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The Role of Safety Leadership in Safety Behavior with Safety Climate as a Mediation Variable: A Study on Construction Workers of Alfath Group South Kalimantan (Real Estate Developer)

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A B S T R A C T

The quality of leadership (safety leadership) and organizational climate (safety climate) have a significant impact on organizational performance (safety behavior). Working in an organization with a good climate will stimulate job potential. Safety climate and safety leadership are important issues in construction companies, one of which is the real estate construction company Alfath Group, which has been operating since 2016 in South Kalimantan. The location of the Alfath group project is in Banjarmasin, Banjarbaru and Tanah Laut Regency, South Kalimantan. This study aims to evaluate the role of safety leadership on safety behavior with safety climate as a mediating variable in order to prevent work accidents in order to increase worker productivity. This study is an observational study with an explanatory research approach which was conducted on 100 respondents of Alfath group workers. Data analysis was carried out using the SMART-PLS program. Safety leadership has a significant effect on safety behavior, safety leadership has a significant effect on safety climate, safety climate has a significant effect on safety behavior, and safety climate mediates the influence of safety leadership on safety behavior.

1. Introduction

Work accidents are a concern for the government, company management, and workers. Work accidents have an impact on time, property, and life losses (Lun et al., 2017). Losses from the operational side of the work being disrupted, as well as from the company's image and sanctions that will be given by the government to companies that fail to manage and implement work safety in their companies (Bass, 1985). Improving the occupational safety and health system in the company can increase company profits. Management policy is important considering that it guarantees the safety of workers in carrying out their activities in their respective work environments. The causes of accidents are often caused by unsafe working conditions and unsafe actions. Company management is also required to always carry out job hazard analysis, review work implementation as well as the availability of personal protective equipment.

According to BPJS Employment data, the number of work accidents that occurred during 2020 was 153,044 cases. This is relatively volatile compared to the number of work accidents in the 2019 period at 155,327 cases. This figure is obtained from the

number of claims submitted by workers. The actual number may be more than that. Companies are required to be more serious in implementing occupational safety and health. With good safety leadership and a safe climate, the number of work accidents can be reduced and can increase the productivity of the company/organization. The number of work accident cases at Alfath Group companies (real estate developers) increased from 2019-2020. The highest number of incidents was in first aid cases, from 40 cases to 70 cases in the following year. First aid includes minor/minor work accidents that often occur in the company's work environment, such as hands hit by a hammer, injuries caused by sharp objects, being hit, and falling, which can still be handled directly by the workers/medical team available at the company. The case of lost time injury is a work accident incident that causes a loss of work time for the worker who is the victim. In the span of 2019-2020, there was a decrease in the number of lost time injury incidents. Cases of lost time injuries that often occur in the Alfath Group work environment are being pinched and falling during the work process at heights.

Leadership quality (safety leadership) and organizational climate (safety climate) have a significant impact on organizational performance (safety behavior). Working in an organization with a good climate will stimulate job potential. On the other hand, workers will be under pressure if they work in an unsupportive organizational climate. The main reason why the work safety climate of an organization can influence the behavior of workers is the effect of group behavioral norms, namely the result of the interaction between the organization and workers. This shows that the organizational climate is built through the interaction of organizational factors and individual factors. Safety climate and safety leadership are important issues in construction companies, one of which is the real estate construction company Alfath Group, which has been operating since 2016 in South Kalimantan. The location of the Alfath group project is in Banjarmasin, Banjarbaru and Tanah Laut Regency, South Kalimantan. This study aims to evaluate the role of safety leadership on safety behavior with safety climate as a mediating variable in order to prevent work accidents in order to increase worker productivity.

2. Literature Review

Safety behavior plays an important role in creating a safe work environment. There are several considerations of previous research results regarding factors that influence safety behavior, including (Clarke, 2013) saying that safety behavior is influenced by leadership (leadership) and safety climate. The role of Safety Leadership in creating a good Safety Climate will produce output in the form of good Safety Behavior in the company or work environment. Research (Jiang et al., 2013) states that Safety Behavior is influenced by Safety Climate, where Safety Compliance and Safety Participants are indicators. Safety Compliance is the core activity of workers to comply with their responsibilities in every work in accordance with work safety regulations that have been set by the company/organization. Overall (Griffin et al., 2000) states that safety compliance is the effort of workers in carrying out work procedures in accordance with work safety rules in the company.

