Improving Safety Behavior in the Workplace

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Abstract—The aim of this study is to examine and explain the influence of organizational culture and leadership to improve safety behavior in the workplace. This study used explanatory research to find the causal relationship between the variables. The unit of analysis was employee at three electric power company in east java Indonesia. There are a government electric power company and two foreign electric power companies. Sample technique for this study was determined by using the proportionate random sampling method with a total sample of 117 employee. The collecting data technique used questionnaires with a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The findings indicate that the significant effect of organizational culture on safety behavior, while leadership has significant effect on safety behavior. A conducive organizational culture is needed so that employees are involved in the safety program, comply with work safety regulations and apply safety procedures actively. Organizational culture is needed to improve safety behavior because culture reflects the shared beliefs, values, attitudes, and values regarding the goals, functions, and safety procedures in the workplace that characterize the company. The findings suggest that the leader have an important role to improve safety participation, safety compliance and safety action. The leader ability consist of raising employee involvement, persuade to respect the organizational goal in safety, and give reward or punishment for employee performance.

Keywords—organizational culture, transformation leadership, safety behavior, electric power company

I. INTRODUCTION

During the last five years, investment in Indonesia has increased. Investments originate from multinational corporations and individuals. Investors need to encourage Occupational Safety and Health (OSH) compliance, it will be helpful for fulfilment OSH objectives in Indonesia. When investors don't really pay attention to this issue, it will hamper the implementation of the K3 program in Indonesia. The problem is that those kinds of people will work anything without protection. If it happens, OSH violation will happen too. There will increase number of OSH accidents. It means, it will hamper OSH programme in Indonesia The problem is that those kinds of people will work anything without protection. If it happens, OSH violation will happen too. There will increase

number of OSH accidents. It means, it will hamper OSH programme in Indonesia [1].

East Java has a power plant complex with a hydrogen plant in Probolinggo. This plant invest by Multinational Company and National Company in Energy. The complex consists of a government electric power company and two foreign electric power companies. Workplaces in all three companies have a high risk of work accidents. So that all employees need to behave properly in maintaining safety at work. In the three companies there are still work accidents caused by negligence behavior in maintaining safety.

Workers tend to finish their job fast by neglecting safety instructions. They have the tendency to bypass safety interlocks when high output is demanded. This output-oriented culture has caused the workers' intention to ignore safety procedures. The situation has become worse when there are increasing numbers of foreign workers in the company [2].

Based on the condition of the number of work accident cases in Indonesia, as well as the conditions in the three power plant companies in East Java, it is necessary to examine their relationship with the work safety culture in the company because there is substantive evidence that shows safe work behavior is supported by a safety culture and organizational culture [3,4].

Culture is a determinant factor in individual behavior, including safety behavior. Schein formulates an organizational culture model, where basic assumptions shape values and values shape practices and behaviors, which are part of the cultural form [5]. Although there may be a tendency for employees to adopt the same dress style, manner of behavior, and perception of how they should carry out functions. But beliefs, attitudes and values about the organization, function or purpose can vary from one individual to another or not all members of the organization respond in the same way in certain situations. Therefore, although an organization may have a culture that dominates, there may be some variation in the way in which the theme is expressed throughout the organization.

The problem of understanding and discipline becomes a challenge for managers to ensure safety procedures are followed. In addition, the commitment and ability of the leader

is also important for safety compliance. The results of previous studies indicate that safety performance and safety behavior were influenced by leadership [6-8]. Bulazar state on his research the role of leadership is correlated with safety compliance. The role of the leader becomes important and is able to influence individual behavior in the organization [2].

Bass explains that transformational leadership has three main characteristics. First, raising involvement. Transformational leaders increase their employees' involvement of the importance of duties and the value of safety. Second, respecting organizational goals above one's own interests. The main purpose of the organization is safe work, employees will also respect this goal. Third, they prioritize the high level needs of subordinates [9]. The leader with a commitment to work safety can be a figure who gives direction and examples to subordinates to work according to the rules and culture that has been applied by the company so that it will create awareness from all parties about the importance of safety in the workplace.

Based on the explanation above, the objectives of this study are: 1. to examine and explain the influence of organizational culture on safety behavior at work, 2. to examine and explain the influence of leadership on safety behavior at work.

This paper is organized as follows, Section I contains the introduction of this study, Section II contain the related work of the study, Section III contain the some measures of method. Section IV describe result and discussion. Section V concludes research work with future directions.

II. RELATED WORK

Research in the areas of organizational culture and work performance was used to develop a framework for measuring perceptions of safety in the workplace [10]. The framework distinguished perceptions of the work environment from perceptions of performance related to safety. Safety participation, safety compliance, and safety action were distinguished as separate components of safety behavior and safety-related performance. Perceptions of knowledge about safety and motivation to perform safely influenced individual reports of safety performance and also mediated the link between safety culture and safety behavior.

