

# The Effect of Safety-Specific Transformational Leadership and Safety-Specific Passive Leadership on Safety Behaviors Mediated by Safety Climate

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## ABSTRACT

One of the main causes of work accidents is due to a lack of understanding of the importance of occupational safety and health in industry and society. It is known that the rate of work accidents in the industrialized countries of Indonesia is still in the high category. In this regard, creating a safe and healthy work environment is very important. Because occupational health and safety has the aim of maintaining health and safety in the company's work environment. This study aims to determine the effect of Safety-specific Transformational Leadership and Safety-specific Passive Leadership on Safety Behavior by using the Safety Climate mediation variable at PT. Petrokimia Kayaku Gresik. Objects in this study were employees of the Factory I PT. Petrokimia Kayaku Gresik. The sample used in this study were 40 respondents using the sampling method based on a certain area, namely making one unit as the research sample. Researchers get respondents' answers by distributing questionnaires to employees who are in the Factory Granule Unit I. In addition, this study uses a quantitative approach with Partial Least Square (PLS) analysis tools with the SmartPLS 3.0 application.

**Keywords:** Safety-specific Transformational Leadership, Safety-specific Passive Leadership, Safety Climate, Safety Behavior, Corporate sustainability, Safe Work Environment

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## INTRODUCTION

When performing tasks, safety is paramount. To avoid injury and death, workplaces must adopt established safety procedures and tactics, such as wearing appropriate personal protective equipment, avoiding unsafe behavior and mistakes, and must participate in additional safety-oriented role behavior to protect working personnel (Smith *et al.*, 2016). That way, companies are required to increase awareness of the importance of implementing occupational safety and health in the company. Furthermore, it will also influence the company to keep running well in achieving a sustainable company.

In general, the term safety performance refers to organizational metrics for safety outcomes, or it may refer to metrics for individual safety behaviors that pay attention to the consequences of accidents and predict accidents (Shen *et al.*, 2017). Safety behavior is known to be one of the components of safety performance (Adi *et al.*, 2020). That way, safety behavior will be closely related to individual behavior related to safety (Lee *et al.*, 2019). Safety behavior will refer to beliefs and attitudes about the importance of work safety, and these problems will be closely related to the study of the work safety climate and safety culture (Adi *et al.*, 2020). Increased attention to occupational safety and health in high-risk organizations is important to note. To prevent accidents and injuries, workers' safety behavior must be ensured, especially if there is a positive perception of the safety climate (Shi, 2020). Responsible safety practice is defined as the ability of employees to understand the key factors in the environment and take appropriate action when a hazard occurs.

The perceived priority related to improving safety will also lead to the perception of the level of *climate safety* and increased *safety behavior* of employees (Mullen *et al.*, 2017). The *safety climate* is defined as workers' perceptions of the work environment in their workplace (Adi *et al.*, 2020). According to Mirza & Isha, (2017) the *safety climate* is stated as a summary of perceptions in exemplifying the fact that the roots are in physical action, which can be seen by employees of an organization which employees share with regard to safety in the workplace. He *et al.*, (2019) also use the term "climate safety" to describe employees' perceptions of their safety role in the organization. Thus, a safety climate is considered to be important for companies because it reflects the views and behavior of employees regarding their work environment to prioritize safety.

Leaders can greatly influence employee behavior in an organization. Because leadership describes the relationship between leader and followers and describes how a leader directs and determines the extent to which followers achieve goals (Wibowo *et al.*, 2015). Therefore, leadership is an important factor for organizations to consider when determining how to actively change safety behavior (Johnson, 2019). In addition, it is the organization that will have high control over who is the leader of the organization and the training they will receive. This provides the opportunity for organizations to shape their leaders to their liking compared to relatively lenient options (such as a safety climate). Safety-specific transformational leadership emphasizes the positive effects expressed by the majority of studies interested in leadership as an antecedent of safety outcomes in the

workplace (Toderi *et al.*, 2016). The adoption of safety-specific transformational leadership strategies and tactics by leaders can also assist companies by promoting safety and improving safety behavior outcomes for followers (Smith *et al.*, 2016). The strategy will influence in maintaining and / or improving safety compliance behavior and safety participation behavior. Leaders who demonstrate safety-specific transformational behaviors will emphasize and motivate their followers to meet safety standards, rather than adopting assertive behavior to ensure safety in the workplace (Mirza & Isha, 2017). Research suggests that individual leaders may display transformational and passive leadership styles as alternatives (Jiang & Probst, 2016). Thus, it is very important to determine the co-effects of these different forms of supervisor leadership such as safety-specific transformational leadership and safety-specific passive leadership. Safety-specific passive leadership is defined as systematic and repetitive behavior by a leader, manager or supervisor that violates the legitimate interests of the organization by damaging and / or sabotaging tasks, goals, resources, and organizational effectiveness or motivation, welfare or job satisfaction of subordinates (Mirza & Isha, 2017) related to work safety in a company. Safety-specific

passive leadership is also more likely to monitor the behavior of subordinates by waiting for the behavior to cause problems before taking any action (Toderi *et al.*, 2016). So, it can be argued that the safety-specific passive leadership style is different from safety-specific transformational leadership because it does not convey about the need for safety with their followers which also negatively affects safety outcomes and ultimately results in a higher number of injuries in their followers (Mirza & Isha, 2017).

PT. Petrokimia Kayaku Gresik is one of the leading pesticides and biological products companies in Indonesia based in Gresik, East Java, Indonesia. With complete production facilities, an extensive marketing network and reliable human resources, the company is able to develop in the pesticide industry, biological products and other pesticides. Unfortunately, public awareness of the importance of occupational health and safety has not been optimal. This can be seen from the industrial accidents that occur. Work accidents that occur are caused by workers who neglect to use personal protective equipment (PPE). The following is the work accident data of PT. Petrokimia Kayaku Gresik.

