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The Effect Oof Work Supervision and Safety Motivation on Workers' Compliance with Occupational Safety and Health (OSH) Procedures at Pt Pln Nusa Daya Gorontalo Service Unit

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ABSTRACT

Workers' compliance with Occupational Safety and Health (OSH) procedures is an important aspect of preventing occupational accidents, particularly in the electricity sector, which involves high levels of occupational risk. Workers' compliance may be influenced by external factors, such as work supervision, and internal factors, such as safety motivation. This study aimed to analyze the effect of work supervision and safety motivation on workers' compliance with OSH procedures at PT PLN Nusa Daya Gorontalo Service Unit. This study employed a quantitative approach with a cross-sectional design. The population and sample consisted of all 89 Technical Service (Yantek) workers, selected using a total sampling technique. Data were collected using questionnaires and analyzed using simple linear regression. The results showed that 69 respondents (77.5%) perceived work supervision as good, 42 respondents (47.2%) had a moderate level of safety motivation, and 47 respondents (52.8%) demonstrated a moderately compliant level of OSH procedure adherence. The analysis showed that work supervision did not have a statistically significant effect on workers' compliance ($p = 0.185$; $r = 0.142$; $R^2 = 0.020$). In contrast, safety motivation had a statistically significant effect on workers' compliance ($p = 0.041$; $r = 0.217$; $R^2 = 0.047$). Therefore, safety motivation was identified as a factor associated with workers' compliance with OSH procedures, whereas the contribution of supervision in the present model was not statistically significant. Improving compliance requires strengthening safety motivation through OSH training, routine safety briefings, safety communication, and the development of a consistent safety culture.

INTRODUCTION

Occupational Safety and Health (OSH) is an essential aspect of company operations, particularly in the electricity sector, where workers are exposed to relatively high occupational risks. Electrical work involves various potential hazards, including electric shock, electrical arc flash, falls from heights, and accidents resulting from the improper use of work equipment. These conditions require companies to implement occupational safety and health management systems consistently to protect workers, maintain operational continuity, and minimize the risk of workplace accidents. The International Labour Organization (ILO) emphasizes that preventing occupational accidents and work-related diseases requires a planned management system, worker participation, and a sustained commitment from management (International Labour Organization [ILO], 2001). In Indonesia, the implementation of OSH is also supported by Law No. 1 of 1970 concerning Work Safety and Government Regulation No. 50 of 2012 concerning the Implementation of Occupational Safety and Health Management Systems.

The implementation of an OSH management system depends not only on the availability of regulations, standard operating procedures, and personal protective equipment but also on workers' behavior in complying with safety requirements while performing their duties. Compliance with OSH procedures includes following safe work instructions, using appropriate personal protective equipment, inspecting equipment before use, and implementing risk-control measures before and during work activities. Neal and Griffin (2006) explained that workers' safety behavior is an important component of organizational safety performance, which can be distinguished into safety compliance and safety participation. Safety compliance refers to the core behaviors required to maintain workplace

safety, whereas safety participation reflects workers' voluntary involvement in activities that support a safe working environment. Therefore, compliance with OSH procedures should be a primary concern for companies operating in high-risk environments, including electrical network services and maintenance.

One external factor that may be associated with workers' compliance with OSH procedures is work supervision. Supervision involves monitoring, directing, inspecting, and evaluating work activities to ensure that they comply with established safety standards. In electrical work, supervision may include checking workers' readiness, verifying the use of personal protective equipment, inspecting equipment conditions, providing safety instructions before work begins, and monitoring the implementation of safe work procedures. Consistent supervision can help identify unsafe behaviors and provide opportunities for corrective action before such conditions develop into accidents. Griffin and Neal (2000) demonstrated that workplace environmental factors, safety knowledge, and safety motivation are associated with safety performance. Their findings highlight the importance of understanding how workplace management practices, including supervision, relate to workers' safety behavior. Nevertheless, the existence of formal supervision does not necessarily guarantee compliance if workers lack an adequate understanding of risks, have insufficient safety motivation, or perceive safety procedures as obstacles to completing their tasks.

