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Does culture matter? driving safety compliance from leadership through safety culture

Apakah budaya penting? Meningkatkan kepatuhan terhadap keselamatan melalui kepemimpinan dan budaya keselamatan

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ABSTRACT
Workplace safety is vital for employee well-being and organizational success, especially in high-risk sectors like Indonesia's energy industry. In Indonesia, the number of workplace accidents increased from 370,747 cases in 2023 to 462,241 in 2024. The energy sector is one of the largest contributors to workplace accidents in Indonesia. Ensuring safety compliance is key, and safety leadership is recognized as a major enabler, though its relationship to compliance is not fully understood. This study examines how safety culture mediates the effect of safety leadership on compliance in high-risk organizations. Using a quantitative cross-sectional design, data were collected from 202 employees of a multinational mining company and analyzed with Hayes' PROCESS Model 4. Instruments were adapted to Indonesian and tested for reliability. Findings show that safety culture partially mediates the relationship between safety leadership and safety compliance. The results highlight the need for organizations to empower leaders to actively promote safety leadership in order to boost compliance with occupational safety standards.

Kata Kunci:
Kepemimpinan; kepatuhan keselamatan kerja; kepemimpinan keselamatan; budaya organisasi; budaya keselamatan.

ABSTRACT
Keselamatan kerja merupakan hal yang vital bagi kesejahteraan karyawan dan keberhasilan organisasi, terutama di sektor berisiko tinggi seperti industri energi di Indonesia. Di Indonesia, jumlah kecelakaan kerja meningkat dari 370.747 kasus pada 2023 menjadi 462.241 pada 2024, dengan sektor energi menjadi salah satu penyumbang terbesar. Memastikan terwujudnya *safety compliance* adalah hal yang sangat krusial, dan kepemimpinan keselamatan disebut sebagai salah satu anteseden utama, meski hubungan keduanya belum sepenuhnya dipahami. Penelitian ini mengkaji bagaimana *safety culture* memediasi pengaruh *safety leadership* terhadap *safety compliance* di organisasi berisiko tinggi. Dengan desain kuantitatif *cross-sectional* dan metode *self-report*, diperoleh data dari 202 karyawan perusahaan tambang multinasional dan dianalisis menggunakan Hayes' PROCESS Model 4. Instrumen penelitian diadaptasi ke dalam bahasa Indonesia dan diuji reliabilitasnya. Hasil penelitian menunjukkan bahwa *safety culture* secara parsial memediasi hubungan antara *safety leadership* dan *safety compliance*. Temuan ini menekankan perlunya organisasi memberdayakan pemimpin untuk secara aktif mendorong kepemimpinan keselamatan guna meningkatkan kepatuhan terhadap standar keselamatan kerja.

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1. INTRODUCTION

Workplace safety is a critical issue across industries, particularly in high-risk sectors such as energy, which account for a substantial share of accidents in Indonesia (Adi, 2024). Globally, work-related accidents and illnesses result in over 2.78 million deaths and 347 million non-fatal injuries each year (International Labour Organization, 2018). In Indonesia, the number of work accidents rose from 370,747 cases in 2023 to 462,241 in 2024, with the majority occurring among wage earners (Kementerian Ketenagakerjaan Republik Indonesia, 2024; Zulfiyandi et al., 2024). These figures underscore the urgent need for effective workplace safety measures to safeguard employee well-being and maintain organizational stability.

Safety behavior is widely recognized as a key indicator of workplace safety (Beus et al., 2016). To promote safe practices, organizations, especially those in high-risk industries, implement regulations, guidelines, and safety standards. Nevertheless, violations, defined as deviations from safety regulations, guidelines, or instructions (Alper & Karsh, 2009), remain a major predictor of workplace injuries and accidents (Leman et al., 2021; Neal & Griffin, 2004). Such deviations occur when individuals fail to comply with established safety standards. Recent findings suggest that non-compliance with safety rules increases safety hazards and contributes directly to accidents (Zhou et al., 2024). This highlights the importance of understanding how organizations can strengthen safety compliance, particularly in high-risk sectors.