**Table 1.** Employee Accident Rate at PT. Petrokimia Kayaku Gresik

Information	2015	2016
Industrial accidents that cause health problems	10	11
Industrial accidents that cause injury	7	25
<b>Total</b>	<b>17</b>	<b>36</b>

Source: PT. Petrokimia Kayaku Gresik

The following types of accidents can be divided into two, namely industrial accidents that cause health problems and industrial accidents that cause injuries. Work accidents that cause health problems include headaches and stomach nausea caused by negligence in the use of personal protective equipment (PPE) in the form of masks, while work accidents that cause injuries include being caught in the hand, splashed in the eye of the product, and traffic accidents. This is known to occur in the workplace and working hours which remain the responsibility of the company.

Based on Republic of Indonesia Law No. 1 of 1970 and Law of the Republic of Indonesia No. 23 of 1992 concerning Occupational Health and Safety, this affects PT. Petrokimia Kayaku to make Occupational Safety and Health as a very important aspect in every work carried out within the company, in order to create a work environment that is safe, healthy and K3 culture. This commitment is reflected in the placement of "Occupational Safety and Health" in the first order of the Company Culture which is called the 5 values, namely (1) Prioritizing occupational safety and health and environmental preservation in every operational activity, (2) Utilizing professionalism to increase customer satisfaction, (3) Increasing innovation to win business, (4) Prioritizing integrity above all things, and (5) Striving to build a synergistic group spirit.

## LITERATURE REVIEW

### Theory Basis

#### *Safety-specific Transformational Leadership*

Transformational leadership leads to studying safety commands because employees who have positive feelings about their leader are more likely to retaliate through positive actions (such as through safety performance) (Johnson, 2019). This is because transformational leaders can encourage additional effort through motivating followers to meet their high-level self-actualization needs. In addition, transformational leadership can bring major changes to followers and organizations, as well as create the ability to drive changes in the strategy, mission, structure and culture of the organization (Mustika *et al.*, 2020). The adoption of safety-specific transformational leadership strategies and tactics by leaders can also assist companies by promoting safety and improving safety behavior outcomes for followers (Smith *et al.*, 2016). The strategy will influence in maintaining and / or improving safety compliance behavior and safety participation behavior. According to Shi, (2020) through a safety perspective, transformational leadership has proven to be a better predictor of safety issues. Leaders with safety-specific transformational leadership reflect the interactions between leaders and subordinates on safety-related issues to facilitate the safety promotion program that the organization needs. Thus, if the leader sets the example and makes a commitment to safety, a positive safety climate and culture can also be created and

influenced well. According to Bass and Avolio quoted by Bastari *et al.*, (2020), transformational leadership has four dimensions called idealized influence, inspirational motivation, intellectual stimulation, and individual consideration. The four components of behavior will be closely related to the best way for leaders to promote safe workplace practices, therefore it is very appropriate and specifically in safety organizations referring to safety-specific transformational leadership (Johnson, 2019). Thus, safety-specific transformational leadership was used for this study, because leaders who prioritize promoting safety have can improve safety outcomes in their respective organizations.

#### **Safety-specific Passive Leadership**

*Safety-specific passive leadership* has been identified as a form of laissez-faire leadership (Smith *et al.*, 2016). Safety-specific passive leadership is defined as systematic and repetitive behavior by a leader, manager or supervisor that violates the legitimate interests of the organization by damaging and / or sabotaging tasks, goals, resources, and organizational effectiveness or motivation, welfare or job satisfaction of subordinates (Mirza & Isha, 2017) related to work safety in a company. Or it could be argued that the leadership style is harmful to followers and the organization as a whole. This leadership approach is stated to sometimes undermine organizational goals because it shows passive indifference about tasks and workers, ignores workers' needs, ignores problems, and has been described as ineffective leadership (Smith *et al.*, 2016). Passive leadership is also known to represent a common pattern of lethargy or inaction on the part of a leader that includes behaviors such as "ignoring workplace problems, avoiding decisions, and failing to model or reinforce appropriate behavior" (Noerchoidah *et al.*, 2020). According to Zohar, (2003) safety-specific passive leadership can give little or no attention to the well-being of followers with regard to safety, because it will result in unproductive safety initiatives, as well as a low perception of safety outcomes. According to Jiang & Probst, (2016) passive leadership is generally considered a less effective style of leadership behavior and is often referred to as "absence of leadership", because passive leadership is concerned with prioritizing productivity over safety which can lead to increased workplace injuries and passive leadership has independent and negative effects. Safety-specific passive leadership is also more likely to monitor the behavior of subordinates by waiting for the behavior to cause problems before taking any action (Toderi *et al.*, 2016). So that it will have a negative effect on safety in the workplace.

#### **Safety Climate**

The *safety climate* is defined as workers' perceptions of the work environment in their workplace (Adi *et al.*, 2020). Climate safety also refers to personal views on policies, procedures and practices related to work safety (Adi *et al.*, 2020). This view may be different if the work environment changes significantly because the safety climate reflects workers' views of safety priorities in relation to other project objectives. Climate safety has been identified as a liaison mechanism in which leader behavior affects health and safety performance (Ajslev *et al.*, 2017). According to Mirza & Isha, (2017) safety climate is stated as a summary of perceptions in exemplifying the fact that its roots are in physical actions, which can be seen by employees of an organization which employees share with regard to workplace safety. Perceptions of climate safety are also known, usually made through organizational policies and

practices, which are carried out by "organizational agents", namely leaders or supervisors. Because climate safety is an antecedent of safety and general method bias that cannot be ruled out (Toderi *et al.*, 2016). Climate safety also shows specific aspects of the organization and reflects shared perceptions about organizational safety procedures, policies and practices based on organizational safety indicators and priorities (Shi, 2020). According to this research, a positive safety climate will refer to the value of safety and trust will be more likely to be integrated into the work life of employees. He *et al.*, (2019) also use the term "climate safety" to describe employees' perceptions of their safety role in the organization. Thus, climate safety is considered as a descriptive measure that reflects the views and behavior of employees regarding their work environment.