There are two component indicators to be able to measure the influence of Safety Behavior on an organization's work environment, namely based on Task Performance and Contextual Performance. Task Performance is the involvement of workers in complying with safety rules directly, while Contextual Performance is the participation of workers in activities and attitudes that support the organization's success in working safely. For example, getting used to doing good examples related to work safety in public when working to provide promotions to colleagues to keep working safely (Clarke, 2013; Ismail, 2015).

Safety leadership can be measured using 3 indicators used by (Wu et al., 2008) as follows: 1. Safety caring is a form of transformational leadership, where a leader gives his attention actively to contribute to the progress of the organization. Safety caring is manifested in the form of caring, attention to personal and problems faced by workers in an organization. Leaders are required to have a safe, caring spirit to help listen and find a way out of a worker's problem in the application of a workplace safety system. 2. Safety coaching is a step to direct individuals and organizations towards targets or plans to be achieved. In this case, the organization provides coaching facilities to every employee who is directly involved in the company's organizational activities. Coaching is effective in solving an obstacle/problem faced by workers in an organization. Leaders with competence can do coaching and ask questions that will lead workers to be able to find solutions to an existing problem. This is very important and good if it can be applied consistently so that workers feel involved in any work safety problem-solving within an organization. 3. Safety controlling is an individual/organizational effort in controlling the successful implementation of the occupational health and safety management system in the company. This also leads to the achievement of safety behavior in an organization. Control is carried out by leaders in an organization to make evaluations of continuous improvement in an organization. Safety control becomes the material for evaluation and reference in making policies in the future (Choudry et al., 2008).

Safety climate can be measured using 3 indicators used by (Jiang et al., 2013), namely: 1. Safety Training is a form of the program from the organization to provide training that can later have an impact on organizational performance. The training is expected to be a role model for workers in doing work safely according to the organization's workplace safety standards. 2. Management commitment and communication, where companies are required to have good commitment and communication. This is intended to be able to provide a dynamic and focused organizational culture in achieving the company's safety performance. 3. Safety equipment and maintenance, where an organization with a good safety management system is supported by complete safety and health equipment such as personal protective equipment such as helmets, safety shoes, google glass, and gloves. Organizations are also required to take care of work units that have the potential to be dangerous when used (Christian et al., 2009).

3. Methods

This research is an observational study with an explanatory research approach that aims to explain the relationship between research variables through hypothesis testing. In this case, the variables studied are Safety Leadership (X) and Safety Climate (Z) to the dependent variable Safety Behavior (Y). A total of 100 respondents participated in this study who were project workers who worked >1 year in the Alfath Group (Real Estate Developer) company. The data processing technique of the questionnaire results uses a Likert scale to determine the relationship between the Independent Variable Safety Leadership (X), the mediating variable Safety Climate (Z), and the dependent variable Safety Behavior (Y). The Likert scale used is from a range of 1 to 5. This research data collection uses a questionnaire method in the form of a questionnaire filled out by respondents honestly according to how they feel while working at the Alfath Group (Real Estate Developer) company. The questionnaire contains structured and directed statements to obtain factual data on the company's work environment. The analytical method used in this research is a descriptive analysis using SMART-PLS software (Cohen, 1988; Cooper et al., 2006).

4. Results and Discussion

Table 1 shows that all questionnaire items for safety leadership, safety climate, and safety behavior

variables have a higher r-value than the critical r-value. This shows that all questionnaire items on safety leadership, safety climate, and safety behavior variables are valid.

