

Linking Safety Culture and Climate to Performance: The Mediating Effect of Psychosocial Hazards among Refinery Workers at PT Kilang Pertamina International

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Abstract

Aim: This study aims to examine the effect of safety climate and safety culture on safety performance and investigate the moderating function of psychosocial hazards.

Methodology: This study's population was 1145; the sample used was 296 PT employees. Kilang Pertamina Internasional in Central Jakarta. The questionnaire was given online using a Google form, and sampling was carried out based on certain criteria through a stratified random sampling method. The Slovin formula was used to get the sample size. The data was analyzed using partial least squares (PLS).

Findings: The results of this investigation confirm that safety culture and climate have a significant influence on improving employee safety performance. On the other hand, psychosocial hazards are an essential factor that bridges the relationship, where psychological stress felt by employees can reduce compliance with safety procedures. The findings of this investigation also demonstrate that organizations that build a positive safety culture and climate will be able to reduce psychosocial stress, which ultimately has an impact on increasing employee compliance with safety operational standards.

Implications/Novel Contribution: Effective safety management depends not only on formal policies and procedures but also on employees' psychological conditions and workload.

Keywords: Safety Culture, Safety Climate, Safety Performance, Psychosocial Hazards

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INTRODUCTION

The oil and gas industry is one of the most significant sectors of the global economy. The sector is classified as a high-risk occupation because it entails intricate procedures like Oil and gas exploration, drilling, production, processing, and distribution. Because combustible gases or vapors might ignite, workers in the oil and gas sector are at a heightened risk of accidents like fires and explosions . Leaks in pipes that deliver gasoline to storage tanks frequently start fires, which raises the possibility of catastrophic events by accumulating combustible fumes (Nwankwo, Arewa, Theophilus, & Esenowo, 2022). Human, job, and workplace environmental factors are the three leading causes of workplace accidents, as the International Labor Organization (ILO, 1986) reported.

Safety culture is one of the most crucial elements in avoiding workplace accidents. Since the 1986 Chernobyl nuclear accident, the term "safety culture" was first used by the International Nuclear Safety Advisory Group (INSAG). According to INSAG (1991), safety culture is a "set of characteristics and attitudes in an organization and in individuals which guarantee that the safety matters receive the attention commensurate to their importance" (INSAG, 1991). In creating a safety workplace, the strategy involves the typical organizational values, policies, and procedures (Berglund, Johansson, Johansson, Nygren, & Stenberg, 2023).

Safety climate is a key factor that develops safety culture within companies, along with safety culture itself. The basis for understanding workplace safety climate is the phrase "safety climate," which was first introduced and defined as "the micro-perceptions that employees have about their work environment".

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Day-to-day opinions about safety policy, procedures, and management in the workplace are more significant in safety climates (Restuputri et al., 2021; Rachman, 2018). A positive safety climate has the potential to reduce accident or injury frequency, enhance the practice of safety behavior, and increase the willingness to work safely (Kalteh, Salesi, Cousins, & Mokarami, 2020; Olak et al., 2021).

Safety performance captures the outcome of executing safety policies and procedures, compliance, and effectiveness in preventing work accidents (Hartanto, Wardoyo, & Indarto, 2022; F. A. Jam, Singh, Ng, & Aziz, 2018). Safety performance indicates the outcomes of different policies, actions, and strategies systematically executed by the organization to avert workplace accidents and create a more secure workplace (Gao, Wu, Wang, & Yin, 2023). In the meantime, safety performance reflects the achievement in executing procedures and preventive actions (Arzahan, Ismail, & Yasin, 2022). Hence, safety performance measures an organization's achievement in creating a risk-free and secure workplace (Mubarok, Harini, & Yuningsih, 2022).

Psychosocial hazards are considered intermediates of the relationship between safety climate, safety performance, and safety culture (Naji et al., 2021). Psychosocial hazards are work stress, workload overload, conflict between coworkers, and work-life imbalance that affect the psychological condition of the workers and their capacity to perform work safely (Chirico, Heponiemi, Pavlova, Zaffina, & Magnavita, 2019). Evidence indicates that a good safety culture reduces psychosocial hazards by providing a conducive work environment that minimizes stress and enhances employee well-being (Oakman, Macdonald, & McCredie, 2023). A supportive climate and safety culture minimize psychosocial hazards, so workers focus on.