In addition to work supervision, safety motivation is an internal factor that may contribute to shaping workers' behavior when facing occupational hazards. Safety motivation refers to an individual's willingness, drive, and readiness to perform actions that support their own safety and that of others. Workers with adequate safety motivation may be more willing to follow work instructions, use personal protective equipment, report hazardous conditions, and avoid actions that violate established safety procedures. Conversely, pressure to complete tasks quickly, habitual disregard for risks, and the perception that accidents are unlikely to occur may hinder the implementation of safe work practices. Griffin and Neal (2000) identified safety motivation and safety knowledge as factors associated with safety performance, while Neal and Griffin (2006) explained the relationships among individual factors, the work environment, and safety behavior over time. Therefore, safety motivation needs to be examined alongside workplace management factors to obtain a better understanding of workers' compliance with OSH procedures.

In practice, the relationships among supervision, safety motivation, and workers' compliance need to be understood in the context of specific occupational characteristics and organizational environments. Effective supervision is not limited to enforcing rules but also involves clear communication, feedback, guidance, and role modeling in the implementation of safety practices. Meanwhile, safety motivation needs to be supported by a work environment that encourages employees to prioritize safety without disregarding productivity requirements. Neal and Griffin (2006) found that group-level safety climate could predict changes in individual safety motivation, while safety motivation was associated with subsequent changes in workers' safety behavior. These findings suggest that safety behavior may be influenced by interactions between the organizational environment and individual factors. However, the strength of these relationships needs to be examined across different organizational contexts, particularly in technical occupations within the electricity sector.

PT PLN Nusa Daya Gorontalo Service Unit provides a relevant context for examining compliance with OSH procedures because its Technical Service (Yantek) workers perform technical tasks that require careful attention to potential hazards and the implementation of safe work procedures. In this context, work supervision is expected to help ensure the consistent application of safety procedures, while safety motivation is expected to encourage workers to comply with these procedures even when facing work-related pressures. However, the relationships between these factors and compliance cannot be assumed to be uniform. Work supervision that is perceived as good does not necessarily correspond to a high level of compliance, just as adequate safety motivation may need to be supported by sufficient knowledge, appropriate facilities, and working conditions that enable employees to act safely. Therefore, empirical investigation is necessary to determine how work supervision and safety motivation are associated with compliance with OSH procedures among workers in this service unit.

Based on the findings of this study involving 89 Yantek workers at PT PLN Nusa Daya Gorontalo Service Unit, 69 respondents (77.5%) perceived work supervision as good. Meanwhile, 42 respondents (47.2%) had a moderate level of safety motivation, and 47 respondents (52.8%) demonstrated a moderate level of compliance with OSH procedures. Simple linear regression analysis showed that work supervision was not statistically significantly associated with compliance with OSH procedures (\(p = 0.185\); \(r = 0.142\); \(R^2 = 0.020\)). In contrast, safety motivation was statistically significantly associated with compliance (\(p = 0.041\); \(r = 0.217\); \(R^2 = 0.047\)). These findings indicate that safety motivation deserves attention when examining workers' compliance, although the observed association was relatively weak and the model explained only a small proportion of the variation in compliance. Because this study employed a cross-sectional design and simple linear regression, the findings cannot be directly interpreted as evidence of causation or as demonstrating the simultaneous effects of both variables.

Therefore, this study aimed to analyze the relationships of work supervision and safety motivation with workers' compliance with OSH procedures at PT PLN Nusa Daya Gorontalo Service Unit. The findings are expected to provide empirical evidence to support the development of OSH programs that better reflect workers' conditions, particularly through strengthened safety communication, pre-work safety briefings, OSH training, and guidance on safe work behavior. The results may also serve as an evaluation resource for the company in developing a consistent

safety culture while identifying other factors that warrant further investigation to explain variations in workers' compliance with OSH procedures.

