

## The Effect of Full Range Leadership and Safety Climate on Safety Performance is Mediated by Safety Motivation

Dewi Shanty<sup>1\*</sup>, Bahtiar Usman<sup>2</sup>, Yanki Hartijasti<sup>3</sup>

<sup>1</sup>STIE Jayakusuma

<sup>2</sup>Universitas Trisakti Jakarta

<sup>3</sup>Universitas Indonesia

Corresponding Author: : Dewi Shanty: [dewishanty8525@gmail.com](mailto:dewishanty8525@gmail.com)

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### ABSTRACT

This study aims to examine the extent to which safety motivation mediates the influence of full range leadership and safety climate on safety performance within the coal mining industry in Indonesia. A quantitative method was employed using cross-sectional and one-shot data techniques through a structured questionnaire distributed via Google Form. Data were processed using AMOS 23 and SPSS 26 software. Safety motivation fully mediates the influence of transformational, transactional, and laissez-faire leadership on safety performance. Safety motivation partially mediates the influence of safety climate on safety performance.

Limitations and Recommendations - Future researchers may consider involving employees from other mining sectors such as nickel, sand, and gold or another industry. Respondents should also include individuals beyond staff-level positions.

Originality/Value - This study investigates the influence of full range leadership and safety climate on safety performance, with safety motivation as a mediator. It presents a novel contribution by not merely replicating previous studies. Moreover, it incorporates both leadership style and safety climate in analyzing safety performance. The object of this study is the coal mining industry in Indonesia.

## INTRODUCTION

Workplace accidents can be caused by various factors including unsafe working environments, inadequate equipment, unclear safety procedures, human error, and natural factors. Workplace accidents in Indonesia remain a serious issue requiring attention from multiple stakeholders.

The consequences of workplace accidents include fatalities, minor or major injuries, job loss, and productivity decline, resulting in financial losses (Nasim et al., 2022). Given these consequences, it is crucial to explore and understand this phenomenon in detail (Nasim et al., 2022). Regardless of a company's quality or productivity, it becomes meaningless if there are issues related to occupational health and safety (Putra et al., 2022). Occupational safety and health (OSH) is capable of identifying hazards, classifying risks, and adapting to changing environments, yet incidents can still occur (Putra et al., 2022).

Unsafe behavior is a primary factor in workplace accidents, driven by low levels of safety behavior (Putri et al., 2022). Frequent workplace accidents negatively impact business sustainability, damage corporate image, and influence consumer perceptions regarding business ethics (Putra et al., 2022). Zohar (1980) proposed that safety performance is a more accurate indicator than accident data.

Safety performance reflects safety practices that workers must perform to prevent accidents (Ansori et al., 2021). According to Neal and Griffin (2006), safety performance consists of two dimensions: safety compliance and safety participation. Safety compliance focuses on core activities that individuals must perform to maintain workplace safety by adhering to existing safety procedures, while safety participation refers to behaviors that indirectly enhance workplace safety and promote a safe working environment.

Leadership influences 45%–65% of organizational success or failure, as it can motivate, inspire, and guide employees in achieving desired goals (Ko & Kang, 2019). Common causes of incidents are not due to hazard identification failure but rather due to poor leadership that fails to enforce relevant standards or regulations (Lundell & Marcham, 2018). Sawhney & Cigularov (2018) stated that one of the most extensively researched and validated leadership theories used in occupational safety and health research is the full range leadership model. This model includes three leadership behaviors: transformational, transactional, and laissez-faire (Bass, 1985).

Employees' safety performance is often predicted by supportive transformational leadership styles within an organization, as safety participation beyond the minimum standard improves workplace safety (Shi, 2021). Transactional leadership is based on the idea of exchange between leaders and followers, depending on fulfilling contractual obligations (Hoffmeister et al., 2014). Laissez-faire leaders typically show no leadership behavior due to reluctance to make decisions or absence when needed (Nasim et al., 2022).

