the creation of safe working conditions, avoiding physical and mental disorders carried out through coaching and training, directing and controlling the implementation of the duties of employees and providing assistance in accordance with applicable regulations, both from government agencies and companies where these employees work. Occupational Safety and Health is the supervision of humans, machines, materials, methods that include the work environment so that workers are not injured. Indicators of Occupational Safety and Health consist of 3 (three) indicators, including, work environment, people (employees) and tools and machines.

OHS Procedures

OHS procedures are the identification of laws and regulations and other requirements used to regulate the procedures for identifying OHS permits. Indicators of OHS Regulations and Procedures are as follows (Wijaya & Waskito, 2018) :

(1) OHS regulations and procedures are necessary.
(2) OHS procedures are easy to implement consistently
(3) There are sanctions for violations of OHS procedures
(4) OHS rules and procedures are regularly revised.
(5) OHS rules and procedures are easy to understand.
(6) OHS laws and regulations must be understood.
(7) Must be responsible for OHS procedures

Worker Competency

Worker competence is the basic characteristic of an individual who is committed to management, OHS regulations and procedures. Indicators of Worker Competence and work environment are as follows (Wijaya & Waskito, 2018) :

(1) Workers shall be responsible for OHS.
(2) Workers are fully aware of the risks of their work
(3) Workers prioritize OHS
(4) Workers are not bored with repetitive work.

Worker Communication

Communication plays a vital role in an organization which in reality communication problems will always arise in the organizational process and organizational communication becomes a flow system that connects and generates / improves performance between functions or parts in the organization so as to produce synergy and organizational goals can be achieved. Communication is the most important part in carrying out a job. The purpose of communication management is to avoid ignorance, misunderstanding and problems in carrying out work, and as a form of company participation in the OHS management system (Sitompul, 2022). Communication is a combination of communication planning with communication management to achieve predetermined goals, namely (Sulistyo P, 2020):

a. To secure understanding, ensuring that communicants understand the message they receive,
b. To establish acceptance, it has been understood and understood that acceptance must be fostered,
c. To motivate action, ultimately activities are motivated.

Worker communication is creating good occupational safety and health (K3) conditions on the project consisting of top management (K3). Indicators of Worker Communication are as follows (Wijaya & Waskito, 2018):

(1) Workers are informed of OHS issues
(2) Workers are satisfied with the delivery of job information
(3) Workers are informed about work accidents.
(4) There is good communication between workers and the managerial team.
(5) Good communication between fellow workers
(6) Optimized worker
(7) Conduct two-way communication with workers
(8) Involvement of OHS workers
(9) Unreasonable time estimates
(10) Work safety system in the project area
(11) Layout and management of communications in the field

Framework

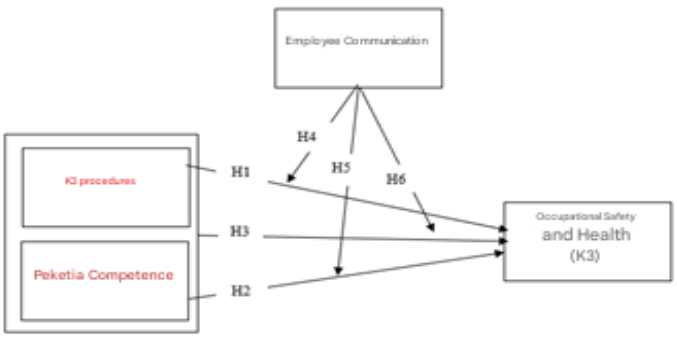

Figure 1. Research Framework

RESEARCH METHOD

Type of Research

This research uses a quantitative approach with a survey method. This approach was chosen to measure the effect of emotional intelligence and learning style on the critical thinking ability of class XI students of the Department of Mechanical Engineering at SMK Negeri 6 Malang. Quantitative research aims to test hypotheses based on numerical data analyzed statistically.

Population and Sample

The population in this study were all students in class XI of the Machining Engineering Department at SMK Negeri 6 Malang. The sampling technique used simple random sampling, with a sample size of 95 students. Determination of the number of samples is based on the Slovin formula with an error rate of 5%.

Data Collection Technique

Data were collected through questionnaires that were prepared based on indicators of each research variable, namely:

1. Emotional Intelligence, measured by indicators of self-awareness, emotional management, motivation, empathy, and social skills.
2. Learning Style, measured by visual, auditorial, and kinesthetic learning style indicators.
3. Critical Thinking Ability, measured based on the skills of analyzing, evaluating, and drawing conclusions.