#### **Safety Behavior**

*Safety behavior* is one of the components of safety performance (Adi *et al.*, 2020). That way, safety behavior will be closely related to individual behavior related to safety (Lee *et al.*, 2019). Improper safety behavior is known to be the main cause of work accidents. Meanwhile, increasing individual safety behavior can help reduce the occurrence of work accidents (Wang *et al.*, 2018). Safety behavior will refer to beliefs and attitudes about the importance of work safety, and these problems will be closely related to the study of the work safety climate and safety culture (Adi *et al.*, 2020). The conceptualization of safety behavior is related as an interaction between proximal individual differences (e.g., safety motivation and knowledge of safety) and distal contextual factors (e.g., safety climate and leadership) that are in line with contemporary construction accident-causing models and which adopt a systems perspective and incident attributes for complex interactions between proximal factors (eg, unsafe conditions and actions) and distal factors (eg, management commitment and supervisor support) (Shen *et al.*, 2017). Safety behavior is also known to be related to safety compliance and safety participation (Shi, 2020). Safety compliance concerns employees who perform core safety activities to maintain workplace safety, including complying with safety rules and procedures and wearing personal protective equipment (Shen *et al.*, 2017). Whereas safety participation refers to employee behavior that may not directly improve safety in the workplace but can help develop a safe environment, for example, voluntarily participating in safety activities, and also helping colleagues with safety issues (Shen *et al.*, 2017). This dichotomy has implications for safety, because it highlights the need to design different strategies to improve different aspects of safety behavior.

#### **Hypothesis Development**

##### **Safety-specific Transformational Leadership on Safety Behavior**

From a security perspective, transformational leaders have been shown to be able to better predict security problems (Clarke, 2013). Leaders with this leadership style are known to reflect interactions between leaders and subordinates on safety-related issues to promote safety promotion programs (Shi, 2020). In addition, *safety-specific transformational leadership* is known to provide comprehensive information to employees, by informing them that safety is prioritized, supported, valued, and shared, which forms a strong safety behavior (Shi, 2020). Safety-specific transformational leadership also encourages additional effort by motivating followers through meeting their high-level self-actualization needs

related to workplace safety (Johnson, 2019). Thus, transformational leadership is an important component of learning safety commands because employees who have positive feelings about their leader are more likely to retaliate through positive actions, such as through safety behavior (Johnson, 2019). Kayawan values leaders with a safety-specific transformational leadership style because they can model safe behavior, emphasize safety over risk, and these leaders can effectively model safety expectations and also raise concerns about their well-being and safety in the workplace. Smith *et al.*, 2016). When these actions occur well, employees will believe that their leadership is committed to safety, and then retaliate and act in ways that increase safety through safety behaviors. Through leader-employee social interactions, employees observe the behavior of their leaders by interpreting the behavior as a reflection of the priority that the leader places on safety (Mullen *et al.*, 2017). According to Zohar & Polachek, (2014) shows that when a leader communicates safety priorities in daily meetings (characteristics of transformational leadership), it generates employee reports about perceived priorities by experiencing an increase in safety behavior. In addition, according to leader-member exchange (LMX) theory, it can result in fewer incidents or accidents related to workplace safety due to effective social exchanges between leaders and subordinates (Shi, 2020). Safety-specific transformational leadership begins with relationship-oriented leadership including social exchanges with subordinates. When a leader or supervisor shows concern for the welfare of employees and develops high-quality relationships with these employees, a positive perception can be created for management that can be improved, which will encourage employees to carry out safety behavior as reciprocity (Shi, 2020) There is a lot of evidence that supports a positive relationship between transformational leadership and employee safety behavior (Clarke, 2013). In the context of safety leadership, safety-specific transformational leadership has also been shown to improve safety outcomes such as safety behavior (Mullen *et al.*, 2011; Mullen *et al.*, 2017). Thus, this study hypothesizes as follows:

**H1: Safety-specific Transformational Leadership has a significant effect on Safety Behavior**

**Safety-specific Passive Leadership to Safety Behavior**

The literature that has been conducted shows that leaders play a key role in influencing health and safety outcomes in the workplace (Fernández-Muñiz *et al.*, 2014; De Giorgi *et al.*, 2019). Despite the scientific focus on transformational safety leadership, most subordinates also tend to experience passive leadership (rather than transformational leadership during their work lives (Aasland *et al.*, 2010). Research also suggests that individual leaders may display transformational and passive leadership styles as alternatives to Kelloway, & Teed, (2017). Passive leadership is commonplace in organizations as evidenced by an estimate that > 20% of employees often experience passive leadership behavior (Noerchoidah *et al.*, 2020) compared to a more active leadership style. A number of studies have shown that safety-specific passive leadership can have serious negative effects in the workplace regarding safety behavior, which also include decreased job satisfaction and decreased work performance. Passive leadership style features the leader monitoring follower behavior and taking corrective action only after the problem happens, and is a different construction from transformational

leadership specifically for safety empirically because it is negatively correlated with safety behavior (Mirza & Isha, 2017). Safety-specific passive leadership will weaken the positive relationship between safety knowledge and safety motivation which also refers to safety behavior. If leaders do not follow up on or promote safety-related issues, employees who are knowledgeable and motivated may be deterred from enforcing the safety behavior voluntarily (Jiang & Probst, 2016). Without clear performance expectations and feedback from good leaders, employees with safety knowledge and motivation may be less likely to act proactively on these matters. Safety-specific passive leadership is also more likely to monitor the behavior of subordinates by waiting for the behavior to cause problems before taking any action (Toderi *et al.*, 2016). The passive style of leadership is in the form of lower levels of performance, and an increase in the level of psychological stress of employees (Skakon *et al.*, 2010). So that organizations must remain sensitive and ensure that passive leadership does not dominate the workplace because it can lead to serious disasters (Mirza & Isha, 2017), and this will have a negative effect on safety behavior in the workplace. According to Mirza & Isha, (2017) passive leadership style reduces safety behavior in followers and increases injury rates in the workplace. Leaders with a safety-specific passive leadership style tend to wait for an accident and stay out of the situation, which in turn results in a high number of injuries. Thus, this study hypothesizes as follows:

**H2: Safety-specific Passive Leadership has a significant effect on Safety Behavior**

**Safety-specific Transformational Leadership on Safety Behavior mediated by Safety Climate**

Leadership is an important component in organizations that require a high level of trust for all organizational components (Lee *et al.*, 2019). Leadership is known to also contribute to the formation of a safety climate, and is also a prerequisite for achieving favorable safety performance (Lee *et al.*, 2019). There are many leadership theories popularized in literature and practice, and transformational leadership is often contrasted for its effectiveness throughout the workplace (Johnson, 2019). Such leadership is an important factor for organizations to consider when determining how to actively change safety behavior, and can also provide organizations with the opportunity to shape their leaders as they wish, rather than choosing loose options (such as a safety climate) (Johnson, 2019). According to Smith *et al.*, (2016) positive perceptions of safety-specific transformational leadership can be associated with positive perceptions of climate safety, which will be positively associated with the results of safety behavior. Shi's research (2020) also states that the role of transformational leadership and high-quality relationships from a specific safety point of view is identified to predict safety climate, which in turn predicts safety behavior practices. Management must use safety-specific transformational leadership to improve company safety performance (Shen *et al.*, 2017). The key role of safety-specific transformational leadership will be to treat safety as a work value which may be an effective way to improve safety performance and climate safety. To instill this value in employees, the entire management structure must be proactive directly and clearly demonstrate leadership and commitment to safety on a daily basis (Shen *et al.*, 2017). Management must develop a vision for setting company goals, safety standards, and the necessary actions. Safety-specific transformational leadership is



required to be able to determine the safety climate, because from the response, subordinate leaders must identify which procedures, policies, practices and behaviors that will be valued or supported (Shen *et al.*, 2017). The safety climate is used to describe the perceived value of workplace safety, including awareness of protocols, policies, and safety behavior (Lee *et al.*, 2019). Many scholars have found that safety climate is positively correlated with safety behavior (Shen *et al.*, 2017; Lyu *et al.*, 2018). Therefore, a favorable safety climate will be very important to improve employee safety behavior. Safety-specific transformational leadership can improve the safety climate by including the ability to formulate clear and feasible goals and convey concepts and values appropriately (Lee *et al.*, 2019). Safety-specific transformational leadership must value their team's feedback to be able to develop new interpretations, and encourage the application of new methods through safety behaviors to overcome challenges that may occur. That way, leaders can improve the safety climate by showing concern, leading their team towards common goals, providing feedback, and encouraging safety behavior. Martínez-Córcoles *et al.*, (2011) have shown that safety climate mediates the relationship between leadership behavior and employee safety behavior. Meanwhile, according to Smith *et al.*, (2016) safety-specific transformational leadership has a positive impact on the perception of safety climate among employees, which in turn will significantly and positively affect safety behavior. Thus, this study hypothesizes as follows:

**H3: Safety-specific Transformational Leadership has a significant effect on Safety Behavior mediated by Safety Climate**

**Safety-specific Passive Leadership on Safety Behavior mediated by Safety Climate**

In terms of safety, safety-specific passive leadership usually only takes action when a safety-related incident occurs and the safety-related situation reaches its severity (Kelloway *et al.*, 2006). In the context of security management, the strategy is declared invalid because it is passive and related to security, it does not provide any purpose or direction for followers. A conceptual framework that describes the impact of situations and factors related to employees on safety behavior, safety-specific passive leadership classifies safety climate and leadership as related precedents that can determine this safety behavior (Shen *et al.*, 2017). Luria *et al.*, (2008) suggest that safety-specific passive leadership is negatively related to the strength of climate safety. Toderi *et al.*, (2016) also stated that safety-specific passive leadership has a significant effect on safety issues, especially climate safety. Furthermore, it will lead to aspects that can weaken the positive effects of leadership which also lead to a decrease in safety behavior (Shi, 2020). The safety climate reflects the extent to which employees believe that safety is valued in the organization. That way, employees will develop expectations about possible outcomes and affect the safety behavior of these employees (Shen *et al.*, 2017). So that a safety climate that becomes ineffective as a result of safety-specific passive leadership, will reflect weak leadership and negative leader-subordinate relationships. Employees in organizations with passive leadership influence typically experience higher levels of security incidents than normal security incidents. This is due to the failure of leaders to actively promote safety practices and behaviors that reduce the security atmosphere of the organization. Thus, this study hypothesizes as follows:

**H4: Safety-specific Passive Leadership has a significant effect on Safety Behavior mediated by Safety Climate**

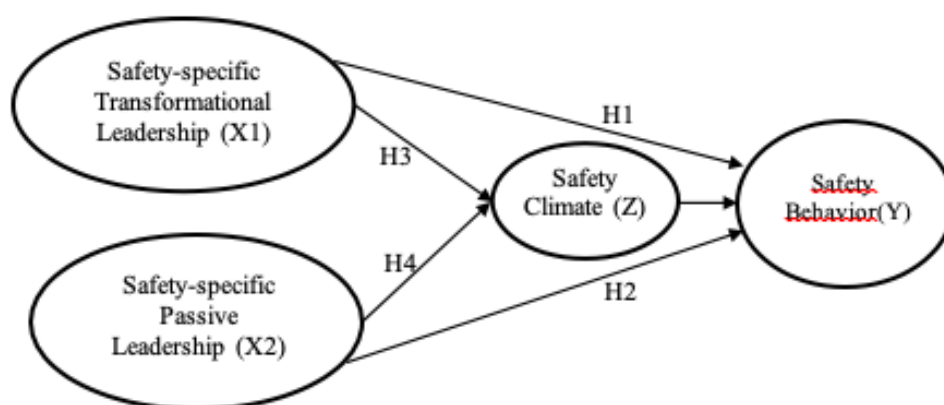


Figure 1. Conceptual Framework

## RESEARCH METHODS

### Research Approach

This research is known to use a quantitative approach by distributing questionnaires and measuring data and testing hypotheses which then draws conclusions. In this study, there are two exogenous variables, namely, exogenous variables (X1) Safety-specific Transformational Leadership and exogenous variables (X2) Safety-specific Passive Leadership. And the dependent variable in this study is safety behavior. While the mediating variable in this study is the safety climate. Measurement of variables in this study used a Likert scale with information from 1 (very low) to 5 (very high).