METHODS

Research Design

This study employed a quantitative research approach with a cross-sectional design to analyze the relationships of work supervision and safety motivation with workers' compliance with Occupational Safety and Health (OSH) procedures at PT PLN Nusa Daya Gorontalo Service Unit. The cross-sectional design was used to examine the study variables as measured during a particular period. This approach enabled the researchers to assess the statistical relationships between work supervision, safety motivation, and workers' compliance with OSH procedures without manipulating the variables. Because the data were collected using a cross-sectional approach, the findings were interpreted as statistical associations rather than definitive evidence of causal relationships.

Population and Sample

The study population consisted of all 89 Technical Service (Yantek) workers at PT PLN Nusa Daya Gorontalo Service Unit. A total sampling technique was employed, meaning that all members of the population were included as research respondents. Therefore, the total sample comprised 89 workers. This sampling approach was selected to obtain information from the entire defined population of Yantek workers at the study location rather than selecting only a subset of workers.

Research Variables

This study examined three main variables. Work supervision was the first independent variable (X1), safety motivation was the second independent variable (X2), and workers' compliance with OSH procedures was the dependent variable (Y).

Work supervision referred to the monitoring, guidance, and evaluation of workers' activities to ensure compliance with established occupational safety procedures. Safety motivation referred to workers' internal drive and willingness to prioritize safety and follow established OSH requirements when performing their duties. Workers' compliance with OSH procedures referred to the extent to which workers followed the safety instructions and procedures applicable to their work activities.

Data Collection

Primary data were collected using questionnaires administered to the respondents. The questionnaire was used to obtain information about workers' perceptions of work supervision, their level of safety motivation, and their compliance with OSH procedures. The collected responses were subsequently classified according to the categories used in the study to describe the distribution of each variable.

The questionnaire data were used to determine the frequency and percentage distributions of work supervision, safety motivation, and compliance with OSH procedures. The specific questionnaire items, scoring procedures, and criteria for categorizing each variable should be reported in the final manuscript according to the research instrument actually used.

Data Analysis

Data analysis consisted of descriptive and inferential statistical analyses. Descriptive analysis was conducted to summarize the characteristics of the study variables using frequency distributions and percentages. This analysis provided an overview of the respondents' perceptions of work supervision, their levels of safety motivation, and their compliance with OSH procedures.

Inferential analysis was performed using simple linear regression to examine the statistical relationship between each independent variable and the dependent variable. Two separate regression models were evaluated. The first model examined the relationship between work supervision (X1) and compliance with OSH procedures (Y), while the second model examined the relationship between safety motivation (X2) and compliance with OSH procedures (Y).

The statistical significance level was set at 5% (\(\alpha = 0.05\)). A p-value below 0.05 was considered statistically significant, whereas a p-value greater than 0.05 indicated insufficient statistical evidence of a significant relationship under the specified model. The correlation coefficient (\(r\)) was used to describe the direction and strength of the relationship, while the coefficient of determination (\(R^2\)) was used to indicate the proportion of variation in compliance explained by each regression model.

The regression results were interpreted separately for each independent variable. Because simple linear regression was used, the analysis did not establish the simultaneous relationship of work supervision and safety motivation with compliance after adjustment for the other variable or potential confounding factors.

Ethical Considerations

The study involved human participants and collected information concerning workplace safety practices. Accordingly, participation should be voluntary, respondents should receive an explanation of the study objectives, and the confidentiality of their responses should be protected. The research report should also identify the applicable research ethics approval or exemption, including the name of the approving institution and approval number, where applicable. As these details were not provided in the abstract, they should be added based on the actual research documentation.

RESULTS

Characteristics of Respondents Based on Research Variables

This study involved 89 Technical Service (Yantek) workers at PT PLN Nusa Daya Gorontalo Service Unit. The results were analyzed to describe the distribution of work supervision, safety motivation, and workers' compliance with Occupational Safety and Health (OSH) procedures. The descriptive analysis provides an overview of the respondents' perceptions of workplace supervision, their motivation to prioritize safety, and their level of compliance with established safety procedures.