The questionnaire uses a Likert scale with five answer options, ranging from strongly disagree (1) to strongly agree (5).

Data Analysis Technique

The data obtained were analyzed using the Partial Least Squares - Structural Equation Modeling (PLS-SEM) method with the help of SmartPLS software. The analysis steps taken include:

1. Validity and Reliability Test
   a. Validity was tested using outer loading and average variance extracted (AVE).
   b. Reliability was tested using composite reliability (CR) and Cronbach's alpha.
2. Structural Model Test (Inner Model)
   a. Test the relationship between variables using the path coefficient and t-statistic values.
   b. Using the R-square (R^2) value to see the contribution of the independent variable to the dependent variable.
3. Hypothesis Test

   The hypothesis is accepted if the t-statistic value > 1.96 and p-value < 0.05.

RESULT AND DISCUSSION

In the Results Chapter, provides a detailed description of the findings of the research. as a further elaboration of the results that have been described in general in the Results Chapter through the existing subchapters.

Evaluation of the Measurement Model (Outer Model)

Four outer model measurement criteria Convergent Validity, Discriminant Validity, Composite Reliability, and Cronbach Alpha were considered during the evaluation of the research outer model. The following figure shows the research model.

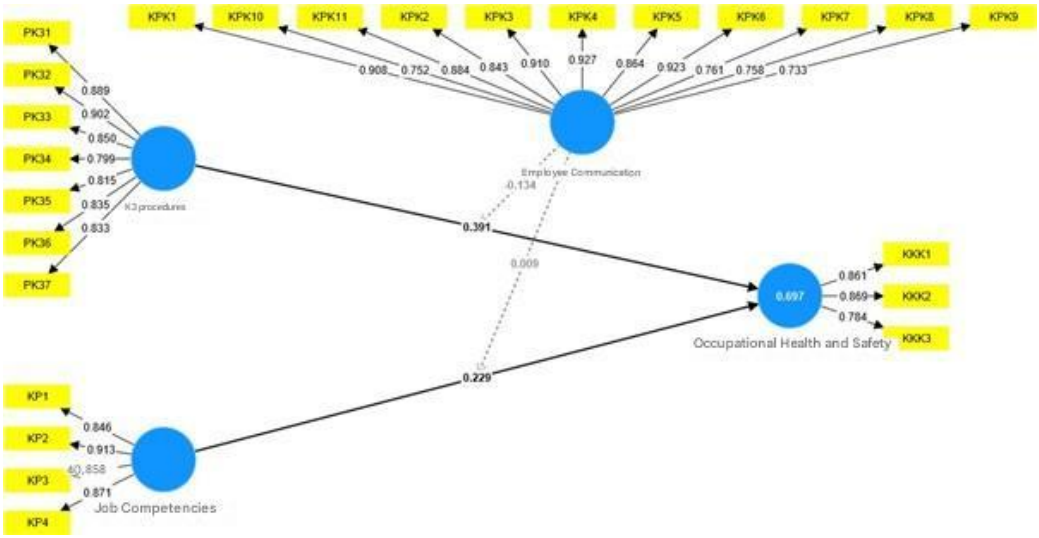

Figure 2. Outer Model

Figure 2 explains the outer loading value owned by the variables in the study. in this figure, all outer loading values meet the validity criteria because they exceed 0.7.

Test

Validity test is used to measure whether a questionnaire is valid or not. In this study, validity testing was carried out using convergent validity and AVE. Validity uses convergent validity where the measurement model with indicator reflection is assessed based on the correlation between item score / component score calculated by PLS. individual reflection measures are said to be high if they correlate more than 0.7 with the construction being measured. However, according to Dahri, (2017) for early stage research from the development of the measurement scale, a loading value of 0.5 to 0.6 is considered sufficient.