Multiple studies indicate that safety performance is influenced by safety culture. Based on studies conducted by Naji et al. (2021), Atikasari, Sudiarno, and Priyanto (2022), and Asad et al. (2022), safety performance and safety culture are correlated in a positive direction. Other studies, for example, those conducted by Stemn, Bofinger, Cliff, and Hassall (2019), indicated that safety performance and safety culture have a negative correlation. Besides that, safety climate has also been widely associated with safety performance (Rahlin et al., 2021). Studies conducted by researcher, and Abeje and Luo (2023) have indicated a positive correlation between safety performance and safety climate. However, other studies by Haas (2020) and Kaspers, Karanikas, Roelen, Piric, and Boer (2019) indicated a negative correlation between safety performance and safety climate. Studies conducted by Yu and Li (2020) and Naji et al. (2021) indicate that good safety performance reduces the risk of psychological risks. However, research by Pujol-Colsa and Lazzaro-Salazarb (2021) and Manapragada, Bruk-Lee, Thompson, and Heron (2019) indicates that safety performance and psychological hazards are negatively correlated.

The present investigation replicates a study by (Naji et al., 2021), that sought to investigate the mediating effect of psychological hazards and the impact of safety climate and culture on safety performance. This study focuses on PT Kilang Petrosea Refinery Unit IV Cilacap, which has a high level of occupational safety risk, so safety management is a top priority. This study uses a quantitative survey-based approach with respondents who are operational and technical employees who are directly involved in production and maintenance activities. Data were gathered using a Likert scale with a five-point questionnaire, which includes safety culture, psychosocial hazards, and safety performance measurements. This research will likely offer theoretical insights into understanding the role of psychosocial hazards and practical contributions to developing more effective safety strategies.

LITERATURE REVIEW

Social Exchange Theory (SET)

The Social Exchange Theory (SET), utilized in the present study, was first presented by Homans (1958) in his work on social behavior as a process of exchange. SET was later enhanced by Blau (2017), who presented social exchange as a process in which the exchange of benefit and cost between the actors occurs. As a refinement, the theory not only exists as a theory but also as a framework that has the ability to comprehend multiple social interactions, including organizational relationships, as presented by Richard and Emerson (1976). Social Exchange Theory (SET) describes that collaboration and the nature of the relationship between stakeholders are affected by the exchange of benefits and costs involving the factors of trust, commitment, reciprocity, and power (Quade, McLarty, & Bonner, 2020). In the last decades, the theory has emerged as a primary reference in explaining why stakeholders collaborate and how their relationship evolves in the long run (Saglam, Çankaya, Golgeci, Sezen, & Zaim, 2022).



Safety Culture on Safety Performance

Several studies have established that disasters or harm positively impact the safety culture within a company and concluded that safety performance could be negatively influenced by a safety culture and near misses (Kadir et al., 2022). Evidence indicates that the safety culture impacts safety performance within Malaysia's oil and gas industry, as a good safety culture positively influences enhanced practice and the risk of accidents and work-related injury (Naji et al., 2021). However, safety performance alludes to the effectiveness of safety management procedures and initiatives to stop occupational mishaps and injuries (Abeje & Luo, 2023). Better safety outcomes and a positive safety culture, which is characterized by management that values safety, communication, involvement, and safety training and education, are associated with things like lower accident and injury rates (Cox & Cox, 1991). Based on studies conducted by Naji et al. (2021), Abeje and Luo (2023), and Asad et al. (2022), safety performance and safety culture are positively correlated.

H1: Safety culture positively impacts safety performance.

Safety Climate on Safety Performance

The two primary ideas of occupational safety are safety performance and safety climate (Supardi & Nasution, 2020). While safety performance refers to the organization's real accomplishments in sustaining safety, safety climate represents the collective opinions of employees toward workplace safety (Abeje & Luo, 2023). Research shows that safety performance and climate are significantly correlated (Lestari, Modjo, Wibowo, & Sunindijo, 2023). According to a study examining The relationship between safety and performance and safety climate, safety performance is significantly improved by safety climate (Abeje & Luo, 2023). The degree of safety performance attained, such as lowering The quantity of mishaps and injuries, increases with employees' opinions on the safety atmosphere at work. According to Mudiyanto, Malik, Widodo, and Rizky (2023), a favorable safety climate has a positive impact on safety performance through operational efficiency. Furthermore, the sector and location of the study are important factors that may have an impact on the findings (Syed-Yahya, Idris, & Noblet, 2022; F. Jam, Kaur, & Kwee, 2016). Based on studies conducted by Lestari et al. (2023), Abeje and Luo (2023), and Putra, Wijayanti, and Hadiwidjojo (2022), safety performance and safety climate are positively correlated.