Organizational culture reflects the beliefs, attitudes, and shared values regarding the goals, functions, and procedures of the organization that are considered to be characteristic of a particular organization. The relationship between organisational culture and safety behavior also studied by to Cooper [11], organisational culture is a concept often used to describe shared corporate values that affect and influence members' attitudes and behaviours. Safety culture is a sub-facet of organisational culture, which is thought to affect members' attitudes and behaviour in relation to an organisation's ongoing health and safety performance.

Furthermore, improvement of safety behavior need the role of leader. Abundant previous research shows that leaders play a

key role in influencing health and safety outcomes in the workplace. Leadership represents the antecedents of safety performance, which include safety behavior. Employees who feel a high quality relationship with their superiors are more likely to raise safety concerns and are more committed to safety in their workplaces, which in turn contributes less in a work accident [12].

The reason for choosing the transformational leadership style as an important leadership style is that increasing employee participation, awareness and actions for safety requires persuasion, involvement, and innovation. To make changes and suggest improvements related to safety are all part of safety participation and this can be achieved by those who need a modified portfolio because of company characteristics transformational leader. Toderi found that is important to note that the relationship between transformational leadership and safety climate is considerably stronger than the relationship between passive leadership and safety climate [12]. Clark found that transformational leadership had a positive association with both perceived safety climate and safety participation, with perceived safety climate partially mediating the effect of leadership on safety participation [3]. Bulazar show the impact of leader behavior on innovation as well as the ability of leaders to create innovative climate in organizations. [2]. That is important to use a transformational style to improve organizational safety practices with useful advice. Maybe these suggestions will be related to innovative ideas.

Based on the explanation above, formulation of hypothesis are:

Hypothesis 1: Organizational culture has an effect on safety behaviour in the workplace.

Hypothesis 2: Leadership has an effect on safety behaviour in the workplace.

III. METHODOLOGY

This study used explanatory research to find the causal relationship between the variables. The unit of analysis was employee at three electric power company in east java Indonesia. Sample technique for this study was determined by using the proportionate random sampling method with a total sample of 117 employee from three electric power plant in Probolinggo east java. The collecting data technique used questionnaires and interviews at 2017. Respondents were required to indicate agreement with the importance of each statement on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaires were pre-tested and revised. Questions in the questionnaire were based on previous studies and discussions with a number of experts. 27 items from 3 variables were selected for the questionnaire. Data analyzed by partial linear regression.

IV. RESULTS AND DISCUSSION

A. Results

Table 1 presents descriptive and mean for the organizational culture items with the range of mean between 4,13 until 4,22. The response that has the highest mean is performance orientation. Believe about performance is a factor that is highly valued by employees. This can be a positive thing for employees to maintain their behavior in order to be safe in carrying out tasks because they have to finish work with high performance.

TABLE I.   DESCRIPTIVE STATISTIC OF ORGANIZATIONAL CULTURE

Variable	Item	Mean
Organizational Culture	Power Distance	4,17
	Uncertainty Avoidance	4,17
	In group Collectivism	4,15
	Institutional Collectivism	4,13
	Gender Egalitarianism	4,18
	Future Orientation	4,21
	Human Orientation	4,16
	Performance Orientation	4,22
	Assertiveness	4,11

Table 2 presents descriptive and mean for the leadership behaviour items with the range of mean between 3,95 until 4,22. The mean of indicator of using emotional language from the leader is still considered moderate. Even though this is an important factor because in order to become a leader figure who can transform employee behavior, emotional control is needed, including good language.

TABLE II.   DESCRIPTIVE STATISTIC OF ORGANIZATIONAL CULTURE

Variable	Item	Mean
Leadership	Persuasion using logical argument	4,17
	Persuasion using factual evidence	4,03
	Involving subordinates in decision-making	4,11
	Involving subordinates in problem solving	4,15
	Using co-workers to create pressure to comply	4,22
	Using co-workers to enhance effectiveness	4,08
	Using emotional language to emphasise	3,95
	Using intensive communication to arouse enthusiasm	4,05

Table 3 presents descriptive and mean for the safety behaviour items with the range of mean between 3,90 until 4,21. Contribution to the safety program and participation in work safety social media are still moderate. It needs to be improved through the leadership role.

TABLE III.   DESCRIPTIVE STATISTIC OF SAFETY BEHAVIOR

Variable	Item	Mean
Safety Behavior	Participation in safety program	4,06
	Attend the meeting of safety program	4,01
	Contribute to the safety program	3,96
	Involve in the safety campaign	4,09
	Appreciate colleagues who get safety awards	4.03
	Remind each other to obey safety rules	4,01
	Participate in work safety social media	3,90
	Join the training safety program	4.21
	Apply knowledge of safety training results	4.09
	Use safety equipment for each duty	4,11

Table 4 reports linear regression analysis for hypothesis testing. The effect of organizational culture and Leadership toward Safety Behavior.