Table 1. Validity Test Results

	Occupational Safety and Health	Job Competencies	Worker Communication	OHS Procedures	Worker Communication x Job Competency	Worker Communication x OHS Procedures
KKK1	0.861					
KKK2	0.869					
KKK3	0.784					
KP1		0.846				
KP2		0.913				
KP3		0.858				
KP4		0.871				
KPK1			0.908			
KPK10			0.752			

	Occupational Safety and Health	Job Competencies	Worker Communication	OHS Procedures	Worker Communication x Job Competency	Worker Communication x OHS Procedures
KPK11			0.884			
KPK2			0.843			
KPK3			0.910			
KPK4			0.927			
KPK5			0.864			
KPK6			0.923			
KPK7			0.761			
KPK8			0.758			
KPK9			0.733			
PK31				0.889		
PK32				0.902		
PK33				0.850		
PK34				0.799		
PK35				0.815		
PK36				0.835		
PK37				0.833		
Worker Communication x Competence Work					1.000	
Worker Communication x OHS Procedures						1.000

All indicators are declared valid because they have an outer loading value of more than 0.7.

Test

This study uses 2 types of reliability tests, namely the Cronbach Alpha test and the Composite Reliability test. Cronbach Alpha measures the lowest value (lowerbound) reliability. The data is declared reliable if the data has a Cronbach alpha value> 0.7. Composite reliability measures the true reliability value of a variable. Data is declared to have high reliability if it has a composite reliability score> 0.7.

Table 2. Reliability Test Results

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Occupational Safety and Health	0.788	0.793	0.877	0.704
Job Competencies	0.896	0.913	0.927	0.761
Worker Communication	0.959	0.964	0.965	0.715
OHS Procedures	0.934	0.936	0.947	0.717

The test results show that all instruments are declared reliable with Cronbach Alpha and Composite reliability scores > 0.7.

Structural Model Evaluation Inner Model

Evaluating the hypothesized relationship between latent constructs is the core of the inner model assessment. The inner model evaluation can be explained as follows:

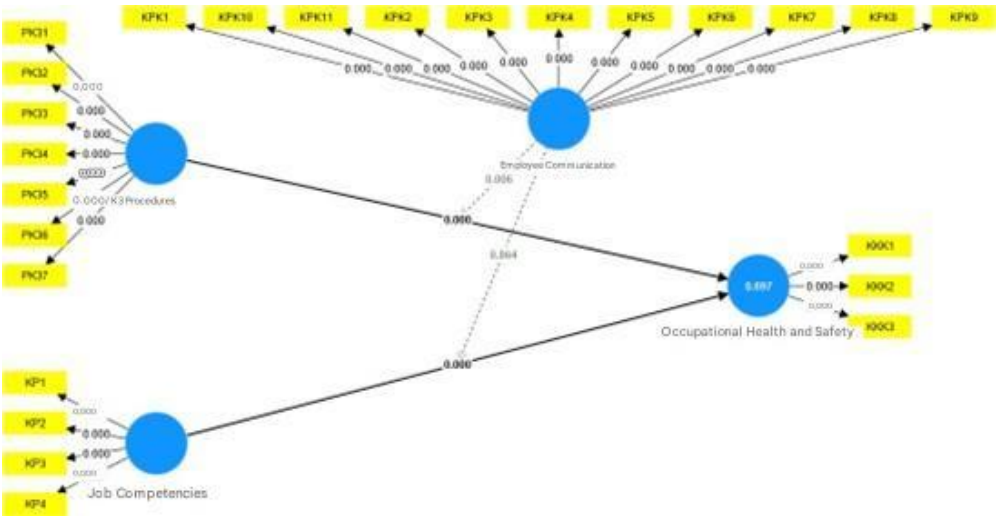

Figure 3. Inner Model

R-Square Test

R-Square Coefficient determination (R-Square) test is used to measure how much endogenous variables are influenced by other variables. Based on the analysis of data conducted through the use of the smartPLS program, the R-Square value is obtained as shown in the following table:

Table 3. R-Square Test

	R-square	Adjusted R-square
Occupational Safety and Health	**0.697**	**0.692**

The table above shows that the Occupational Safety and Health variable has an R-Square value of 0.697, which means that 69.7% of the variability in the variable can be explained by the independent variables in the model, namely OHS Procedures, Worker Competence, and Worker Communication as mediators, while 30.3% is influenced by other factors outside the model. The Adjusted R-Square value of 0.692 indicates that after adjustment, the model is still able to explain 69.2% of the variability in Occupational Safety and Health, with a small difference compared to the R-Square. This indicates that the model used is quite stable and has good predictive ability in explaining the factors that influence Occupational Safety and Health at Public Company (PERUM) Jasa Tirta II.