H2: The safety climate has a positive effect on safety performance.

Safety Performance on Psychosocial Hazards

Investment in safety and health at work can improve company performance as well as sustainability, which is in line with the focus on preventing major incidents and managing safety risks . Psychosocial hazards refer to the psychological impacts experienced by employees due to certain conditions in the workplace or its surrounding environment, which can affect their mental health (Erwandi, Lestari, Djunaidi, & El-Matury, 2021). Meanwhile, Safety performance describes the company's safety results, including the quantity of accident incidents (Abeje & Luo, 2023). In recent years, psychosocial hazards in the workplace have been increasingly recognized as a serious challenge in terms of concerns like job stress, workplace aggression, and bullying among coworkers are all included in occupational health and safety. According to research by Rohmat, Trismawati, and Tjahjaningsih (2023) and Simanjorang and Daud (2022), psychosocial dangers and safety performance are positively correlated.

H3: Safety performance has a positive effect on psychosocial hazards.

Safety Culture on Psychosocial Hazards

The ideas, attitudes, behaviors, and abilities of individuals and groups that characterize an organization's dedication to and effectiveness of safety and health management are sometimes referred to as its safety culture (Arzahan et al., 2022). A setting with a robust safety culture can reduce psychosocial hazards by increasing employee safety awareness and behavior. In a workplace with a robust safety culture, staff report higher psychological well-being levels, greater personal expectations, and greater resilience. Safety culture not only encompasses physical safety but also involves psychosocial hazards such as stress, bullying, high job demands, and lack of support that can affect employee well-being (Bagis, Adawiyah, & Sudjadi, 2023; Oakman et al., 2023). Research shows that a strong safety culture can reduce levels of psychosocial hazards in the workplace ((Naji et al., 2021). Research conducted by Naji et al. (2021) showed that safety culture and psychological dangers are positively correlated.



H4: Psychosocial hazards are positively impacted by safety culture.

Safety Climate on Psychosocial Hazards

Employee impressions of an organization's safety-promoting is called the "safety climate" and includes rules, practices, and procedures. Employees may believe that the company prioritizes safety in settings with a high-safety atmosphere, which leads to a feeling of psychological safety. According to research, a positive safety climate can lower psychosocial risks and encourage staff members to actively voice their opinions about safety (Naji et al., 2021). Employees perceive stronger psychological well-being, more resilience, and lower stress levels in workplaces with a robust safety climate. On the other hand, poor performance outcomes, emotional tiredness, and higher psychological discomfort are linked to a low-safety atmosphere (Platania, Morando, Caruso, & Scuderi, 2022). According to research Maqsood, Sohail, Naeem, Nazri, and Fatima (2023), safety climate and psychological dangers are positively correlated.

H5: Safety climate has a positive effect on psychosocial hazards.

Safety Culture, Psychosocial Hazards, on Safety Performance

Psychosocial hazards like stress at work, assault, bullying, and violence in the workplace are serious occupational health and safety issues (Lovelock, 2019). Employee competencies, including knowledge, skills, and attitudes, significantly influence their performance at work (Salman, Ganie, & Saleem, 2020). An effective safety culture can mitigate the impact of psychosocial hazards by playing an important part in building a secure and encouraging work environment. , which ultimately contributes to improved safety performance (Naji et al., 2020). Adopting a sound safety culture can minimize psychosocial risks by creating a more conducive work environment and supporting employee mental well-being (Naji et al., 2021). Psychosocial hazards and safety culture influence employee safety behavior, and perceptions of psychosocial risks directly affect worker safety participation and performance (Abaeian, Al-Hussein, & Moselhi, 2019). Research conducted by Naji et al. (2021), showed that psychosocial dangers mediate the relationship between safety culture and safety performance, which is positively correlated with safety climate.

H6: Safety performance and safety culture have a relationship that is mediated by psychosocial hazards.