### Measurement

#### Safety-specific Transformational Leadership

Safety-specific transformational leadership is defined as a leadership style that focuses on work safety and is interpreted by employees of PT. Petrokimia Kayaku Gresik regarding the leadership style used by superiors in the workplace. In this study, safety-specific transformational leadership was measured using 10 indicators by the study of Kelloway *et al.* (2006).

#### Safety-specific Passive Leadership

Safety-specific passive leadership is defined as a leadership style that shows indifference to tasks and workers. The safety-specific passive leadership indicators

in this study are supported by the research of Kelloway *et al.* (2006).

#### **Safety Climate**

The safety climate is defined as a condition created by PT. Petrokimia Kayaku to build a safe situation for workers to avoid work accidents. Safety climate indicators in this study are taken from Hahn & Murphy, (2008).

#### **Safety Behavior**

Safety behavior is defined as actions taken to prevent accidents and injuries. In addition, safety behavior also shows beliefs, values and attitudes towards work safety, where these things are closely related to the work safety culture at PT. Petrokimia Kayaku Gresik. In this study, there are two dimensions of safety behavior, namely, safety compliance and safety participation, where both dimensions have indicators derived from Neal & Griffin, (2006).

#### **Data and Sample Collection Techniques**

The data sources obtained in this study are primary data and secondary data. The population in this study were all employees at PT. Petrokimia Kayaku Gresik with 167 employees. In this study, distributed 57 questionnaires to the employees of the Factory I PT. Petrokimia Kayaku Gresik. Furthermore, the questionnaire received back by the researcher was only 44 questionnaires with four questionnaires that could not be used. So that the questionnaire that returned and could be used amounted to 40 respondents.

#### **Data Analysis Techniques**

This study uses the PLS (Partial Least Square) method to determine the relationship between safety-specific transformational leadership and safety-specific passive leadership on safety behavior mediated by climate safety.

#### **Data Analysis**

The model in PLS is divided into two outer model analysis and inner model analysis.

**Table 2.** Respondent Profile Frequency Distribution

N=40		Frequency	Percentage	Total%
Gender	Male	40	100	100
Age	21-30 years	5	12,5	12,5
	31-40 years	26	65	77,5
	41-50 years	7	17,5	90
	> 50 years	2	5	100
Education	S1	7	17,5	17,5
	D3	2	5	22,5
	SMA	16	40	62,5
	SMK	6	15	77,5
	SMP	9	22,5	100
Years of service	< 10 years	10	25	25
	10-20 years	23	57,5	82,5
	>20 years	7	17,5	100

Note: Based on Table 2 it is known that four demographic variables are coded in the data as Gender, Age, Education and Years of service.

**Table 3.** Convergent Validity

VARIABLES	CODE	FACTOR LOADING			$\alpha$	CR	(AVE)
<b>SAFETY-SPECIFIC TRANSFORMATIONAL LEADERSHIP</b>	TR1	0,888			0,946	0,955	0,681
	TR2	0,702					
	TR3	0,853					
	TR4	0,887					
	TR5	0,804					
	TR6	0,888					
	TR7	0,824					
	TR8	0,908					
	TR9	0,593					
	TR10	0,851					
<b>SAFETY-SPECIFIC PASSIVE LEADERSHIP SAFETY CLIMATE</b>	PS1		0,846		0,876	0,917	0,787
	PS2		0,892				
	PS3		0,922				
	SC1			0,910	0,915	0,936	0,712
	SC2			0,889			
	SC3			0,902			
	SC4			0,585			
	SC5			0,849			
	SC6			0,882			
<b>SAFETY BEHAVIOR</b>	SB1				0,936	0,957	0,966
	SB2				0,931		
	SB3				0,903		
	SB4				0,815		
	SB5				0,915		
	SB6				0,949		

Note: Based on Table 3, shows *TR* (Safety-specific Transformational Leadership), *PS* (Safety-specific Passive Leadership), *SC* (Safety Climate) and *SB* (Safety Behavior). It is known that the results of the Validity Test of this study indicate that all indicators used have met the research requirements, and it is stated that all indicators in this study have an effect on the latent variables. Because these results have met the validity and reliability requirements for research.