Table 1. The variable validity test

Variable	Item	r_{count}	$r_{critical}$	Information
Safety Leadership	X.1	0,881	0,3	Valid
	X.2	0,943	0,3	Valid
	X.3	0,932	0,3	Valid
	X.4	0,852	0,3	Valid
	X.5	0,944	0,3	Valid
	X.6	0,969	0,3	Valid
	X.7	0,972	0,3	Valid
	X.8	0,882	0,3	Valid
	X.9	0,854	0,3	Valid
	X.10	0,868	0,3	Valid
	X.11	0,889	0,3	Valid
	X.12	0,892	0,3	Valid
	X.13	0,945	0,3	Valid
	X.14	0,941	0,3	Valid
	X.15	0,860	0,3	Valid
	X.16	0,793	0,3	Valid
Safety Climate	Z.1	0,961	0,3	Valid
	Z.2	0,946	0,3	Valid
	Z.3	0,926	0,3	Valid
	Z.4	0,952	0,3	Valid
	Z.5	0,945	0,3	Valid
	Z.6	0,942	0,3	Valid
	Z.7	0,970	0,3	Valid
	Z.8	0,973	0,3	Valid
	Z.9	0,948	0,3	Valid
	Z.10	0,969	0,3	Valid
	Z.11	0,793	0,3	Valid
Safety Behavior	Y.1	0,954	0,3	Valid
	Y.2	0,911	0,3	Valid
	Y.3	0,959	0,3	Valid
	Y.4	0,976	0,3	Valid
	Y.5	0,962	0,3	Valid
	Y.6	0,921	0,3	Valid

Table 2 shows that all questionnaire items on safety leadership, safety climate, and safety behavior variables have values. The reliability index is higher than the critical value. This shows that all questionnaire items for safety leadership, safety climate, and safety behavior variables are reliable.

Table 2. Reliability test results

Variable	Reliability index	Critical value	Information
Safety Leadership	0.983	0.6	Reliable
Safety Climate	0.986	0.6	Reliable
Safety Behavior	0.975	0.6	Reliable

Figure 1 shows that all manifests (observed variables) have a loading factor value greater than 0.70. So the SEM-PLS model is said to have good construct validity.

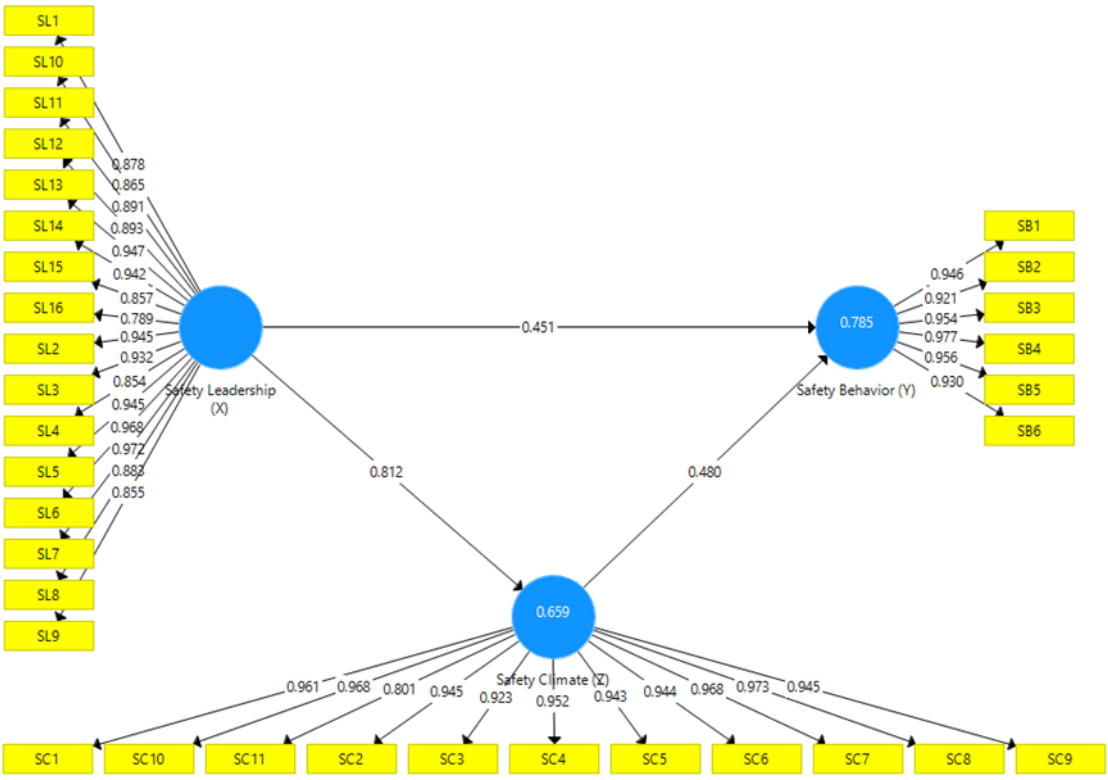

Figure 1. Value of loading factor outer model.