Accident and incident rates are often used as indicators of safety performance (Vinodkumar & Bhasi, 2010). However, major disasters like Piper Alpha and Chernobyl have highlighted the importance of safety climate and

management practices (Vinodkumar & Bhasi, 2010). Griffin and Neal (2000) argued that perceived safety climate is a precursor to safety performance. Thus, safety climate is not only an important predictor of safety behavior affecting outcomes like reduced workplace accidents and injuries, but also enhances productivity, innovation, and organizational change (Griffin & Curcuruto, 2016).

Neal and Griffin (2006) characterized safety motivation as an individual's willingness to exert effort to perform safety behavior and the valence associated with that behavior. Safety motivation refers to employees' intentions to perform their tasks safely, as indicated by their willingness to put effort into completing work tasks safely (Sawhney & Cigularov, 2018).

Transformational leaders play a role in enhancing motivation, understanding, maturity, and self-esteem of followers by providing inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration (Bass & Avolio, 1997). Studies by Gagne et al. (2010), Shen et al. (2017), and Sawhney & Cigularov (2018) found that transformational leadership influences safety motivation. According to Sawhney & Cigularov (2018), transactional leadership - particularly contingent reward and active management by exception - affects safety motivation. However, studies by Kelloway et al. (2006) and Sawhney & Cigularov (2018) found that laissez-faire leadership has no relationship with safety motivation, as laissez-faire leaders show indifference toward performance, employee well-being, and safety issues, resulting in employee frustration and ambiguity about appropriate safety behaviors, ultimately having no impact on safety motivation.

## **LITERATURE REVIEW**

### **Theory of Planned Behavior**

Research on safety motivation as a mediator linking full range leadership, safety climate, and safety performance is grounded in the grand theory of the Theory of Planned Behavior (TPB).

The Theory of Planned Behavior is an extension of the Theory of Reasoned Action (TRA) developed by Ajzen in 1985. The TRA explains that individual behavior is driven by two factors: attitude toward the behavior and subjective norms. The TPB adds a third component: perceived behavioral control, which reflects the individual's perception of the ease or difficulty of performing the behavior (Ajzen, 2005).

The core element of the Theory of Planned Behavior is the individual's intention to perform a specific behavior. Intention is considered a motivational factor influencing behavior and indicates how hard a person is willing to try and how much effort they will exert to perform the behavior. Intention affects performance to the extent that individuals have control over the behavior, and performance increases with perceived behavioral control, assuming the individual is motivated to try (Ajzen, 1991).

This study adopts the Theory of Planned Behavior as its main theoretical foundation because it provides a framework for identifying the mechanisms through which safety leadership affects employees' safety motivation (Sawhney & Cigularov, 2018). In the safety context, safety intention reflects an individual's

motivation to engage in safety performance, serving as a direct antecedent to safety performance (Ajzen, 1991).

TPB also explains the role of safety climate in stimulating employee safety performance (Lee et al., 2019). In workplace safety performance, safety climate acts as a perceptual reference for organizational safety norms, helping employees form consistent perception schemes and expectations regarding the likely outcomes of safety performance (Lee et al., 2019).

### **Self-Determination Theory**

Self-Determination Theory (SDT) posits that individuals are motivated to produce self-directed behavior. When motivation has not yet been internalized, external conditions may be necessary to direct behavioral performance. SDT views motivation as a multidimensional construct and emphasizes the importance of understanding both the level and type of motivation when attempting to explain individual behavior (Ryan & Deci, 2000).

SDT is based on the concept of three basic psychological needs: autonomy (the need to feel free and self-directed), competence (the need to feel effective), and relatedness (the need to feel connected to others), which are essential for growth and development (Legault, 2017).

### **Social Exchange Theory**

Social Exchange Theory suggests that the safety support provided by organizations to employees leads to a sense of obligation and a desire from employees to contribute to the organization's goals (Xia et al., 2023). In the safety literature, SET implies that positive safety attitudes and performance result from reciprocal social exchanges within the organization (Hofmann et al., 2003).