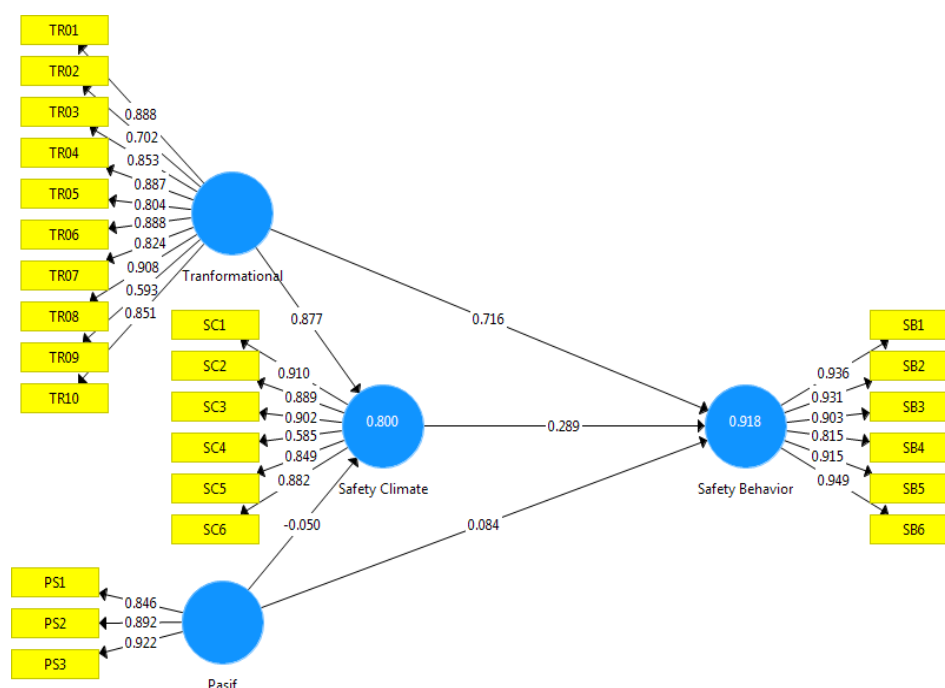


Figure 3. Outer Model

Table 4. Answer Frequency Distribution

Indicator	Information	Mean	Category
<b>Safety-specific Transformational Leadership</b>			
TR1	My boss expresses satisfaction when I do my job safely.	4,18	High
TR2	My boss ensures that we receive appropriate rewards for achieving our workplace safety targets.	3,95	High
TR3	My boss gave me constant encouragement to do my job safely.	4,35	Very high
TR4	My boss showed me determination to maintain a safe work environment.	4,35	Very high
TR5	My boss suggested a new way to do it work more safely.	4,33	Very high
TR6	My boss encouraged me to express my opinion about safety at work.	4,10	High
TR7	My boss talks about the importance of safety at work.	4,33	Very high
TR8	My boss displays a commitment to safety work at work.	4,30	Very high
TR9	My boss spent time showing me the safest way to perform tasks at work.	3,80	High
TR10	My boss will listen to my concerns about safety at work.	4,25	Very high
<b>Average</b>		<b>4,19</b>	<b>High</b>
<b>Safety-specific Passive Leadership</b>			
PS1	My boss avoids making decisions that affect safety at work.	2,73	High enough
PS2	My boss failed to intervene from minor security issues to serious security issues.	2,38	Low
PS3	My boss is waiting for safety issues to occur at work before taking action.	2,05	Low
<b>Average</b>		<b>2,38</b>	<b>Low</b>
<b>Safety Climate</b>			

SC1	Employees are required to learn quickly and follow good occupational health and safety practices.	4,18	High
SC2	Employees are notified by supervisors when they are not following good safety practices.	4,18	High
SC3	Workers and management work together to ensure the safest conditions.	4,25	Very high
SC4	No compromise is taken when the safety of workers is at stake.	3,23	High enough
SC5	Worker safety is a high priority with the management I work for.	4,35	Very high
SC6	I feel free to report security concerns where I work.	4,13	High
<b>Average</b>		<b>4,05</b>	<b>High</b>
<b>Safety Behavior</b>			
SB1	I use all the safety equipment necessary to do my job.	4,23	Very high
SB2	I use the correct safety procedures to carry out my job.	4,28	Very high
SB3	I ensure the highest level of security while doing my job.	4,33	Very high
SB4	I am promoting the safety program in PT. Petrokimia Kayaku Gresik	4,10	High
SB5	I went the extra mile to increase the safety of the place work.	4,28	Very high
SB6	I volunteer to carry out activities to help improve operational safety.	4,25	Very high
<b>Average</b>		<b>4,24</b>	<b>Very high</b>

Note: Based on Table 4, the descriptions of respondents' answers to the Safety-specific Transformational Leadership and Safety Climate variables have a high category, Safety-specific Passive Leadership has a low category, while Safety Behavior has a very high category.

**Table 5.** R-square

Variabel Endogen	R-Square Value
<i>Safety Climate</i>	0,800
<i>Safety Behavior</i>	0,918

Note: Based on Table 5, the R-Square value for the coefficient of determination of the safety climate is 80.0%, thus it can be said that the safety climate can be explained by 80.0% by the variables Safety-specific Transformational Leadership and Safety-specific Passive Leadership, while 20.0% is explained by other variables. The R-Square Safety Behavior value is 0.918, thus it can be said that the Safety Behavior can be explained by 91.8% by the variables of Safety-specific Transformational Leadership, Safety-specific Passive Leadership and Safety Climate. Meanwhile, 8.2% is explained by other variables.

#### **Predictive Relevance (Q<sup>2</sup>)**

*Predictive relevance* is used to measure how well the observation value generated by the model used. The results of the calculation of the Q<sup>2</sup> value are as follows:

$$Q^2 = 1 - (1 - R_{21}) \times (1 - R_{22})$$

$$= 1 - (1 - 0.800) \times (1 - 0.918)$$

$$= 1 - (0.2 \times 0.082)$$

$$= 1 - 0.0164$$

$$= 0.9836$$

Based on the results of the Q-Square calculation above, it can be stated that the model in this study has a predictive relevance value of 0.9836 or 98.36%, this indicates that the analysis model has a good predictive relevance because the value of Q<sup>2</sup> > 0.