Safety compliance refers to an individual's commitment to carrying out core activities that maintain a safe working environment (Griffin & Neal, 2000). Various factors can influence safety compliance, such as management's commitment to occupational safety, which is reflected in efforts to prioritize workplace safety, the ability to enforce safety measures (Voon & Ariff, 2019), furthermore, safety communication, the effectiveness of safety training, and safety knowledge also enhance safety compliance (Isa et al., 2021). In addition, leadership, particularly safety leadership also plays a significant role (Sankar et al., 2024). Leadership is thought to be a crucial role in maintaining organizational stability, including workplace safety (Künzle et al., 2010). Although various factors influence safety compliance, safety leadership plays a pivotal role by coordinating these aspects. Leaders communicate safety priorities, emphasize training, facilitate knowledge sharing, and ensure that safety norms and values become ingrained within the organization (Elosta & Alzubi, 2024; Omidi et al., 2025; Sawhney & Cigularov, 2019). Hence, safety leadership is emphasized because it represents a universal and actionable lever for organizations to strengthen safety compliance.

The role of safety leadership can be carried out by managers at various levels (O'Dea & Flin, 2003). In this study, safety leadership is defined as the process of interaction between leaders and their followers, in which leaders influence their followers to achieve organizational safety goals (T.-C. Wu et al., 2009). The focus here is on safety leadership demonstrated by middle management or operational managers. Leadership at this level involves three main roles: safety interaction, safety informing, and safety decision-making (T.-C. Wu et al., 2010).

Safety interaction refers to providing guidance and input within their authority to ensure the implementation of safety standards. Safety informing emphasizes the effective circulation of information regarding safety standards, both from upper to lower levels and vice versa. Safety decision-making involves executing safety strategies through planning, resource allocation, and improving the effectiveness and efficiency of workplace safety. This reflects the principle that workplace safety should always be a primary consideration in resource allocation, functioning as a deeply embedded organizational value or norm.

One way in which safety leadership promotes compliance with safety standards is by fostering a strong safety culture (Agnew & Fruhen, 2019). Leaders who consistently emphasize the importance of safety and communicate it effectively can shape an organizational culture where workplace safety becomes a top priority (Agnew & Fruhen, 2019; Qabazard & Adivi, 2012).

Previous research related to the impact of safety leadership on safety compliance has found that safety climate plays a role as a mediator (Sankar et al., 2024; T. Wu et al., 2022). However, there has been no research investigating the mediating role of safety culture in this relationship. Safety climate differs from safety culture in terms of stability. Safety climate refers to a snapshot of the current workplace safety conditions within an organization (Singer et al., 2009). This snapshot includes the shared perceptions and attitudes of employees regarding the importance of workplace safety in the organization (Sambandan et al., 2020). Meanwhile, safety culture represents the psychological, situational, and behavior-oriented aspects of workplace safety (Teo & Feng, 2009) that have been internalized, thus being long-term in nature (Singer et al., 2009). Although the two are not the same, safety climate can be said to be a part of safety culture. Safety climate also acts as a catalyst that over time may transform into safety culture through the formation of perceptions and attitudes about workplace safety (Petitta et al., 2017; Teo & Feng, 2009).

The relevance of safety culture can be seen in major disaster cases such as the Deepwater Horizon oil rig explosion tragedy in 2010. This incident resulted in the death of 11 workers and led to the largest oil spill in history. Investigation reports indicated that the incident was also caused by actions that suggested violations of compliance with safety regulations or standards, some of which included the failure to carry out formal risk assessment processes and not conducting comprehensive tests related to materials used in operational activities (Bly, 2011). The failure to establish safety compliance significantly contributed to the occurrence of the incident. This incident serves as an important lesson on how crucial it is to foster a strong safety culture as an effort to prevent major accidents from happening.

This context demonstrates that workplace safety does not solely rely on individual efforts; it is also the result of the interaction of various interrelated elements within the organization. One important element that deserves attention is safety compliance. This compliance is the result of the interaction of various variables related to workplace safety that are thought to be interconnected at both the organizational level, within teamwork, and through psychological

processes within each individual worker (Bisbey et al., 2021). Workplace safety, in the form of individual compliance with safety norms in the work environment, cannot be separated from the ways, goals of the organization, rules, habits, and a set of certain assumptions that prevail within the organization regarding workplace safety, which can be more easily referred to as safety culture.

Therefore, this research aims to deepen the scope of previous research findings in the safety literature by understanding the important role of safety culture in explaining the influence of safety leadership on safety compliance. Additionally, this research further emphasizes the role of safety leadership in shaping not only the safety climate but also the safety culture within organizations. Thus, the results of this research may help organizations better understand the extent to which leadership can improve safety compliance behavior, especially in high-risk industries.