Table 1. Distribution of Respondents Based on Work Supervision, Safety Motivation, and Compliance with OSH Procedures

Research variable	Category	Frequency (n)	Percentage (%)
Work supervision	Good	69	77.5
Safety motivation	Moderate	42	47.2
Compliance with OSH procedures	Moderate	47	52.8
Total respondents		89	100.0

Note: The table presents the categories and frequencies reported in the study abstract. Because the abstract does not provide the complete distribution of all categories, the remaining categories are not presented.

Based on Table 1, most respondents perceived work supervision as good, accounting for 69 workers (77.5%). This finding indicates that the majority of respondents had a favorable perception of the supervision provided in their workplace. In the context of electrical service activities, supervision is important for monitoring work implementation, ensuring compliance with safety instructions, and identifying potential hazards during technical operations. Nevertheless, a favorable perception of supervision does not necessarily indicate that workers consistently comply with all OSH procedures.

Regarding safety motivation, 42 respondents (47.2%) were classified as having a moderate level of safety motivation. This proportion represents the largest reported category for this variable in the abstract, although the complete distribution of other motivation categories was not provided. The finding suggests that safety motivation remains an important aspect to examine in understanding workers' willingness to prioritize safety during work activities.

Furthermore, 47 respondents (52.8%) demonstrated a moderate level of compliance with OSH procedures. This result indicates that more than half of the respondents were classified within the moderate compliance category. Although most respondents perceived work supervision as good, the reported compliance level was predominantly moderate. This descriptive pattern highlights the importance of examining whether work supervision and safety motivation are statistically associated with workers' compliance with OSH procedures.

Relationship Between Work Supervision and Compliance with OSH Procedures

Simple linear regression analysis was conducted to examine the relationship between work supervision and workers' compliance with OSH procedures at PT PLN Nusa Daya Gorontalo Service Unit. The analysis assessed statistical significance, the correlation coefficient, and the coefficient of determination.

Table 2. Simple Linear Regression Results for Work Supervision and Compliance with OSH Procedures

Statistical indicator	Result
Number of respondents	89
Correlation coefficient (r)	0.142
Coefficient of determination (R^2)	0.020
p-value	0.185
Significance level (α)	0.050
Statistical conclusion	Not statistically significant

The results in Table 2 show that work supervision had a weak positive correlation with workers' compliance with OSH procedures (\(r = 0.142\)). This indicates that higher scores for work supervision tended to be associated with higher compliance scores, but the observed relationship was weak.

The coefficient of determination (\(R^2 = 0.020\)) indicates that the regression model explained approximately 2.0% of the variation in workers' compliance with OSH procedures. The remaining 98.0% of the variation was not explained by this model and may involve other factors that were not included in the analysis.

The p-value for the regression analysis was 0.185, which exceeded the predetermined significance level of 0.05. Therefore, the relationship between work supervision and compliance with OSH procedures was not statistically significant. The analysis did not provide sufficient statistical evidence to conclude that work supervision was significantly associated with workers' compliance in this sample.

These findings suggest that, although most respondents perceived work supervision positively, the variation in supervision scores was not significantly associated with variation in compliance scores in the simple linear regression model. However, this result should not be interpreted as evidence that supervision is unimportant for workplace safety. Rather, it indicates that the statistical relationship was not established under the conditions of this study.

Relationship Between Safety Motivation and Compliance with OSH Procedures

A second simple linear regression analysis was performed to examine the relationship between safety motivation and workers' compliance with OSH procedures. This analysis aimed to determine whether differences in safety motivation scores were statistically associated with differences in compliance scores.

Table 3. Simple Linear Regression Results for Safety Motivation and Compliance with OSH Procedures

Statistical indicator	Result
Number of respondents	89
Correlation coefficient (r)	0.217
Coefficient of determination (R^2)	0.047
p-value	0.041
Significance level (α)	0.050
Statistical conclusion	Statistically significant

As presented in Table 3, safety motivation had a weak positive correlation with workers' compliance with OSH procedures (\(r = 0.217\)). This finding indicates that higher safety motivation scores tended to be associated with higher compliance scores among the respondents.