There are two general functions of social exchange: building friendships and establishing superordination over others (Mitchell et al., 2012). Engaging in ongoing social exchange can foster trust, forming close relationships. Social exchange is voluntary and typically occurs as a result of successful prior exchanges (Mitchell et al., 2012).

### **Organizational Support Theory**

Organizational Support Theory (OST) is defined as the belief regarding the extent to which an organization values employee contributions and cares about their well-being (Riggle et al., 2009). Employees form perceptions of organizational support based on their interactions with supervisors, company policies, and organizational culture. High levels of support are associated with increased employee motivation, commitment, and performance.

Individuals tend to reciprocate support they receive; when the organization shows high levels of support, employees feel obliged to respond with positive behaviors (Gouldner, 1960). There is a relationship between leadership and organizational support, where leaders who encourage and support employees can enhance the perceived organizational support.

### **Full Range Leadership**

Full range leadership is designed as a linear approach to leadership style, making leadership more appropriate and effective (Harsoyo, 2022). It is a model that offers several foundational principles to potentially develop broader leadership theories (Antonakis et al., 2003).

According to Bass and Avolio (1980), full range leadership consists of three styles:

- Transformational leaders are those who provide intellectual stimulation, individualized consideration, and charisma (Andi et al., 2022).
- Transactional leadership involves reciprocal relationships based on exchange principles between employer and employee (Andi et al., 2022).
- Laissez-faire leaders believe that the team can perform best with little to no intervention from the leader, except in extraordinary circumstances (Stafford, 2010).

Overall, full range leadership emphasizes that effective leadership does not rely on one style alone but integrates multiple styles to adapt to organizational situations and needs in order to achieve optimal performance.

### **Safety Climate**

Safety climate refers to the extent to which employees perceive safety as a priority in their workplace. It is considered a critical factor in promoting employee behaviors that prevent workplace accidents and foster a safe working environment (Huang et al., 2016).

The purpose of measuring safety climate is to identify opportunities to improve safety performance within the organization (Ansori et al., 2021).

According to Zohar and Luria (2010), the dimensions of safety climate consist of three key managerial practices:

- Declarative Practices, indicating how the organization communicates the importance of safety through formal documentation;
- Active Practices, reflecting management's direct involvement in implementing and overseeing safety standards; and
- Proactive Practices, demonstrating the organization's effort to identify and mitigate potential risks before they become safety issues.

### **Safety Motivation**

Motivation toward a particular goal can only be achieved through learning and engagement. Therefore, managers must actively involve employees in developing safety procedures and provide safety-related knowledge (Andersson et al., 2016).

Safety motivation refers to the willingness of company members to deliver higher levels of safety performance (Probst et al., 2001). According to Neal & Griffin (2006), safety motivation is defined as the individual's willingness to exert effort toward enacting safety performance and the valence associated with such performance.

### **Safety Performance**

Safety performance refers to a series of activities carried out by the workforce on-site when performing tasks or responsibilities related to safety (Li et al., 2018). Safety performance is a crucial aspect of occupational safety (Ansori et al., 2021). Safety performance can be improved by modifying its influencing factors, which include individual (person-related) and organizational (situation-related) factors. Individual factors consist of safety motivation and safety knowledge, while organizational factors include the safety climate (Ansori et al., 2021).

Neal and Griffin (2000) identified two categories of safety performance:

- **Safety compliance**, which refers to individuals' behavior in complying with workplace safety rules and maintaining a safe work environment (Lu & Yang, 2010), and
- **Safety participation**, which refers to behaviors that do not directly improve workplace safety but help develop a safe working environment.