This study utilizes social exchange theory (SET) as its main theoretical base to understand the relationship between safety leadership and safety compliance. Homans (1958) first introduced SET, stating that social relationships are understood as an exchange process in which individuals evaluate the potential benefits and burdens of their interactions. In the organizational context, this exchange includes behaviors and commitments between employees and management that influence safety compliance (Blau, 2017).

SET plays a role in understanding interpersonal relationships within organizations and the reciprocal dynamics between individuals and their social environments (Nickell & Hinsz, 2023). The principle of reciprocity or exchange in SET can be influenced by several factors, one of which is trust (Cao et al., 2022). Safety leadership demonstrates attention and consistent efforts toward the safety of its members. This attention represents a form of support for its followers, which consequently increases trust in the leader (Colquitt & Baer, 2023). This feeling of trust encourages employees to comply with safety protocols and participate in various activities that support workplace safety (Ancarani et al., 2017; Wang et al., 2022). Through the establishment of trust in the reciprocal relationship between leaders and their members, safety leadership can enhance safety compliance among its members. This is consistent with previous studies that have shown that safety leadership can directly contribute to increased safety compliance (Hiep & Hien, 2023; Omidi et al., 2023; T.-C. Wu et al., 2008; Xue et al., 2020).

The study proposes safety culture as a mediator to bridge the relationship between safety leadership and safety compliance. Safety culture as a set of norms, values, beliefs, and practices related to occupational safety that have been internalized by employees and the organization (T.-C. Wu et al., 2009) is expected to explain how leadership may result in compliance towards safety standards among employees. A strong safety culture creates norms that encourage the emergence of behaviors supporting occupational safety. Safety leadership not only provides direction and guidance regarding occupational safety but also shapes and strengthens this safety culture, which in turn leads to increased safety compliance. When leaders demonstrate a genuine commitment to workplace safety, it fosters a culture that prioritizes safety above all else. Previous study has shown a direct relationship between safety leadership and safety compliance, however, this relationship is considered weak (Hiep & Hien, 2023). This is where safety culture plays an important role as a mediator.

By using safety culture as a connecting bridge between related variables, the positive impact on safety compliance becomes more apparent. Without the presence of safety culture, this suboptimal relationship can be understood as a consequence of employees viewing safety regulations as mere formalities. Additionally, a mediator is needed to explore the underlying mechanisms behind the dynamics of the relationships among related variables. Thus, this study proposes the following hypotheses: (H1) safety leadership has a positive direct correlation with safety compliance, and (H2) safety culture significantly mediates the relationship between safety leadership and safety compliance.

2. METHOD

Design

This study used a quantitative non-experimental design. Data were collected cross-sectionally to test the proposed mediation model. This approach allows the identification of the mediating role within the hypothesized pathway between the independent and dependent variables proposed in this study.

Participants

The population of this study consists of employees working in high-risk industries in Indonesia, specifically in the mining sector. The mediation model of this research was tested on a sample of 202 employees from PT X. PT X is one of the largest multinational companies globally, focusing on mining various types of minerals, mainly copper and gold. Mining activities are conducted in both surface and underground mines, using a range of equipment and machinery, from small to large sizes. Therefore, it can be said that PT X is a high-risk industry, which also draws special attention to occupational safety. The sampling technique used in this study is convenience sampling.

Table 1. Participant Demographics

Variables	Category	n	%	Mean (SD)	Min	Max
Age		202	100	38,13	22	66
Gender	Male	166	82,2			
	Female	36	17,8			
Education	Highschool	72	35,6			
	Diploma I/II/III	13	6,4			
	Diploma IV/Bachelor	96	47,5			
	Master	21	10,4			
Tenure	1-5	55	27,2			
	6-10	60	29,7			
	11-15	38	18,8			
	16-20	25	12,4			
	>20	24	11,9			
Employment Status	Contract	86	42,6			
	Permanent	116	57,4			

Demographic information about the research sample is presented in Table 1. The majority of the respondents are male (82.2%). The average age is 38 years. The respondents have varying levels of education, with the majority holding the highest degree at the Diploma IV/Bachelor's Degree level (47.5%). Furthermore, based on tenure, the largest distribution of respondents falls within the range of 6-10 years of work experience (29.7%), while the group with the lowest tenure of 1-5 years constitutes 27.9% of the total sample. Thus, it can be stated that most of the sample has considerable experience, which is over 5 years. Next, the composition of respondents based on employment status is dominated by permanent workers (57.4%).