Table 3. Path coefficient and t-count of test variables in the Alfath Group (Real Estate Developer) project environment

	Original Sample (O)	t-Statistic	p-value
Safety leadership towards safety behavior in the Alfath Group (Real Estate Developer) project environment	0.451	4,199	0.000
Safety leadership towards safety climate in the Alfath Group (Real Estate Developer) project environment	0.812	18,035	0.000
Safety climate towards safety behavior in the Alfath Group (Real Estate Developer) project environment	0.480	4,243	0.000
Safety leadership towards safety behavior through a safety climate in the Alfath Group (Real Estate Developer) project environment	0.389	4,336	0.000

Based on the results of the analysis, it is known that safety leadership has a significant effect on safety behavior. This shows that the increase in safety compliance and safety participation which is part of safety behavior is largely determined by the quality of the improvement in safety leadership, such as safety caring, safety coaching, and safety controlling. The better the quality of safety leadership, the better the safety behavior that occurs in members at work. Vice versa, safety behavior will decrease in quality when the leader cannot show his best quality in safety leadership.

A leader who has a level of concern for his members to help listen and find a way out of a problem in the application of a work safety system then is able to provide clear guidance (coaching) to members by leading members to find solutions, and the leader's ability to control the successful implementation of the management system. Occupational safety and health in the company will able to significantly lead to the achievement of safety behavior. This can be seen from the increase in the compliance of members in carrying out an occupational safety and health regulation that has been established by an organization or company where employees work (safety compliance) and the increasing participation of employees in campaigning for a work safety culture and also providing examples. Good in terms of safety (safety participation). The test results in this study are also supported by research (Barling et al., 2002; Lu et al., 2010; Clarke, 2013), where safety leadership has an effect on safety behavior.

Based on the results of the analysis that has been carried out show that safety leadership has a significant effect on the safety climate. This shows that the better the quality of the leader in implementing safety leadership, the better the safety climate that occurs in the organization. On the other hand, if safety leadership is of poor quality, it will have a significant impact on the safety climate. Leaders play an important role in the running of an organization. Leaders with concern for their members by being actively involved in solving member problems, having good coaching skills in giving clear instructions and directions to members, and being able to control the successful implementation of the occupational health and safety management system in the company will be able to significantly shape the perceptions of their

members regarding the importance of implementing occupational safety and health in the company/organization. This can be noticed through serious efforts in the training programs provided by the organization, the creation of a dynamic and focused organizational culture in achieving the company's safety performance, as well as the maintenance of work units that have the potential to be dangerous when used so that work equipment is in good condition, complete and well maintained. This shows that the role of safety leadership is very influential in the formation of a safety climate in organizational operations. The results of this study are also supported by previous research (Du et al., 2012; Fernandez-Muniz et al., 2014), which states that the better the quality of safety leadership, the better the safety climate.

Referring to the results of the calculation of the analysis that has been done, it is known that the safety climate has an effect on safety behavior. This shows that safety behavior in the organization is largely determined by the safety climate, where when the safety climate has poor quality, the safety behavior that members do also has poor quality. Conversely, when the quality of the safety climate in the organization is sought to be improved, the impact that occurs is the better the quality of safety behavior that members of the organization do. Safety climate is a common attitude/perception of employees in the work environment of an organization. The safety climate calls on workers to commit to occupational safety and health, emphasizing that deviation from the company's safety goals at any level is unacceptable. This can be realized by the organization's efforts to establish training programs provided by the organization, the creation of a dynamic and focused organizational culture in achieving company safety performance with the realization of member commitment and good communication from members, as well as maintenance of the units. Work units that have the potential to be dangerous when used so that the work equipment is in a complete and well-maintained condition. All of these things will encourage members to behave more safely, where members of the organization will be more obedient in carrying out occupational safety and health regulation that has been set by an organization or company where employees work (safety compliance), and the higher employee participation in campaigning for a work safety culture and also setting a good example in terms of safety participation. The results of this study are also supported by previous research (Clarke, 2013; Jiang et al., 2013; Ismail, 2015), which states that safety behavior will be created well if the safety climate is also getting better.