### Conceptual Framework

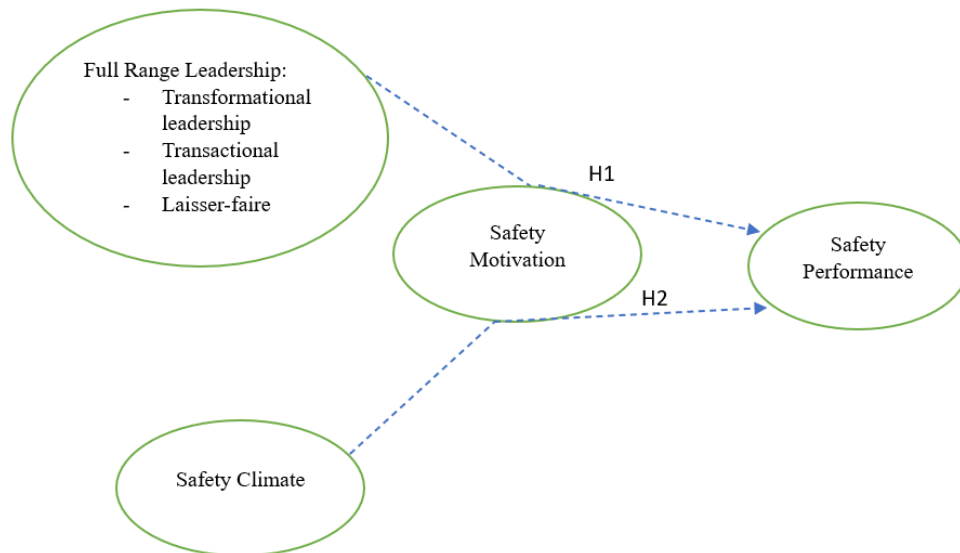


Figure 1. Conceptual Framework

### Hypothesis Development

#### **Hypothesis 1. Safety motivation mediates the influence of full range leadership on safety performance**

Self-Determination Theory identifies the conditions under which forms of motivation are likely to develop, thus providing insight into the effects of safety leadership (Gagne & Deci, 2005). Leaders typically motivate and educate their employees to work safely. Effective leadership not only increases safety knowledge but also motivates employees to behave safely in any situation (Christian et al., 2009). Furthermore, a higher level of safety motivation will improve safety performance in the form of safety compliance and participation (Vinodkumar & Bhasi, 2010).

High-quality leadership can enhance safety knowledge and motivation, which subsequently improves safety behavior (Subramaniam et al., 2023). Employees who feel motivated by their leaders to act in certain ways will be more

inclined to act similarly, with consistency and moral autonomy, thus improving safety performance. Overall, safety motivation mediates the influence of full range leadership on safety performance.

In this context, full range leadership is further elaborated into the following hypotheses:

**1. *Safety motivation mediates the influence of transformational leadership on safety performance***

Bass (1985) states that transformational leadership seeks performance not through wages or rewards, but through motivation. This leadership style does not directly control subordinates but ultimately creates positive changes in followers' perceptions of the climate (Kelloway et al., 2006). Transformational leadership offers inspirational motivation and intellectual stimulation to employees. When leaders motivate their employees, the employees become driven to perform better and more inclined to pursue positive outcomes (Wu et al., 2022). Intellectual stimulation, for example, encourages employees to think of solutions from different perspectives and resolve problems innovatively (Wu et al., 2022).

Studies by Clarke (2012), Smith et al. (2016), Shen et al. (2017), and Draghici et al. (2022) show that transformational leadership positively influences safety performance. The emphasis of transformational leadership on safety makes it an attractive leadership style for adoption by management (Conchie, 2013). Safety motivation refers to an individual's willingness to engage in safety performance and the importance they place on expected safety outcomes. In directing, stimulating, and sustaining action, safety motivation psychologically drives employees to comply with safety regulations and voluntarily participate in safety activities (Griffin & Curcuruto, 2016).

Research by Subramaniam et al. (2022), Seo & Lee (2022), Tandiang et al. (2023), and Septian & Haryanto (2023) confirms that safety motivation influences safety performance. Transformational leadership increases employees' awareness of the importance of task values (Bilgic et al., 2016) and is characterized by behaviors that offer a shared vision for safety and the motivation needed to achieve this vision by inspiring employees (Conchie, 2013).

Leaders not only show concern for employee well-being but also recognize individual strengths and challenges and invest in their development (Sawhney & Cigularov, 2018). By showing interest and respect to employees, transformational leaders earn their trust (Jung & Avolio, 2000). This trust, particularly cognitive-based trust, enhances employee motivation and their intention to act safely. Cognitive-based trust is crucial for performance.