Instruments

This study employs a quantitative cross-sectional design to test the proposed mediation model. The research variables were measured using psychological scales that had been adapted into Indonesian following standard adaptation procedures (Beaton et al., 2000). Safety compliance was assessed using a scale developed by Griffin and Neal (2000), consisting of four items (e.g., "I ensure the highest levels of safety when I carry out my job"), with a Cronbach's alpha of 0.91.

Safety culture was measured using a scale developed by T.-C. Wu et al. (2010), which comprises three dimensions: emergency response (e.g., "All colleagues understand emergency response plans"), risk perception (e.g., "Colleagues often fall or slip at work"), and employee safety participation (e.g., "Colleagues regularly attend safety training"). The scale includes 12 items, with Cronbach's alpha values of 0.91 for emergency response, 0.87 for risk perception, and 0.79 for employee safety participation. For the overall scale, Cronbach's alpha was 0.84.

Safety leadership was measured using the Operations Manager Safety Leadership Scale developed by T.-C. Wu et al. (2010). This scale includes three dimensions: safety interaction (e.g., "Frequently encourage employees to be safe in their working behavior"), safety informing (e.g., "Frequently reiterate health and safety policy"), and safety decision-making (e.g., "'Safety first' is the principle when allocating resources"). The scale consists of 12 items in total, with Cronbach's alpha values of 0.93 for safety interaction, 0.89 for safety informing, and 0.88 for safety decision-making. For the overall scale, Cronbach's alpha was 0.95. All items were rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Analysis

Descriptive analyses were conducted for the main variables, followed by bivariate correlation analyses to examine the relationships between demographic variables and the primary variables of interest. Hypothesis testing was then performed using Hayes' PROCESS Model 4 mediation technique in SPSS version 25, with 5,000 bootstrap samples. This study received ethical approval from the Ethics Committee of the Faculty of Psychology, Universitas Indonesia, under reference number 176/FPsi.Komite Etik/PDP.04.00/2024.

3. RESULTS

Common Method Bias

Data for each variable was collected simultaneously, and Harman's Single-Factor test was conducted to identify the potential occurrence of common method bias (CMB). An indication of CMB can be seen if a single factor explains more than 50% of the total variance. The analysis results showed that one factor explained 42% of the total variance, which is below the 50% threshold (Table 2). Therefore, it can be stated that the data in this study is free from the influence of CMB.

Table 2. Harman's Single-factor Test

Components	*Extraction sums of squared loadings*		
	Total	*% of variance*	*Cumulative %*
1	13,027	42,023	42,023

Descriptive Analysis and Bivariate Correlation

Table 3 presents an overview of the descriptive statistics alongside the bivariate correlations between the variables. Descriptive statistics showed a mean safety compliance score of 18.5 (SD = 2.2), indicating high occupational safety compliance. The mean safety leadership score was 53.5 (SD = 7.1), and the safety culture score was 51.5 (SD = 6.0), also indicating a strong perception of leadership and safety culture in the workplace.

A correlational analysis explored the relationships between the study's main and demographic variables (Table 3). Safety leadership was positively correlated with safety culture (r = 0.63) and safety compliance (r = 0.77). Safety culture was also positively correlated with safety compliance (r = 0.59). Several demographic factors were correlated with the main variables: age was positively correlated with safety compliance (r = 0.15) and safety leadership (r = 0.14), while education level was negatively correlated with safety culture (r = -0.15). Employment status showed significant positive correlations with safety compliance (r = 0.13), safety leadership (r = 0.53), and safety culture (r = 0.35), indicating that permanent employees may perceive or experience higher levels of safety-related practices.