The coefficient of determination (\(R^2 = 0.047\)) indicates that the regression model explained approximately 4.7% of the variation in workers' compliance with OSH procedures. Although this proportion was relatively small, the model demonstrated a statistically significant relationship between safety motivation and compliance.

The p-value was 0.041, which was below the significance threshold of 0.05. Therefore, the null hypothesis of no statistically significant relationship was rejected for this regression analysis. The results provide evidence of a statistically significant association between safety motivation and workers' compliance with OSH procedures at PT PLN Nusa Daya Gorontalo Service Unit.

The positive direction of the correlation suggests that workers with higher safety motivation scores tended to report higher compliance scores. Nevertheless, the relatively weak correlation and low coefficient of determination indicate that safety motivation alone explains only a small proportion of the observed variation in compliance. Other individual, organizational, and work-related factors may also be relevant to understanding compliance behavior.

Summary of the Statistical Findings

Table 4. Summary of Regression Analysis

Independent variable	Dependent variable	r	R^2	p-value	Interpretation
Work supervision	Compliance with OSH procedures	0.142	0.020	0.185	Weak positive relationship; not statistically significant
Safety motivation	Compliance with OSH procedures	0.217	0.047	0.041	Weak positive relationship; statistically significant

The overall findings demonstrate different statistical patterns for the two independent variables. Work supervision showed a weak positive relationship with compliance, but the relationship was not statistically significant. In

contrast, safety motivation demonstrated a weak positive and statistically significant relationship with compliance with OSH procedures.

These results indicate that safety motivation was the only variable among the two examined factors that demonstrated a statistically significant relationship with workers' compliance in the separate simple linear regression analyses. However, because the models were analyzed separately, the results do not establish whether safety motivation remains independently associated with compliance after controlling for work supervision or other potential confounding variables.

The findings also show that both models had relatively low coefficients of determination. Work supervision explained 2.0% of the variation in compliance, while safety motivation explained 4.7%. Consequently, further research incorporating additional variables, such as safety knowledge, safety training, safety climate, availability of personal protective equipment, workload, and management commitment, may help provide a more comprehensive understanding of workers' compliance with OSH procedures.

DISCUSSION

Work Supervision and Workers' Compliance with OSH Procedures

The findings of this study showed that work supervision was not statistically significantly associated with workers' compliance with Occupational Safety and Health (OSH) procedures at PT PLN Nusa Daya Gorontalo Service Unit (\(p = 0.185\); \(r = 0.142\); \(R^2 = 0.020\)). Although the correlation coefficient indicated a weak positive relationship, the p-value exceeded the significance threshold of 0.05. Therefore, the study did not provide sufficient statistical evidence to establish a significant association between work supervision and compliance with OSH procedures. The coefficient of determination further indicated that work supervision explained approximately 2.0% of the variation in compliance scores in the simple linear regression model.

Descriptive findings showed that 69 respondents (77.5%) perceived work supervision as good. However, 47 respondents (52.8%) demonstrated a moderate level of compliance with OSH procedures. This pattern suggests that favorable perceptions of supervision do not necessarily correspond to high compliance levels. Nevertheless, because the study used a cross-sectional design and the descriptive categories do not establish individual-level relationships, this pattern should be interpreted cautiously. The nonsignificant result does not mean that supervision has no practical value; rather, the analysis did not establish a statistically significant relationship in the study sample.

From a theoretical perspective, supervision is an important organizational mechanism for communicating safety expectations, monitoring work practices, identifying hazards, and correcting unsafe behavior. Griffin and Neal (2000) explained that safety performance is associated with safety climate, safety knowledge, and safety motivation. Their framework suggests that organizational safety practices may contribute to safety outcomes through workers' understanding of safety requirements and their motivation to comply with them. Consequently, supervision may be more effective when it is accompanied by clear instructions, adequate safety knowledge, constructive feedback, and consistent implementation of workplace safety policies.