Studies by Conchie (2013) and Subramaniam et al. (2022) demonstrate that transformational leadership affects safety performance through safety motivation. Research by Adjekum (2017) also indicates that transformational leadership has an indirect influence on safety compliance through safety motivation.

**2. *Safety motivation mediates the influence of transactional leadership on safety performance***

Transactional leaders actively provide rewards or punishments to employees to accomplish tasks (Elnasr et al., 2020). Contingent rewards are implemented to motivate employees to achieve set goals (Wu et al., 2022). By rewarding and recognizing employees who meet expectations and giving meaning to their work, employee engagement is encouraged. This motivates employees to report safety hazards or unsafe coworkers as they feel they are helping their leaders in safety efforts (Bazzoli & Curcuruto, 2020).

Leaders promote workplace safety and excellent safety records through active monitoring and corrective actions before accidents occur (Shi, 2021). The study by Sawhney & Cigularov (2018) finds that active transactional leadership influences safety motivation. Research by Mangi et al. (2021) and Subramaniam et al. (2022) also confirms that transactional leadership affects safety motivation.

Safety performance refers to a series of activities performed by the workforce on-site while carrying out tasks or responsibilities related to safety (Li et al., 2018). Transactional leadership is associated with safety performance through its influence on safety compliance (Griffin & Hu, 2013). Specifically, Management-by-Exception Active (MBEA) under transactional leadership involves monitoring subordinate behavior, anticipating problems, and taking proactive corrective actions to improve safety performance (Bilgic et al., 2016).

Research by Lingard et al. (2019), Ko & Kang (2019), and Wu et al. (2022) shows that transactional leadership is positively and significantly correlated with safety performance. Transactional leadership clearly outlines what must be done to achieve success in safety and influences attitudes toward safety promotion and incident prevention (Atikasari et al., 2022). It creates a reciprocal relationship based on the expectations of both parties through contingent rewards as an indirect concern for employee safety and well-being (Shi, 2015).

### ***3. Safety Motivation Mediates The Influence Of Laissez-Faire Leadership On Safety Performance***

Laissez-faire leaders delegate authority to employees, granting them the freedom to carry out tasks independently and take their own actions in facing situations. Although this style aims to empower employees, it may actually increase stress – particularly among those who lack experience or confidence – due to the burden of responsibilities without clear direction (Robbins & Judge, 2019).

Laissez-faire leadership often negatively impacts employee motivation due to the lack of clear guidance and support. In this approach, leaders tend to grant full autonomy to employees with minimal supervision and feedback.

Leaders generally intervene only when safety-related problems have occurred or when a situation becomes serious enough to require action (Kelloway et al., 2006). Employees under laissez-faire leaders tend to exhibit negative attitudes toward safety behavior. Such leaders are unresponsive to employees' safety needs and withhold reinforcement for safety behavior as well as consequences for unsafe practices (Sawhney & Cigularov, 2018).

When leaders reduce laissez-faire behaviors and pay more attention to employees, safety performance improves (Ashforth & Schinoff, 2016). This

support creates a more positive work environment, increases loyalty and commitment, and ultimately enhances productivity.

Active leaders who provide clear guidance can help employees work with more confidence and effectiveness (Ashforth & Schinoff, 2016). Pradeep & Prabhu (2011) found that laissez-faire leadership negatively affects safety performance.

Safety motivation acts as a bridge that explains how and why laissez-faire leadership affects safety performance. Although this leadership style may reduce employee motivation, interventions or additional efforts to enhance safety motivation can help mitigate its negative effects. Employees may feel directionless under an indifferent leader, which can reduce performance. However, with sufficient motivation, it is expected that employees will improve performance despite a leadership style that allows autonomy and creative freedom.