Hypothesis Testing s

The results can be used to answer the research hypothesis based on the data processing that has been done. T-Statistics and P-Values were examined to test the hypotheses in this study. We can say that the research hypothesis is accepted if the P-Values are less than 0.05. The following are the findings of the research hypothesis testing obtained from the inner model:

Table 7. Research Hypothesis Test

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Job Competency -> Occupational Safety and Health	0.229	0.226	0.052	4.371	0.000
Worker Communication -> Occupational Safety and Health	0.205	0.206	0.074	2.759	0.006
OHS Procedures -> Occupational Safety and Health	0.391	0.391	0.068	5.732	0.000
Worker Communication x Job Competency -> Occupational Safety and Health	0.009	-0.001	0.052	0.172	0.864
Worker Communication x OHS Procedures -> Occupational Safety and Health	-0.134	-0.124	0.049	2.761	0.006

The table above presents the results of path analysis that shows the effect of Job Competence, OHS Procedures, and Worker Communication on Occupational Safety and Health (OHS) at Public Company (PERUM) Jasa Tirta II.

The results show that Job Competence has a significant effect on Occupational Safety and Health with a path coefficient (O) of 0.229, a statistical t-value of 4.371, and a p-value of 0.000, which means that the effect is significant at the 99% confidence level.

Furthermore, Worker Communication also has a significant influence on Occupational Safety and Health with a path coefficient of 0.205, t-statistic of 2.759, and p-value of 0.006, indicating that worker communication plays a role in improving work safety.

OHS procedures show the strongest influence on Occupational Safety and Health, with a path coefficient of 0.391, t-statistic of 5.732, and p-value of 0.000. This indicates that the implementation of good OHS procedures significantly improves work safety in the company.

Meanwhile, the interaction between Worker Communication and Job Competency on Occupational Safety and Health was not significant, with a path coefficient of only 0.009, t-statistic of 0.172, and p-value of 0.864. This suggests that worker communication does not strengthen or weaken the relationship between job competencies and occupational safety.

In contrast, the interaction between Worker Communication and OHS Procedures on Occupational Safety and Health showed a significant negative effect, with a path coefficient of -0.134, t-statistic of 2.761, and p-value of 0.006. This means that the stronger the interaction between worker communication and OHS procedures, the less effective the OHS procedures are on occupational safety, which may be caused by ineffective communication factors or inconsistencies in the application of procedures.

Overall, the findings confirm that Job Competence, Worker Communication, and especially OHS Procedures have a significant influence on Occupational Safety and Health, although the interaction between these variables yields mixed results.

DISCUSSION

The results showed that Job Competence has a significant effect on Occupational Safety and Health (OHS) with a path coefficient of 0.229, t-statistic of 4.371, and p-value of 0.000, providing strong evidence that increasing worker competence can contribute to improving safety in the workplace. This is in line with research showing that worker competencies, including knowledge and skills, play an important role in reducing unsafe behavior in the work environment (Bilqis et al., 2021). Other research also confirms that increasing competence can reduce the risk of work accidents, which in turn increases productivity (Wahyuni et al., 2018). Thus, companies need to invest in training and developing workers' competencies to create a safer work environment.

Furthermore, the significant effect of Worker Communication on Occupational Safety and Health with a path coefficient of 0.205, t-statistic of 2.759, and p-value of 0.006, indicates that effective communication among workers can improve work safety. Previous research shows that good communication can strengthen safety culture in the workplace and encourage workers to pay more attention to safety procedures (Martviyori & Lubis, 2022). In addition, effective communication can also assist in the delivery of important information related to safety risks and procedures, thereby reducing the likelihood of accidents (Rahmawati et al., 2022). Therefore, companies must create open and effective communication channels to support work safety.

OHS procedures show the strongest influence on Occupational Safety and Health with a path coefficient of 0.391, t-statistic of 5.732, and p-value of 0.000, confirming the importance of implementing good safety procedures. Research shows that strict implementation of OHS procedures can significantly reduce the rate of work accidents (Apriyani & Aryanti, 2019). In addition, the existence of clear and structured OHS procedures helps workers understand the steps to take to maintain their safety, thereby improving compliance with safety practices (Sahputra et al., 2023). Therefore, companies should ensure that OHS procedures are implemented consistently and updated according to the latest developments in safety practices.