**Table 6.** Path Coefficient Results

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics ( O/STDEV )	P Values	Information
<i>Transformational -&gt;Safety Behavior</i>	0.716	0.691	0.113	6.314	0.000	Significant
<i>Transformational -&gt;Safety Climate</i>	0.877	0.874	0.056	15.720	0.000	Significant
<i>Safety Climate -&gt;Safety Behavior</i>	0.289	0.296	0.120	2.400	0.017	Significant
<i>Passive Behavior -&gt;Safety</i>	0.084	0.099	0.074	1.136	0.257	Not significant
<i>Passive Climate -&gt;Safety</i>	-0.050	-0.058	0.093	0.538	0.591	Not significant

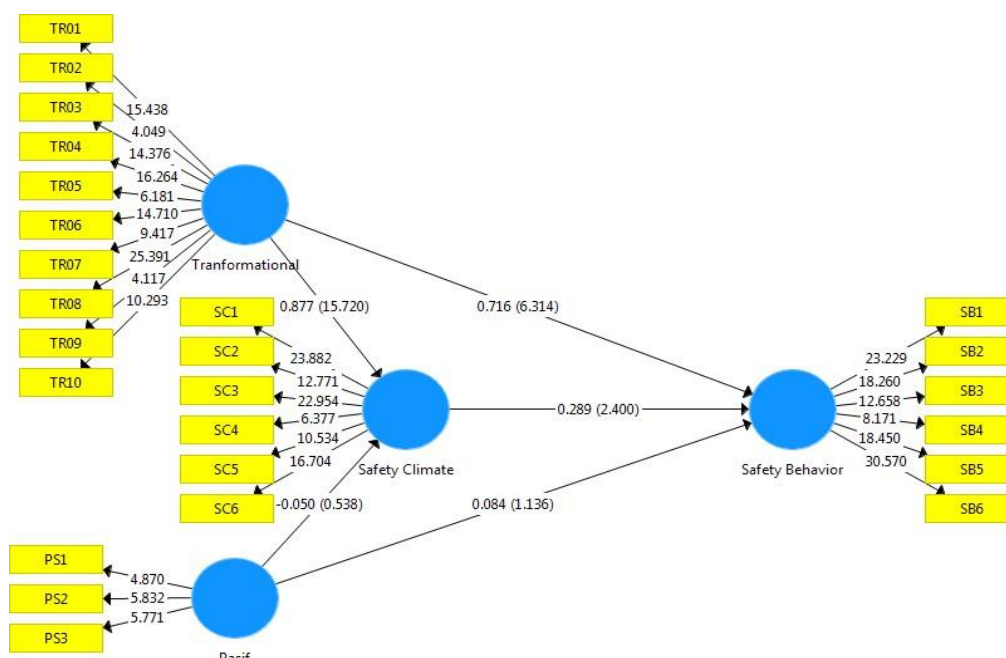


Note: Based on table 6, it is known that the original sample value shows the direction of influence by looking at the positive or negative and the magnitude of the influence of the independent variable on the dependent variable and if t-statistics has a value > 1.96 then the influence of these variables is significant, whereas if < 1, 96 then the influence of these variables is not significant.

**Table 7.** Results of the Specific Indirect Effect

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics ( O/STDEV )	P Values	Information
Transformational -> Safety Climate-> Safety Behavior	0.254	0.258	0.108	2.340	0.020	Significant
Passive-> Safety Climate-> Safety Behavior	-0.014	- 0.017	0.030	0.476	0.634	Not significant

Note: Based on table 7, it is known that the original sample value shows the direction of the influence by looking at the positive or negative and the magnitude of the influence of the independent variable on the dependent variable and if t-statistics has a value > 1.96 then the influence of these variables is significant, whereas if < 1, 96 then the influence of these variables is not significant.



**Figure 3.** Inner Model

## RESULTS AND DISCUSSION

### Safety-specific Transformational Leadership to Safety Behavior

Based on the analysis carried out with partial least square (PLS) software which can be seen in table 6, it is known that the effect of safety-specific transformational leadership on safety behavior is 0.716 with a t-statistics value of 6.314. Based on these results it is known that the value of t-statistics > 1.96, and it can be concluded that safety-specific transformational leadership has a significant effect on safety behavior at PT. Petrokimia Kayaku Gresik. Thus, the first hypothesis (H1) is accepted. This shows that through the safety-specific transformational leadership style carried out by superiors at PT. Petrokimia Kayaku Gresik can improve the safety behavior of employees at PT. Petrokimia Kayaku Gresik. The results of this study are in line with research (Mullen *et al.*, 2011; Mullen *et al.*, 2017; Smith *et al.*, 2016) which states that in the context of safety leadership, safety-

specific transformational leadership has also been shown to improve safety outcomes such as safety. behavior. It is known that safety-specific transformational leadership can encourage additional efforts by motivating employees of PT. Petrokimia Kayaku Gresik through meeting their high level of self-actualization needs related to safety at PT. Petrokimia Kayaku Gresik. Thus, transformational leadership at PT. Petrokimia Kayaku Gresik is an important component for learning safety commands because their employees who have positive feelings about their leader are more likely to retaliate through positive actions, such as through safety behavior. In addition, it is known that the leader at PT. Petrokimia Kayaku Gresik acting in a safety-specific transformational leadership manner can show an interest in safety to their employees, and can encourage employees to develop innovative ways to improve safety practices at PT. Petrokimia Kayaku Gresik.

### ***Safety-specific Passive Leadership to Safety Behavior***

Based on the analysis carried out with partial least square (PLS) software which can be seen in table 6, it is known that the effect of safety-specific passive leadership on safety behavior is 0.084 with a t-statistics value of 1.136. Based on these results it is known that the value of t-statistics <1.96, and it can be concluded that safety-specific passive leadership has an insignificant or no direct effect on safety behavior at PT. Petrokimia Kayaku Gresik. Thus, the second hypothesis (H2) is rejected. This shows that through a superior leadership style in the form of safety-specific passive leadership has no effect on the safety behavior of employees of PT. Petrokimia Kayaku Gresik and not also improve the safety behavior of employees of PT. Petrokimia Kayaku Gresik at work. This is known to be supported by several journals, such as the journal from Mullen *et al.*, (2011) which states that leaders who use a safety-specific passive leadership style have a negative impact on safety behavior, this is because leaders tend to avoid making decisions about safety in place. work so that employees are less likely to comply with safety regulations. The results of this study are in line with (Mullen *et al.*, 2011; Smith *et al.*, 2016; Clarke, 2013) which also has an insignificant effect on safety behavior, and it shows the same thing in the theory above that safety-specific passive leadership has no effect on safety behavior. It can be seen from the observation that the leaders of PT. Petrokimia Kayaku Gresik, through its best efforts related to safety, upholds safety values, and the idea to motivate and support employees well, has fully synergized. This is known to be far from the impression that the leader of PT. Petrokimia Kayaku Gresik uses a passive leadership style, where the leader will ignore the needs of employees, ignore safety values, and do not care about safety-related issues. So it can be stated that the safety behavior of employees of PT. Petrokimia Kayaku Gresik cannot be affected positively or negatively when they are interwoven with a safety-specific passive leadership style of leadership.