Table 3. Descriptive Statistics and Bivariate Correlations

No.	Variables	M	SD	1	2	3	4	5	6	7	8
1.	Safety Compli-ance	18.5	2.2								
2.	Safety Leader-ship	53.5	7.1	0.77**							

3.	Safety Culture	51.5	6	0.59**	0.63**					
4.	Gender	n/a	n/a	0.00	0.03	-0.07				
5.	Age	38.1	8.7	0.15*	0.14*	0.06	-0.02			
6.	Education	n/a	n/a	0.05	0.03	-0.15*	0.22**	0.15*		
7.	Tenure	n/a	n/a	0.10	0.12	0.07	0.01	0.71**	0.19**	
8.	Employment Status	n/a	n/a	0.12	0.10	0.02	0.13*	0.53**	0.35**	0.58**

Notes. N = 202. Gender is coded 0 = Male and 1 = Female. Education is coded 1= High School/Equivalent, 2 = Diploma I/II/III, 3 = Diploma IV/Bachelor's Degree, 4 = Master's Degree. Tenure is coded 1 = 1-5 years, 2= 6-10 years, 3 = 11-15 years, 4 = 16-20 years, 5 = >20 years. Employment Status is coded 0 = Contract, 1 = Permanent. *p < 0.05 **p < 0.01.

Hypothesis Testing

The mediation analysis showed that safety leadership significantly predicts safety culture (R^2 = 0.40, p = 0.000). Indicating that 40% of the variance in safety culture is explained by safety leadership. In the combined regression model predicting safety compliance, both safety leadership and safety culture were included as predictors, resulting in a model that explains 61% of the variance in safety compliance (R^2 = 0.61, p = 0.000) as shown in table 4. This means that safety culture plays a part in the mediation model, predicting safety compliance.

Table 4. Effect Size of Mediation Model

Model	Dependent Variable	Predictor(s)	R^2	p Value
Model 1 (a path)	Safety Culture	Safety Leadership	0.40	0.000
Model 2 (b+c' path)	Safety Compliance	Safety Leadership, Safety Culture	0.61	0.000

Table 5 indicated that the direct effect of safety leadership on safety compliance was found to be significant (B = 0.215, SE = 0.018, β = 0.673), with a 95% CI (0.179, 0.251). This indicates a strong positive relationship between both variables, thus H1 is supported. The indirect effect of safety leadership on safety compliance through safety culture is also significant (B = 0.032, SE = 0.013, β = 0.103) with a 95% CI (0.007, 0.058), supporting the second hypothesis (H2). Therefore, based on the results obtained, both hypotheses 1 and 2 are supported. These findings reveal that the influence of safety leadership on safety compliance is mediated through safety culture, marking the presence of a partial mediation role by safety culture. This finding provides empirical evidence supporting the importance of safety leadership in fostering a safety culture at work, which in turn contributes to safety compliance.

Table 5. Mediation Analysis

Effect	*B*	SE	CI 95% (LL, UL)	β
c	0.248	0.014	[0.220, 0.276]	0.776
c'	0.215	0.018	[0.179, 0.251]	0.673
ab	0.032	0.013	[0.007, 0.058]	0.103

Notes. c = Total Effect, c' = Direct Effect, ab = Indirect Effect.

4. DISCUSSION

This study aims to understand the mediating role of safety culture in the relationship between safety leadership and safety compliance using the framework of Social Exchange Theory (SET). The findings of this research indicate that safety culture partially mediates this relationship. This means that safety leadership impacts safety compliance through a complex mechanism of forming a workplace safety culture, as well as providing a direct influence on employee safety compliance. This research found a significant indirect effect from safety leadership to safety compliance. Through safety culture This research confirms and deepens previous findings regarding the role of safety climate in the relationship between safety leadership and safety compliance (Sankar et al., 2024; T. Wu et al., 2022).

Based on the SET framework, the findings of the mediating effect of safety culture reflect the mechanism of safety leadership in influencing safety compliance through the formation of values, norms, and beliefs that are internalized in the workplace. Leaders who provide support and emphasize the importance of workplace safety will create mutually beneficial relationships, fostering a reciprocal dynamic where employees feel valued and, in return, engage more in safety-related behaviors (Kadher et al., 2024; Slil et al., 2025). In line with this, the study also finds that safety leadership influences safety compliance through the establishment of safety culture.

Safety leadership plays a role in shaping a proactive safety culture, which is also essential in enhancing safety compliance within organizations. Leadership that emphasizes workplace safety will increase knowledge about safety, thereby creating a safer work environment (Elosta & Alzubi, 2024). This can be understood since this knowledge has a proximal effect that serves as a concrete guideline on what should or shouldn't be done to achieve desired workplace safety. Through actions such as safety informing, safety interaction, and safety decision-making as components of safety leadership (T.-C. Wu et al., 2010), this leadership builds solid knowledge and instils safety values that are consistently applied, allowing them to be internalized by its members as safety culture.