TABLE IV.   HYPOTHESIS TESTING

Hypothesis	Relationship	B	p-value
H1	*Organizational Culture -> Safety Behavior*	0,322	0,000
H2	*Leadership -> Safety Behavior*	0,356	0,000

Table 3 show that: (1) Organizational culture has significant effect on safety behaviour in the workplace, (p=0,000) (2) Leadership has significant effect on safety behaviour in the workplace, (p=0,000).

B. Discussion

The results of the first hypothesis test indicate that organizational culture variables significantly influence the safety behavior variable. These results indicate that organizations with a good work safety culture will support the realization of safe and healthy work behavior. The results of this study are in line with Clarke states that there is substantive evidence that safe work behavior is supported by safety culture. [3]. Furthermore, previous research conducted by Ong and Lim illustrates that organizational culture will help in achieving good performance and safety [4]. In addition, research conducted by Cooper states that work safety is related to the culture of the organization [11]. So it is clear that work safety behavior is influenced by the organizational culture. Organizational culture has an important role for the creation of work safety behavior, in addition to individual awareness of safety at work.

Employees need to be involved in the safety program. Contributions made by employees in safety programs still need to be increased, for example: identifying hazards, cutting shortcuts, praising safe actions, and training others about safety at work. Beliefs, values, attitudes and shared values regarding the objectives of the safety program need to be disseminated to employees and become guidelines for their behavior. Employees must comply with safety procedures for themselves and others at work. The organization needs to control the safety culture in this workplace so that is become hallmark of the company.

One definite effort to realize safety conditions and improve safety behavior in the work environment is to create habits, written and unwritten rules so that it becomes a culture. This research proves the importance of: power distance, uncertainty avoidance, in-group collectivism, institutional collectivism, gender egalitarianism, future orientation, human orientation, performance orientation, and assertiveness.

The findings from the second hypothesis indicate that the leadership variable significantly influences the safety behavior variable. These results indicate that the leader has a role and responsibility for the safety behavior of his subordinates by providing direction and examples in implementing occupational safety and health. The results of this study are in line with Nurjannah's finding the realization of a work safety culture is inseparable from the role of the leader [13]. In addition, the study of Shen et al., show that a leader with a transformational leadership style is able to encourage the creation of a safety climate by voicing, and repeatedly reminding about the importance of security in the workplace. [8]. Whereas Bulazar show the results of the leadership role is highly correlated with safety compliance [2]. The results of this hypothesis test illustrate that in order to improve work safety behaviors a leader who is able to provide encouragement so that work safety can be carried out optimally. The ability of transformational leaders also needs to be improved in order to motivate employee and fulfill the company challenges.

Hoffman and Morgeson examined safety behavior based on the perspective of Social Exchange Theory, the study found that organizational support is important for strengthening employee commitment to safety and will reduce accident rates. [14]. This research finds the importance of the role of leadership and culture in strengthening safety behavior. leadership and organizational culture are part of organizational support. In further research, it is suggested to expand other organizational support factors needed to develop safety behavior so that it can reduce the level of work accidents.

Lyu, et al. providing empirical evidence of the mechanisms by which safety climate affects safety behaviors and outcomes [15]. This study supports the results of research that provides empirical evidence that there are factors that influence safety behavior that comes from organizational climate factors.

Corcoles et al examined the safety of nuclear plant workers, they suggest that leader empowerment behavior results in higher safety compliance behavior and higher safety participation behavior by team members, whereas risk behavior is reduced. This study supports the results of the research by Corcoles et al. that the role of the leader is very important to motivate employees to comply with safety regulations in energy plants [15].

Considering good safety behavior is very important to avoid work accidents. Based on the result of this study, transformational leadership requires leaders who are able to persuade their subordinates with good emotional control and use appropriate language to improve safety behavior of their employee. Thus, the ability of transformational leaders in terms of language and emotional control needs to be improved to motivate employees to meet the challenges of the company in the future.

V. CONCLUSION AND FUTURE SCOPE

Based on the results of testing the hypothesis and the explanation of this study, there are two conclusions as follows:

1) Organizational culture has a significant effect on safety behaviour in the workplace. A conducive organizational culture includes power distance, uncertainty avoidance, collectivism, egalitarianism, human and performance orientation, and assertiveness will be able to increase participation, awareness, action and compliance with work safety regulations. And participation in implementing work safety programs.

2) Leadership has a significant effect on safety behaviour in the workplace. The ability of transformation leader in coalition, involving subordinate, persuasion, and give inspiration for employee can improve employee safety behaviour in the workplace.

Future studies need to examine how different leadership behaviors interact in predicting safety behavior in an integrative model, which leads to a more accurate understanding of safety dynamics. Future Scope for improvement of studies in safety behavior are including individual variables and expanding organizational support variables such as individual characteristics, personality, reward and punishment, communication, work infrastructure, and work environment.

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