Safety Climate, Psychosocial Hazards, on Safety Performance

The term "safety climate" describes how staff members view an organization's rules, regulations, and processes that value and support workplace safety (Manapragada et al., 2019). In a setting with a high level of safety, employees can perceive that the organization prioritizes safety, which results in a sense of psychological safety and reduces psychosocial hazards. A positive safety climate allows employees to voice their thoughts and worries regarding safety, which might help lower the likelihood of psychosocial risks (Platania et al., 2022). It has been demonstrated that the connection between safety performance and safety climate is mediated by psychosocial dangers (Naji et al., 2021). When safety climate is high, psychosocial hazards are reduced, which in turn improves employee safety performance (Manapragada et al., 2019). Empirical studies have shown that reducing psychosocial hazards through a favorable atmosphere for safety can improve employee safety awareness and safety behavior (Naji et al., 2021).

H7: Psychosocial hazards mediate the connection between safety climate and safety performance.





Figure 1. Conceptual Framework

METODOLOGI PENELITIAN

This research employs a quantitative methodology, gathering primary data through surveys or questionnaires presented in digital format (Google Forms). Respondents were selected based on certain criteria through stratified random sampling methods, and the Slovin formula was used to get the sample size. The participants in this study were staff members of PT. Kilang Pertamina Internasional in Central Jakarta totaling 1140 people working in operational and non-managerial fields directly related to work safety aspects. A total of 295 respondents who met the criteria had filled out a questionnaire consisting of 36 items distributed in the period 2021. Each answer was assessed on a Likert scale of five points. This study uses a research instrument developed based on various academic references. The safety culture variable is measured through three primary aspects, which were modified from Naji et al. (2021) and include managerial commitment (6 items), work environment (5 items), and involvement (5 items). While two indicators the primary indicator (4 items) and the lagging indicator (5 items) created by Naji et al. (2021) were used to measure the safety performance variable, the safety climate variable was measured using items taken from (Abeje & Luo, 2023). Additionally, five items that were similarly modified from Naji et al. (2021) were used to quantify the psychosocial hazard variable. With the aid of Smart Partial Least Square (SmartPLS) software, the Structural Equation Modeling - Partial Least Square (SEM-PLS) method was used to evaluate the collected data.

RESULTS AND DISCUSSION

The outcomes of the analysis show the demographic characteristics of respondents by gender, the majority of respondents are male as many as 277 people (91.1%), while female respondents number 27 people (8.9%). Regarding age, most Respondents are between the ages of 20 and 29 as many as 260 people (61.61%), followed by 30-39 years as many as 42 people (9.95%), and only 2 people (0.47%) are in the age category 40-49 years. Based on work experience, the most respondents have 6-10 years of work experience as many as 144 people (55.17%), followed by 1-5 years as many as 139 people (53.25%). Meanwhile, respondents with 11-15 years of work experience as many as 14 people (5.37%) and 16-20 years as many as 7 people (2.68%). Judging from the job group, the majority of respondents came from the Production Group as many as 229 people (75.3%), then followed by the Maintenance Group as many as 57 people (18.8%), HSSE as many as 15 people (4.9%), and the Supporting group as many as 3 people (1%).

The first step in using Partial Least Squares Structural Equation Modeling (PLS-SEM) is to assess the measurement model in order to ensure the validity and reliability of the construct (Hair, Sarstedt, & Ringle, 2019; Purwanto & Sudargini, 2021). The outer loading value is one of the primary indications in the reflective measurement methodology. If an indicator's value is 0.70, it is deemed legitimate. In exploratory study, scores between 0.50 and 0.70 are still acceptable, but those below 0.50 have to be disregarded (Hair et al., 2019).

Furthermore, the reliability testing of the construct also showed very satisfactory results. For the complete construct, the Cronbach's Alpha value is above 0.90, which signifies a high level of internal consistency. The Composite Reliability value also exceeds the recommended minimum value, which is above 0.90 for all constructs. Meanwhile, the Average Variance Extracted (AVE) value has surpassed the minimum for each of the four structures threshold of 0.50. These findings show that each construct can provide more explanations than 50% of its indicators' variance. The following is presented Table 1 which summarizes the outer loading values, reliability (Cronbach's