Similarly, Christian et al. (2009), in a meta-analysis of antecedents of workplace safety, identified individual characteristics and work-related contextual factors as relevant to safety performance. Their findings support the view that workplace safety is multidimensional and cannot be explained by a single organizational factor. In the context of electrical service activities, workers' compliance may also depend on their technical competence, familiarity with operating procedures, availability of appropriate equipment, perceived time pressure, and the consistency of safety requirements across different work situations. These factors may help explain why favorable perceptions of supervision were not accompanied by a statistically significant relationship with compliance in the present study.

Neal and Griffin (2006) further demonstrated the importance of examining safety climate, safety motivation, safety behavior, and accidents at both individual and group levels. Their research indicates that safety-related outcomes should be understood in relation to the broader organizational environment rather than through a single indicator. Applied to PT PLN Nusa Daya Gorontalo Service Unit, this perspective suggests that evaluating supervision solely in terms of its perceived quality may not fully capture whether supervision translates into consistent compliance with OSH procedures. Future evaluations could examine the frequency of field inspections, the quality of safety briefings, the timeliness of corrective actions, and the consistency of supervisors' enforcement of safety standards.

In practical terms, the findings support the need to evaluate the implementation of supervision rather than assuming that a favorable perception automatically guarantees compliance. Supervisors may strengthen safety practices by conducting structured pre-work briefings, verifying the implementation of required safety controls, providing specific feedback, and documenting corrective actions. These activities should be assessed through measurable indicators, such as observed compliance with work procedures and the completion of required safety checks. However, their effectiveness in improving compliance should be evaluated rather than assumed in advance.

Safety Motivation and Workers' Compliance with OSH Procedures

The results showed that safety motivation was statistically significantly associated with workers' compliance with OSH procedures (\(p = 0.041\); \(r = 0.217\); \(R^2 = 0.047\)). The positive correlation coefficient indicates that

higher safety motivation scores tended to be associated with higher compliance scores. However, the relationship was weak, and the regression model explained only 4.7% of the variation in compliance. These findings suggest that safety motivation is a relevant factor in understanding workers' compliance, but it should not be considered the sole determinant of safe work behavior.

The descriptive results also showed that 42 respondents (47.2%) had a moderate level of safety motivation, while 47 respondents (52.8%) demonstrated a moderate level of compliance with OSH procedures. These findings indicate that moderate safety motivation and moderate compliance were common categories in the study population. Nevertheless, the similarity in these distributions does not establish that the same individuals with moderate motivation were necessarily those with moderate compliance. The regression analysis provides the more relevant evidence of the relationship between the two variables.

The findings are consistent with the theoretical framework developed by Griffin and Neal (2000), who distinguished safety compliance from safety participation and identified safety knowledge and motivation as important factors associated with safety performance. From this perspective, compliance involves carrying out the safety behaviors required to perform work safely, while motivation reflects an individual's willingness to engage in those behaviors. Workers may understand the importance of safety procedures but still fail to follow them consistently if they perceive compliance as inconvenient, time-consuming, or incompatible with work demands. Therefore, strengthening safety motivation may be an important component of efforts to improve adherence to established procedures.

Neal and Griffin (2006) further examined the relationships among safety climate, safety motivation, safety behavior, and workplace accidents over time. Their findings indicated that group-level safety climate predicted subsequent changes in individual safety motivation and that individual safety motivation was associated with subsequent changes in self-reported safety behavior. This evidence provides a useful theoretical explanation for the present findings: workers' motivation may be associated with their willingness to follow safety procedures, while the surrounding organizational environment may help shape that motivation. However, because the current study used a cross-sectional design, it cannot establish whether higher motivation preceded greater compliance or whether other factors contributed to both.

Christian et al. (2009), in their meta-analysis of workplace safety, examined personal and situational factors associated with safety performance and safety outcomes, including accidents and injuries. Their work supports a multidimensional understanding of occupational safety in which individual factors interact with workplace conditions. In the context of electrical service workers, safety motivation may be expressed through a willingness to inspect equipment, use appropriate personal protective equipment, follow isolation procedures where required, and avoid shortcuts when completing technical tasks. Nevertheless, actual compliance also depends on workers having the necessary knowledge, equipment, time, and organizational support to perform these behaviors safely.