### ***Safety-specific Transformational Leadership to Safety Behavior mediated by Safety Climate***

Based on the analysis carried out with partial least square (PLS) software which can be seen in table 6, it is known that the path coefficient value of the effect of safety-specific transformational leadership on safety behavior through safety climate mediation is 0.254 with a t-statistics value of 2.340. Based on these results it can be seen that the t-statistics value of safety-specific transformational leadership on safety behavior through safety climate mediation is > 1.96 which means significant, so it can be concluded that safety climate is able to mediate the effect of safety-specific transformational leadership on safety behavior at PT. Petrokimia Kayaku Gresik significantly. Thus, the third hypothesis (H3) is accepted. This shows that the employees of PT. Petrokimia Kayaku Gresik can improve safety behavior by increasing safety climate and also requires support from leaders who use a safety-specific transformational leadership style. This research is supported by research according to Smith *et al.*, (2016) which states that safety-specific transformational leadership has a positive impact on the perception of safety climate among employees, which in turn significantly and positively affects safety behavior. Safety-specific transformational leadership at PT. Petrokimia Kayaku Gresik is known to have been able to determine the safety climate, because from the responses of subordinate leaders, they have been able to identify which procedures,

policies, practices and behaviors that will be respected or supported. Furthermore, the safety climate at PT. Petrokimia Kayaku Gresik will be used to describe the perceived value of workplace safety, including awareness of protocols, policies, and safety behavior of employees of PT. Petrokimia Kayaku Gresik. So that leaders with safety-specific transformational leadership at PT. Petrokimia Kayaku Gresik can improve the safety climate by showing concern, leading their team towards common goals, providing feedback, and encouraging the safety behavior of PT. Petrokimia Kayaku Gresik.

### ***Safety-specific Passive Leadership on Safety Behavior mediated by Safety Climate***

Based on the analysis carried out with partial least square (PLS) software which can be seen in table 6, it is known that the path coefficient value of the effect of safety-specific passive leadership on safety behavior through safety climate mediation is -0.014 with a t-statistics value of 0.476. Based on these results it can be seen that the value of t-statistics safety-specific passive leadership on safety behavior through mediation of safety climate is <1.96 which means insignificant, so it can be concluded that the safety climate has no mediating effect on safety-specific passive leadership on safety behavior. at PT. Petrokimia Kayaku Gresik. Thus the fourth hypothesis (H4) is rejected. This shows that in practice the leader at PT. Petrokimia Kayaku does not use a safety-specific passive leadership style of leadership in an effort to improve safety behavior through a safety climate in the work environment of its employees. This is also supported by research from Zohar, (2003) which states that passive leadership does not have an impact on climate safety and safety behavior in the workplace. So that the results of this study indicate the employees of PT. Petrokimia Kayaku Gresik in organizations with a passive leadership style of leadership often experiences higher safety-related events. This also turns out to be due to the safety climate at PT. Petrokimia Kayaku Gresik, and the leader of PT. Petrokimia Kayaku Gresik which had failed in its efforts to actively promote safe work practices and behavior in the workplace.

## **CONCLUSIONS AND SUGGESTIONS**

### **Conclusion**

Based on the results of the data analysis that has been done and the results of the research previously described, it can be concluded from this study that the Safety-specific Transformational Leadership has a direct or significant influence on Safety Behavior at PT. Petrokimia Kayaku Gresik, Safety-specific Passive Leadership has no direct or insignificant influence on Safety Behavior at PT. Petrokimia Kayaku Gresik, Safety Climate is able to mediate the effect of Safety-specific Transformational Leadership on Safety Behavior at PT. Petrokimia Kayaku Gresik, and Safety Climate have no mediating effect on Safety-specific Passive Leadership on Safety Behavior at PT. Petrokimia Kayaku Gresik. According to Smith *et al.*, (2016) when performing tasks at work, security is the most important thing. To avoid injury or death, workplaces must adopt established safety procedures and tactics and must participate in additional safety-oriented role behavior to protect working personnel. This research has analyzed and explained the influence of each other through the four variables that have been used (safety-specific transformational leadership, safety-specific passive leadership climate safety, and safety behavior) which aims to create security at PT. Petrokimia Kayaku

Gresik by increasing awareness of the importance of implementing occupational safety and health in the company, and it will also lead the company to keep going well in achieving a sustainable company.

#### Suggestions

Based on the discussion and conclusions described in this study, this study can be used as a recommendation for company management to measure the effect of safety-specific transformational leadership and safety-specific passive leadership on safety behavior mediated by climate safety. It is known that it can influence to facilitate the safety promotion program needed by the organization, avoid negative effects on safety in the workplace, refers to safety values and trust is more likely to be integrated into the work life of employees, and can help reduce the occurrence of work accidents. In this study, there are necessary suggestions, such as imposing sanctions for those who are disobedient with established regulations so that employees are more obedient in carrying out work and working procedures in a safe manner, providing regular training on safe work procedures and providing rewards in order to increase compliance employees in implementing security at work which can also prevent work accidents, and it is also hoped that the company can train employees to make difficult decisions when the leader is not there so that employees can also make decisions when safety problems occur. In addition, it can be seen from the average result of the safety behavior variable of 4.10 that employees promote safety programs within the company. Although the average result is in the high category, it shows the smallest category among other indicators. Thus, employees are expected to always and further promote safety programs to improve the results of safety behavior in maintaining and / or increasing safety compliance behavior and safety participation behavior.

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