| Items | Factor Load | - Cronbach's | rho_A | Composite Re- | The Average |
|-------|-------------|--------------|-------|---------------|---------------|
| | ing | Alpha | | liability | Variance Ex- |
| | | | | | tracted (AVE) |
| PH1 | 0.924 | 0.934 | 0.932 | 0.949 | 0.784 |
| PH2 | 0.945 | | | | |
| PH3 | 0.827 | | | | |
| PH4 | 0.898 | | | | |
| PH5 | 0.902 | | | | |
| SC1 | 0.844 | 0.964 | 0.977 | 0.978 | 0.688 |
| SC2 | 0.815 | | | | |
| SC3 | 0.867 | | | | |
| SC4 | 0.838 | | | | |
| SC5 | 0.852 | | | | |
| SC6 | 0.805 | | | | |
| SC7 | 0.769 | | | | |
| SC8 | 0.805 | | | | |
| SC9 | 0.776 | | | | |
| SC10 | 0.815 | | | | |
| SC11 | 0.852 | | | | |
| SC12 | 0.843 | | | | |
| SC13 | 0.877 | | | | |
| SC14 | 0.832 | | | | |
| SC15 | 0.796 | | | | |
| SC16 | 0.868 | | | | |
| SCL1 | 0.869 | 0.935 | 0.932 | 0.947 | 0.741 |
| SCL2 | 0.843 | | | | |
| SCL3 | 0.857 | | | | |
| SCL4 | 0.865 | | | | |
| SCL5 | 0.838 | | | | |
| SCL6 | 0.889 | | | | |
| SP1 | 0.779 | 0.926 | 0.928 | 0.932 | 0.625 |
| SP2 | 0.786 | | | | |
| SP3 | 0.784 | | | | |
| SP4 | 0.779 | | | | |
| SP5 | 0.775 | | | | |
| SP6 | 0.782 | | | | |
| SP7 | 0.793 | | | | |
| SP8 | 0.804 | | | | |
| SP9 | 0.820 | | | | |

Alpha, rho_A, Composite Reliability), and convergent validity (AVE) of each construct:

The R Square value is used to measure the percentage of dependent variable variation that can be accounted for by independent constructs in the structural model. The independent construct's capacity to explain the target variable increases with its R Square value.



| Table 2: R square value | | | | | | | |
|-------------------------|----------|-------------------|--|--|--|--|--|
| Construct | R Square | Adjusted R Square | | | | | |
| Psychosocial Hazard | 0.428 | 0.434 | | | | | |
| Safety Performance | 0.578 | 0.574 | | | | | |

The results in Table 3 show that the Psychosocial Hazard (PH) construct has a 0.428 R Square score, meaning that 42.8% of the PH variance can be explained by other constructs within the model. Considering the classification of Hair et al. (2019), This value falls into the category of moderate. The Safety Performance (SP) construct has an R Square value of 0.578, which indicates that 57.8% of the SP variance is explained by the Safety Culture, Safety Climate, and Psychosocial Hazard constructs. This value is included in the moderate to strong category, indicating that the model has a fairly good predictive ability for occupational safety performance.

| Table 3: Path Coefficients | | | | | | | | | |
|----------------------------|---|--|--|---|--|--|--|--|--|
| Sampel | Rata-rata | T Statistik | P Values | Description | | | | | |
| Asli (O) | Sampel | (IO/STDEV | | | | | | | |
| | (M) | l) | | | | | | | |
| 0.362 | 0.363 | 4.860 | 0.000 | Accepted | | | | | |
| 0.281 | 0.285 | 4.114 | 0.000 | Accepted | | | | | |
| 0.233 | 0.230 | 4.735 | 0.000 | Accepted | | | | | |
| 0.299 | 0.301 | 4.931 | 0.000 | Accepted | | | | | |
| 0.394 | 0.392 | 6.578 | 0.000 | Accepted | | | | | |
| 0.070 | 0.069 | 3.329 | 0.001 | Accepted | | | | | |
| 0.092 | 0.091 | 3.687 | 0.000 | Accepted | | | | | |
| | Sampel Asli (O) 0.362 0.281 0.233 0.299 0.394 0.070 0.092 | Table 3: Path C Sampel Rata-rata Asli (O) Sampel (M) (M) 0.362 0.363 0.281 0.285 0.233 0.230 0.299 0.301 0.394 0.392 0.070 0.069 0.092 0.091 | Table 3: Path Coefficients Sampel Rata-rata T Statistik Asli (O) Sampel (IO/STDEV (M)) 0.362 0.363 4.860 0.281 0.285 4.114 0.233 0.230 4.735 0.299 0.301 4.931 0.394 0.392 6.578 0.070 0.069 3.329 0.092 0.091 3.687 | Table 3: Path Coefficients Sampel Rata-rata T Statistik P Values Asli (O) Sampel (IO/STDEV) (IO/STDEV) (M) I) (IO) (IO) 0.362 0.363 4.860 0.000 0.281 0.285 4.114 0.000 0.233 0.230 4.735 0.000 0.299 0.301 4.931 0.000 0.394 0.392 6.578 0.001 0.070 0.069 3.329 0.001 0.092 0.091 3.687 0.000 | | | | | |