***Hypothesis 2. Safety motivation mediates the influence of safety climate leadership on safety performance***

Employees must be motivated to comply with safe work practices and participate in safety activities. When employees perceive a positive safety climate in the workplace, they are more likely to act accordingly (Neal & Griffin, 2006). Safety climate, as perceived by employees, tends to influence their competence, autonomy, and engagement (Gagne & Deci, 2005).

Studies by Gazica et al. (2018), Ansori et al. (2021), Seo and Lee (2022), Lie et al. (2023), Tandiang et al. (2023), and Septian and Haryanto (2023) have shown that safety climate influences safety motivation.

The influence of safety climate on safety performance reveals that it is associated with a reduction in workplace accidents (Draghici et al., 2022). Individuals must understand how to perform their tasks safely in order to comply with existing safety procedures, as behavioral decisions often result from reasoned processes (Seo & Lee, 2022).

A strong safety climate can foster organizational pride among employees, leading to greater commitment to safety practices (Maneechaeye & Potipiroon, 2022). Griffin and Curcuruto (2016) emphasize the importance of safety climate as a strong indicator of safety behavior, since employees' general assumptions about policies, protocols, and procedures are shaped by the safety climate.

Wu et al. (2008) argued that safety climate influences safety behavior due to group behavioral norms resulting from interactions between the organization and its members. Neal and Griffin (2002) identified safety climate as a potential predictor of safety performance. Based on studies by Maneechaeye & Potipiroon (2022), Gazica et al. (2018), Seo & Lee (2022), Draghici et al. (2022), Lie et al. (2023), and Septian & Haryanto (2023), it is assumed that safety climate significantly affects safety performance.

## **METHOD**

The population in this study comprises all employees working at coal mining companies officially licensed by the Directorate General of Mineral and Coal (Minerba) and associated with the coal mining sector. The sample includes

individuals who meet the following criteria: employees in the operational, HSE (Health, Safety, and Environment), engineering, human resources, accounting, finance, and administrative departments who have been working at the field/site level for at least one year in a coal mining company.

A total of 444 responses were collected through questionnaire distribution; however, only 399 respondents met the inclusion criteria. Of those, 374 responses were considered usable for data analysis, as 25 were identified as outliers. Data were processed using AMOS version 23 and SPSS version 26.

### Scale and Measurement

A structured questionnaire consisting of 65 items was employed, using a five-point Likert scale. A score of 1 indicates “strongly disagree,” while a score of 5 indicates “strongly agree.” The questionnaire was distributed via Google Forms and completed online.

The Full Range Leadership variable was adapted from Avolio and Bass (1985), measured using three dimensions:

- Transformational leadership: 20 items (Avolio & Bass, 1985)
- Transactional leadership: 12 items
- Laissez-faire leadership: 4 items

The Safety Climate variable was adapted from Zohar & Luria (2005), consisting of 16 items. The Safety Motivation variable was adapted from Vinodkumar & Bhasi (2010), measured using 5 items. The Safety Performance variable was also adapted from Vinodkumar & Bhasi (2010), consisting of 8 items.