Based on these findings, safety motivation should be incorporated into workplace safety improvement initiatives through practical and measurable activities. OSH training can be designed to strengthen workers' understanding of specific hazards and the reasons behind mandatory procedures. Routine safety briefings can reinforce risk awareness before work begins, while two-way safety communication can provide opportunities for workers to raise concerns about hazardous conditions. Supervisors can also encourage workers to report near misses and unsafe conditions without fear of unfair blame. These measures are reasonable strategies for evaluation, although their effectiveness in improving compliance at PT PLN Nusa Daya Gorontalo Service Unit would need to be assessed through subsequent monitoring or intervention research.

Comparison with Previous Studies

The findings of the present study can be understood in relation to previous research examining safety motivation, supervision, safety climate, and workers' safety behavior. Vinodkumar and Bhasi (2010) investigated safety management practices and safety behavior among 1,566 employees from eight major accident-hazard industrial units in India. Their findings indicated that safety knowledge and safety motivation played important mediating roles in the relationships between safety management practices and safety behavior. Safety training was also identified as an important predictor of safety knowledge, motivation, compliance, and participation. These results suggest that organizational safety initiatives may be more effective when they strengthen workers' understanding of hazards and their willingness to follow safety procedures rather than relying exclusively on formal monitoring.

The findings also relate to Clarke's (2006) meta-analysis, which examined the relationship between safety climate and safety performance. The review supported an association between organizational safety climate and employee safety compliance and participation. This evidence indicates that workers' perceptions of organizational priorities and practices may be relevant to safety-related behavior. However, the present study measured perceived work supervision rather than the broader construct of safety climate. Consequently, the findings should not be interpreted as a direct contradiction of Clarke's results because the variables and analytical approaches differ.

Zohar (1980) established an influential framework for understanding safety climate in industrial organizations, demonstrating the importance of workers' perceptions of management attitudes toward safety and the priority assigned to safety in production processes. This perspective is relevant to electrical service work, where supervisors and managers must communicate that compliance with safety requirements remains essential even when

operational demands are high. Similarly, Christian et al. (2009) emphasized the contribution of personal and situational factors to workplace safety performance. Taken together, these studies support a multidimensional approach to OSH management in which supervision, safety motivation, knowledge, and organizational conditions are considered complementary rather than interchangeable factors.

The comparison also highlights a possible explanation for the findings at PT PLN Nusa Daya Gorontalo Service Unit. Although most respondents perceived supervision as good, the statistical relationship between supervision and compliance was not significant. One possible explanation is that the quality of supervision as perceived by workers may differ from the consistency with which specific safety procedures are implemented. Another possibility is that compliance is influenced by factors not captured in the regression model. These explanations remain hypotheses because the current study did not directly measure the mechanisms underlying the nonsignificant result.

Implications for Occupational Safety and Health Management

The findings have practical implications for OSH management at PT PLN Nusa Daya Gorontalo Service Unit. First, the statistically significant relationship between safety motivation and compliance suggests that safety motivation should be considered when developing workplace safety programs. Training activities could incorporate practical hazard identification, scenario-based exercises, and demonstrations of the consequences of failing to follow electrical safety procedures. Vinodkumar and Bhasi (2010) support the importance of safety training in strengthening safety knowledge, motivation, and safety behavior. Nevertheless, training programs should be evaluated to determine whether they produce measurable improvements in workers' compliance.

Second, the company should continue to strengthen supervision while evaluating its practical implementation. The nonsignificant finding does not justify reducing supervision, particularly because electrical work involves potentially severe hazards. Instead, supervision could be assessed using more specific indicators, including the frequency of field observations, completion of pre-work safety checks, verification of required protective measures, and documentation of corrective actions. Griffin and Neal (2000) and Zohar (1980) provide theoretical support for examining the relationship between organizational safety practices and workers' perceptions and behaviors.