Based on the calculation results, it can be seen that a safety climate is proven to mediate the relationship between safety leadership and safety behavior. In other words, good safety leadership will have the quality of caring for the safety and health of its members by being actively involved in problem-solving, providing clear directions and instructions by paying attention to safety and health aspects and having good control skills in controlling the successful implementation of the safety management system. And occupational health in the company will be able to significantly shape the perception of its members regarding the importance of implementing occupational safety and health in the company/organization. This leadership trait will encourage efforts to establish a safety climate, where leaders will encourage organizations to hold quality training programs for the safety and health of members and create good communication between members so that members are more committed to the application of safety and health at work, especially in the field of work, in terms of maintaining organizational tools in order to always provide good performance in their use so that safety and health can be guaranteed. A well-formed safety climate through safety leadership will ultimately have implications for the safety behavior of its members, where members

will behave more and more obediently to the safety and health regulations set by an organization (safety compliance). And employee participation in campaigning for a work safety culture will be higher (safety participation). The results of the analysis are also supported by previous research that safety climate mediates the effect of safety leadership on safety behavior (Hofmann et al., 1999).

5. Conclusion

Safety leadership has an effect on safety behavior in the Alfath Group (Real Estate Developer) project environment. Safety leadership has an effect on the safety climate in the Alfath Group (Real Estate Developer) project environment. Safety climate has an effect on safety behavior in the Alfath Group (Real Estate Developer) project environment. Safety leadership affects safety behavior through the safety climate in the Alfath Group (Real Estate Developer) project environment.

6. References

Barling J, Loughlin C, Kelloway EK. 2002. Development and test of a model linking safety specific transformational leadership and occupational safety. Journal of Applied Psychology, 87(3), 488–96.

Bass BM. 1985. Leadership and performance beyond expectations. New York, NY: Free Press.

Choudhry R, Fang D, Lingard H. 2008. Measuring safety climate of a construction company. Journal of Construction Engineering and Management, 135(9).

Christian MS, Bradley JC, Wallace JC, Burke MJ. 2009. Workplace safety: a meta-analysis of the roles of person and situation factors. Journal of Applied Psychology, 94(5), 1103–27.

Clarke S. 2013. Safety leadership: A meta-analytic review of transformational and transactional leadership styles as antecedents of safety behaviours. Journal of Occupational and Organizational Psychology, 22–49.

Cohen J. 1988. Statistical Power Analysis for the Behavioral Sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Cooper DR, Schindler PS. 2006. Business Research Methods 9th ed. McGraw Hill.

Du X, Sun W. 2012. Research on the relationship between safety leadership and safety climate in coal mines. Procedia Engineering, 45, 214–19.

Fernández-Muñiz B, Montes-Peón JM, Vázquez-Ordás, CJ. 2014. Safety leadership, risk management and safety performance in Spanish firms. Safety Science, 70, 295–307.

Griffin MA, Neal A. 2000. Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. Journal of Occupational Health Psychology, 5(3), 347–58.

Hofmann DA, Morgan FP. 1999. Safety-related behavior as a social exchange: The role of perceived organizational support and leader-member exchange. Journal of Applied Psychology, 84, 286–96.

Ismail UFF. 2015. The impact of safety climate on safety performance in a gold mining company in Ghana. International Journal of Management Excellence, 5(1), 556.

Jiang L, Yu G, Li Y. 2010. Perceived colleagues' safety knowledge behavior and safety performance. Accid Anal Prev, 42(5), 1468-76.

Lu CS, Yang CS. 2010. Safety leadership and safety behavior in container terminal operations. Safety Science, 48(2), 123–34.

Lun CJ, Wahab SRA. 2017. The effects of safety leadership on safety performance in Malaysia. Saudi Journal of Business and Management Studies, 2(1), 12–18.

Wu TC, Chen CH, Li CC. 2008. A correlation among safety leadership, safety climate, and safety performance. Journal of Loss Prevention in the Process Industries, 21(3), 307–18.