All hypotheses exhibit a statistically significant association (*p*-value <0.05), indicating that every path in the model supports the suggested hypothesis, according to the data in Table 4. An estimate of 0.362 (*p*-value = 0.000) indicates that Safety Culture has a positive and significant impact on Safety Performance. This suggests that the greater the safety performance that may be attained, the stronger the organization's safety culture. Similarly, with an estimated value of 0.281 (*p*-value = 0.000), Safety Climate has a significant impact on Safety Performance, confirming that favorable safety views within the company also enhance work safety results. Safety Performance is also significantly influenced by Psychosocial Hazard, with an estimate of 0.233 (*p*-value = 0.000).

This demonstrates that improving employee safety performance is positively impacted by safe and regulated psychosocial environments. Furthermore, with estimated values of 0.299 and 0.394, respectively, and a *p*-value of 0.000, Safety Climate and Safety Culture demonstrated a substantial impact on Psychosocial Hazard. These results highlight how crucial a safety culture and climate are to lowering psychosocial risks at work. Additionally, with a mediation value of 0.070 (*p*-value = 0.001), the mediation test results verified that Psychosocial Hazard strongly mediates the association between Safety Culture and Safety Performance. Similarly, with a mediation value of 0.092 (*p*-value = 0.000), a mediation effect was also discovered on the Safety Climate pathway to Safety Performance through Psychosocial Hazard. These findings suggest that safety climate and culture have an indirect impact on safety performance by lowering psychological stress at work in addition to direct effects.

DISCUSSION

This study's objective is to investigate how Safety Culture (SC) and Safety Climate (SCL) affect Safety Performance (SP), with Psychosocial Hazard (PH) acting as a mediating factor. This model was created to assess how work safety atmosphere and culture relate to safety performance, both directly and through psychosocial influences in the workplace. Based on the results of data analysis using the PLS-SEM approach, all hypotheses proposed were proven to be statistically significant (*p*-value <0.05), indicating that all influence paths have empirical relevance in the context of this study.



The Effect of Safety Culture on Safety Performance

According to the theory of social interaction (Blau, 2017; Richard & Emerson, 1976; Homans, 1958), when the organization shows commitment and concern for safety, employees will respond with positive behavior, including compliance with safety procedures. The results of this study support this theory, place Safety Performance is positively impacted by Safety Culture. The strongest indicator in the Safety Culture construct is SC13 (Management actively encourages employee participation in efforts to improve work safety, loading = 0.875), while the highest indicator in Safety Performance is SP9 (Work procedures related to various activities have been compiled in a complete and comprehensive manner, loading = 0.820). These findings suggest that when management encourages employees' active participation in safety discussions and improvements, employees tend to adhere more consistently to work procedures. This is in line with Naji et al. (2021) and Abeje and Luo (2023), who found that management-supported active participation can reduce the chance of accidents and increase safety compliance.

The Effect of Safety Climate on Safety Performance

Social Exchange Theory also explains that how a company's safety commitment is perceived can create a reciprocal relationship, where employees reciprocate the organization's attention with safe work behavior. In this study, Safety Climate was proven must significantly impact Safety Performance. The highest indicator in the Safety Climate construct is SCL6 (Safety rules and procedures considered very important to prevent work accidents, loading = 0.889), which is again related to SP9 of Safety Performance. When safety rules are seen as collectively important, the implementation of work procedures will be carried out more disciplined. Studies by Abeje and Luo (2023) and Lestari et al. (2023), reinforce these findings that a positive perception of the safety climate improves compliance with SOPs as well as the quality of safety performance at work.

The Effect of Psychosocial Hazards on Safety Performance

Psychosocial hazard is a stressor from high workload and excessive time pressure (Chirico et al., 2019; ILO, 1986), which can interfere with the focus and consistency of workers in carrying out safety procedures. This study proves that PH has a negative influence on the performance of safety. The highest indicator of Psychosocial Hazard is PH1 (I feel like my workload is unbalanced so it often accumulates, loading = 0.904), which is negatively correlated with SP9. When workers are under a lot of stress at work, they tend to ignore safety procedures in order to pursue targets. This is in line with the findings of Rohmat et al. (2023), which show that unmanaged work pressure can reduce the efficiency with which safety protocols are applied.