In addition, the reciprocal effects between leaders and their members as a consequence of the mediating role of safety culture can also be understood because safety culture creates a work environment that encourages open communication. Leadership that is oriented toward

workplace safety will promote open communication and an open attitude toward workplace safety related mistakes or negligence that occurs, creating an environment where members can report errors without feelings of guilt or fear, ultimately strengthening the safety culture (Ancarani et al., 2017). One of the main components that is crucial in forming and maintaining reciprocal relationships in Social Exchange Theory (SET) is trust (Shin et al., 2022). Creating an environment and open communication related to workplace safety will result in strengthening the reciprocal relationship between the support provided by leaders and the safety compliance demonstrated by their members. Furthermore, this will gradually establish a safety culture that will contribute to enhancing the safety compliance of its members.

Notably, this research also confirms the direct role of safety leadership in enhancing safety compliance. This means that to achieve high safety compliance among employees, operational managers need to emphasize their role in a set of activities that constitute safety leadership at the middle level, namely, safety informing, safety interaction, and safety decision-making (T.-C. Wu et al., 2010). Safety informing includes activities to monitor in order to obtain relevant information regarding workplace safety, ensuring that the circulation of the latest safety information is smooth and effective, and presenting themselves as representatives of their department or team to contribute to the formulation of policies or procedures related to workplace safety according to their capacity. Secondly, safety leadership at the middle level must also possess good safety interaction qualities, meaning that operational managers should be directive and communicative leaders in executing safety standards in accordance with their authority. Finally, operational-level managers, as safety leaders, must uphold safety values, making every planning and decision oriented toward improving workplace safety.

Furthermore, the findings of this study indicate that the direct effects are greater than the indirect effects of safety culture. This finding may be attributed to the macro cultural context, specifically the high-power distance in Indonesia. Indonesia is one of the countries with a very high-power distance index in the world (Hofstede et al., 2010). This is relevant because this culture certainly influences the organizational behavior of Indonesian employees. The high-power distance emphasizes a hierarchical structure, making the role of leadership tend to have a significantly direct influence on its members' behavior, such that members are more likely to accept and follow the leader's directions as norms (Blair & Bligh, 2018; Li et al., 2023). In this case, it pertains to compliance with occupational safety standards.

The presence of a high-power distance culture can lead employees to view leadership as an authority figure that must be followed, rather than internalizing norms through safety culture. Consequently, more directive leadership may be favored in cultures with high power distance (Armson et al., 2005). In other words, the regulations regarding occupational safety advocated by safety leadership may be more perceived as a formal structure by its members, so safety compliance behavior does not entirely rely on the internalization of safety culture values. However, it is important to note that safety culture may be more beneficial as a distal factor impacting long-term safety compliance. In a combined model through safety culture, safety leadership explains a notable deal of 61% of the variance in safety compliance. This finding reveals that leadership is able to support the realization of safety compliance, through

the formation of safety culture that results in the internalization of work safety values, and finally fostering safety compliance in the long run.

This study has several limitations that should be noted. First, it only examined safety culture as a single mediator, even though the findings showed a partial mediating role. Other factors may better explain the relationship between safety leadership and safety compliance, and future research is encouraged to explore alternative mediators. Second, the study was limited to a sample from one company, which may restrict the generalizability of the findings. Further studies could include different organizations or sectors to test the consistency of the results. Third, the cross-sectional design prevents a full understanding of changes in the dynamics between the variables, particularly the role of safety culture over time. Longitudinal research is therefore recommended to capture these dynamics more comprehensively.

5. CONCLUSION

This study attempts to investigate the mediating role of safety culture in the direct relationship between safety leadership and safety compliance. Based on the analysis and discussion, it can be concluded that there is a partial mediating role of safety culture in the relationship between safety leadership and safety compliance. This finding suggests that while the direct effect of safety leadership on safety compliance remains stronger, possibly reflecting the influence of high-power distance in Indonesia. This does not diminish the important role of safety culture especially in sustaining long-term safety compliance. This research provides evidence that increased adoption of safety leadership by organizational leaders significantly elevates both employee safety compliance and the development of safety culture. These findings underscore the critical role of leadership in shaping safety outcomes and offer a strategic pathway for organizations seeking sustainable improvements in workplace safety. By prioritizing safety informing, interaction, and decision-making at the leadership level, organizations can drive transformative and lasting change in safety compliance.

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