Third, safety communication should be integrated into routine work activities. Pre-work safety briefings can be used to discuss job-specific hazards, clarify responsibilities, and verify that workers understand the required control measures. Workers should also have opportunities to report unsafe conditions, equipment deficiencies, and near misses. Neal and Griffin (2006) demonstrated that safety climate and safety motivation are related to subsequent safety behavior, highlighting the potential importance of a supportive organizational environment. However, the specific effectiveness of these proposed activities in the present workplace requires further evaluation.

Finally, management should recognize that compliance is influenced by more than individual motivation or supervision alone. Appropriate equipment, adequate technical competence, realistic work schedules, clear procedures, and consistent management commitment may all be relevant to creating conditions in which safe behavior is feasible. Christian et al. (2009) and Clarke (2006) support the broader understanding that workplace safety involves relationships between individual behavior and organizational context. A comprehensive safety program should therefore combine individual-level initiatives with systematic improvements in workplace practices.

Study Limitations

Several limitations should be considered when interpreting the findings. First, the cross-sectional design provides information about the variables at a particular period but does not establish temporal order or causality. Therefore, the statistically significant association between safety motivation and compliance should not be interpreted as proof that motivation directly causes higher compliance.

Second, the study involved 89 workers from a single service unit. Although total sampling included the entire defined population, the findings may not be generalizable to workers in other PLN service units or to electrical workers in different organizational settings. Differences in management practices, working conditions, job responsibilities, and safety culture may influence the relationships between the variables.

Third, the use of separate simple linear regression models limited the analysis to the individual statistical relationship between each independent variable and compliance. The models did not establish the simultaneous relationships of supervision and motivation with compliance after controlling for one another or for other potential confounding variables. Moreover, the relatively low coefficients of determination indicate that most variation in compliance remained unexplained by the two models.

Fourth, if the variables were measured exclusively through self-reported questionnaires, the findings may have been affected by response bias or differences between reported and actual safety behavior. Future research could combine questionnaires with structured observations, safety inspection records, and documented near-miss reports. Longitudinal studies or intervention evaluations would also help clarify whether changes in safety motivation or supervisory practices are followed by measurable changes in compliance.

Overall Discussion

Overall, this study found that work supervision was not statistically significantly associated with workers' compliance with OSH procedures, whereas safety motivation demonstrated a weak but statistically significant positive association. The findings provide context-specific evidence that safety motivation deserves attention in understanding compliance among Yantek workers at PT PLN Nusa Daya Gorontalo Service Unit. Nevertheless, the low explanatory power of both regression models indicates that compliance is likely to involve additional factors beyond those examined in this study.

The practical implication is not to replace supervision with motivation-based interventions, but to integrate motivational initiatives with effective supervision, technical competence, safety communication, and supportive organizational conditions. Such an approach is consistent with established research emphasizing the combined importance of individual and situational factors in workplace safety (Griffin & Neal, 2000; Christian et al., 2009; Vinodkumar & Bhasi, 2010). Further research should examine these factors jointly and evaluate whether targeted interventions produce measurable improvements in compliance with OSH procedures.

CONCLUSION

This study concluded that work supervision was not statistically significantly associated with workers' compliance with Occupational Safety and Health (OSH) procedures at PT PLN Nusa Daya Gorontalo Service Unit (\(p = 0.185\); \(r = 0.142\); \(R^2 = 0.020\)). In contrast, safety motivation demonstrated a weak but statistically significant positive association with workers' compliance (\(p = 0.041\); \(r = 0.217\); \(R^2 = 0.047\)). These findings indicate that safety motivation is a relevant factor in understanding compliance with OSH procedures, although its explanatory contribution was limited. Therefore, the company should consider strengthening safety motivation through regular OSH training, pre-work safety briefings, effective safety communication, and initiatives that promote a consistent safety culture. Work supervision should also be maintained and evaluated through measurable indicators to ensure the consistent implementation of safety procedures. Further research involving additional variables, larger populations across multiple service units, and longitudinal designs is recommended to provide a more comprehensive understanding of the factors associated with workers' compliance. Because this study used a cross-sectional design and separate simple linear regression models, the findings should be interpreted as statistical associations rather than evidence of causal relationships.

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