The Influence of Safety Culture on Psychosocial Hazards

A good safety culture can establish a helpful workplace, which can thereafter lower psychological distress in the workplace. Within the framework of Social Exchange Theory, when organizations show concern for employee well-being through a strong safety culture, employees will respond with a feeling of safety and psychological comfort. The analysis's findings demonstrate that safety culture has a negative effect on Psychosocial Hazard. The highest indicator on SC is SC13 (Management actively encourages employee participation in efforts to improve work safety, loading = 0.875), while PH is dominated by PH1 (I feel that my workload is unbalanced so it often accumulates, loading = 0.904). This shows that management's active involvement in safety plays a role in balancing the workload and reducing the pressure felt by employees. When management shows real support for safety, employees feel more cared for and less psychosocially burdened. This condition also improves the work atmosphere to be more positive and mentally healthy.

THE EFFECT OF SAFETY CLIMATE ON PSYCHOSOCIAL HAZARD

A positive safety climate plays a crucial part in establishing a sense of psychological safety. From the perspective of social exchange theory, when an organization creates the perception that safety is a primary value, employees will feel calmer and able to work without excessive pressure. According to this study, safety climate has a detrimental impact on Psychosocial Hazard. The main indicator of SCL is SCL6, while the main indicator of PH is again PH1. This negative correlation indicates that clarity in rules and procedures helps reduce work confusion, overload, and mental stress. When work expectations are clearly understood, employees do not feel



psychologically stressed or burdened. This finding is also supported by research by Platania et al. (2022), which stress the significance of collective perceptions of safety in reducing work stress.

PSYCHOSOCIAL HAZARD MEDIATION ON SAFETY CULTURE TO SAFETY PERFORMANCE

Additionally, this study demonstrates that the relationship between Safety Culture and Safety Performance is mediated by Psychosocial Hazard. When a safety culture is built with active involvement and real managerial support, psychological stress will decrease, and this will have an impact on increasing safety performance (Naji et al., 2021). In this context, SC13 has been shown to be able to reduce PH1, which then strengthens SP9 as the main indicator of safety performance. This process illustrates that safety culture not only directly improves performance, but also through reducing psychosocial stress which is an indirect barrier to safety. In other words, management support in safety culture also functions as a protector against work stress, which then strengthens compliance and consistent implementation of work safety.

PSYCHOSOCIAL HAZARD MEDIATION ON SAFETY CLIMATE TO SAFETY PERFORMANCE

In addition to safety culture, Safety Climate also shows an indirect relationship to Safety Performance through the mediation of Psychosocial Hazard. When an organization has a strong safety climate with good communication, clear procedures, and respect for safety, employees' psychological stress will decrease, and this has a positive impact on safety performance. The SCL6 indicator plays an important role in reducing PH1, which then strengthens SP9. This mediation process illustrates that the perception of the importance of safety rules helps employees feel safe and not mentally burdened, so that they are able to carry out their work according to applicable procedures. Thus, this mediation strengthens The function of the safety climate in creating a work atmosphere that minimizes stress and maximizes employee contributions to work safety.

CONCLUSION

Through an awareness of the mediating function of psychological hazards, this study investigates the causal relationship between safety performance, safety climate, and safety culture. The study's conclusions support the idea that enhancing employee safety performance is significantly impacted by safety climate and culture. On the other hand, psychosocial hazards are proven to be an important factor that bridges the relationship, where psychological stress felt by employees can reduce compliance with safety procedures.

The results of this study also indicate that organizations that build a positive safety culture and climate will be able to reduce psychosocial stress, which ultimately has an impact on increasing employee compliance with safety operational standards. Thus, effective safety management does not only depend on formal policies and procedures, but also on the psychological conditions and workload felt by employees.

However, this study has limitations in the quantitative approach used alone. This method can be expanded with a mixed methods approach or longitudinal study to gain a deeper understanding of the dynamics of occupational safety and psychosocial health in the long term. In addition, the Adjusted R-Square value of 57.5% in the safety performance variable indicates that there is still around 42.5% of variance influenced by other factors outside this research model.

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