The insignificant interaction between Worker Communication and Job Competence on Occupational Safety and Health, with a path coefficient of 0.009, t-statistic of 0.172, and p-value of 0.864, indicates that communication does not strengthen or weaken the relationship between job competence and occupational safety. This may be due to the fact that while good communication is important, it cannot replace the need for adequate technical competence in carrying out safety-related tasks (Muslim & Harianto, 2021). Other research shows that while communication can increase safety awareness, technical competence remains a key factor in preventing accidents (Apriyani & Aryanti, 2019). Therefore, companies should emphasize the importance of these two aspects separately but complementarily.

In contrast, the interaction between Worker Communication and OHS Procedures showed a significant negative effect, with a path coefficient of -0.134, t-statistic of 2.761, and p-value of 0.006. This suggests that the stronger the interaction between worker communication and OHS procedures, the less effective the OHS procedures are on

occupational safety. This may be due to ineffective communication or discrepancies in the application of OHS procedures that can cause confusion among workers (Sari et al., 2022). Research shows that unclear or ambiguous communication can result in errors in the application of safety procedures, which in turn increases the risk of accidents (Amrulloh et al., 2022). Therefore, it is important for companies to ensure that communication regarding OHS procedures is done in a way that is clear and easily understood by all workers.

In the context of occupational safety and health, it is important to understand that all these factors are interrelated and contribute to workplace safety. Workplace safety depends not only on the procedures implemented, but also on the competence of workers and effective communication between them. Research shows that a holistic approach that includes improved competencies, good communication and strict implementation of OHS procedures can result in a safer work environment (R. Hasibuan, 2017). Therefore, companies should develop strategies that cover all these aspects to improve overall occupational safety and health.

The importance of training and education in improving worker competence cannot be ignored. Research shows that a good training program can improve workers' understanding of OHS procedures and increase their awareness of existing risks (Lestari et al., 2022). In addition, ongoing training can help workers stay up-to-date with the latest safety practices and reduce the likelihood of accidents (Sukwika et al., 2023). Therefore, companies must commit to providing adequate and continuous training for all workers.

Good communication also plays an important role in creating a positive safety culture in the workplace. Research shows that when workers feel comfortable talking about safety issues and sharing information, they are more likely to comply with safety procedures and report potential hazards (Sapriana, 2021). Therefore, companies should create an environment that supports open and honest communication among workers.

In order to achieve optimal occupational safety and health, companies must also regularly evaluate and monitor the OHS procedures implemented. Research shows that regular evaluations can help identify areas for improvement and ensure that safety procedures remain relevant and effective (Astri & Ratnawili, 2021). By conducting regular evaluations, companies can ensure that all workers are protected from existing risks and that occupational safety remains a top priority.

Finally, it is important to remember that occupational safety and health is a shared responsibility between management and workers. Research shows that worker involvement in the development and implementation of OHS procedures can improve compliance with safety practices and create a sense of ownership of workplace safety (Adnan et al., 2020). Therefore, companies should involve workers in the decision-making process related to occupational safety and health to create a safer and more productive work environment.

By considering all these factors, companies can develop effective strategies to improve occupational safety and health in the workplace. This will not only reduce the risk of accidents, but also increase worker productivity and satisfaction, which in turn will provide long-term benefits to the company as a whole.

CONCLUSION

This study concludes that Work Competence, Worker Communication, and Occupational Health and Safety (OHS) Procedures significantly affect OHS at Public Company (PERUM) Jasa Tirta II. Work competence and worker communication have a positive influence on OHS, emphasizing the importance of skill improvement and effective communication in creating a safe work environment. OHS procedures have the strongest influence, so their proper implementation is critical. However, the interaction between worker communication and work competence showed no significant effect, while the interaction between worker communication and OHS procedures had a negative impact. Therefore, it is recommended that companies focus on improving competence through continuous training, ensuring good communication between workers, and consistent application of OHS procedures and close supervision to avoid errors in application that could reduce the effectiveness of the procedures.

The implication of this study for OHS managers and stakeholders are the importance of attention to the factors of worker competence and communication in designing work safety policies. This study also contributes to the development of OHS theory, particularly with regard to communication, job competence, and OHS procedures, and can serve as a basis for further research in other industrial sectors. For companies, the findings can be used as a reference in designing more effective training programs, communication, and safety policies to create a safer work environment.

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