### Hypothesis Testing

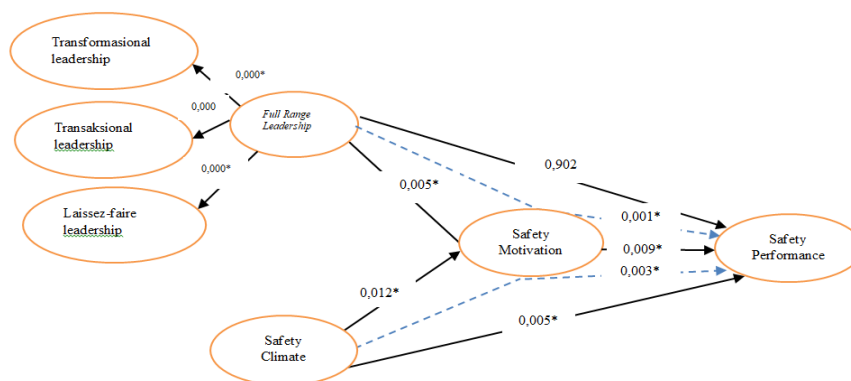


Figure 2. Hypothesis Testing

\* = significant

### Model Estimation Results Diagram

Table 1. Hypothesis Test Results 1

| Hypothesis | Hypothesis Statement | Estimate | S.E.  | C.R.  | P (SB) | P (BT) | Information |
|------------|----------------------|----------|-------|-------|--------|--------|-------------|
| H1         | FRL → SM → SP        | 0,120    | 0,041 | 2,926 | 0,002  | 0,001  | Supported   |
|            | FRL → SM             | 0,233    | 0,072 | 3,222 | 0,001  | 0,005  | Supported   |

|  |          |       |       |       |       |       |               |
|--|----------|-------|-------|-------|-------|-------|---------------|
|  | FRL → SP | 0,010 | 0,060 | 0,171 | 0,864 | 0,902 | Not Supported |
|  | SM → SP  | 0,514 | 0,075 | 6,863 | 0,000 | 0,009 | Supported     |

Source: Data processing results (2024)

Based on the results of hypothesis testing, the first hypothesis (H1) is accepted where the value of the Full range leadership (FRL) path to safety motivation (MK) has an estimate value of 0.233. The value of the safety motivation (MK) path to safety performance (PK) has an estimate value of 0.514. So the resulting path coefficient is  $0.233 \times 0.514 = 0.120$  and  $C.R\ 2.926 > 1.96$  or the p-value of the Sobel test ( $0.001 < 0.05$ ) and the p-value of bootstrapping  $0.003 < 0.05$ . So it can be concluded that safety motivation (MK) plays a significant role as a mediating variable, namely a variable that mediates the indirect effect of Full range leadership (FRL) on the safety performance variable (PK).

Table 2. Hypothesis Test Results 2

| Hypothesis | Hypothesis Statement | Estimate | S.E.  | C.R.  | P (SB) | P (BT) | Information |
|------------|----------------------|----------|-------|-------|--------|--------|-------------|
| H2         | IK → SM → SP         | 0,291    | 0,059 | 4,927 | 0,000  | 0,003  | Supported   |
|            | IK → SM              | 0,567    | 0,080 | 7,116 | 0,000  | 0,012  | Supported   |
|            | IK → SP              | 0,429    | 0,077 | 5,555 | 0,000  | 0,005  | Supported   |

Source: Data Processing Results (2024)

The second hypothesis (H2) is accepted, indicating that safety motivation (SM) plays a significant role as a mediating variable, mediating the indirect effect of safety climate (SC) on safety performance (SP) with a mediation path coefficient of 0.291 and a C.R value of  $4.927 > 1.96$ , or a Sobel test p-value of  $0.000 < 0.05$  and a bootstrapping p-value of  $0.003 < 0.05$ . Since the direct effect test or the hypothesis on the direct influence of safety climate on safety performance is accepted, the role of safety motivation (SM) is categorized as partial mediation.

## RESEARCH RESULT AND DISCUSSION

### Safety motivation mediates the effect of full range leadership on safety performance

The findings show that safety motivation mediates the effect of full range leadership on safety performance. In this context, safety motivation becomes a key factor linking full range leadership to employees' safety performance. Motivation drives employees to enhance alertness, risk awareness, and proactive attitudes toward maintaining safety in the workplace. As a result, safety motivation acts as a bridge, allowing full range leadership to impact safety performance through stronger internal drive from employees.

The discussion of each component of full range leadership – transformational, transactional, and laissez-faire leadership – is outlined as follows:

#### 1. Safety motivation mediates the effect of transformational leadership on safety performance

Safety motivation is a strong predictor of safety participation. Leaders can shape employee attitudes in several ways by demonstrating transformational behavior – articulating vision, modeling behavior, and providing support by emphasizing the priority of safety for employee well-being. These leaders

promote positive attitudes. Safety motivation refers to employees' desire to deliver better safety performance (Al Bayati, 2021).

Safety motivation contributes 46.14% to safety performance, making it the most significant contributing factor among all variables. This is because employees believe workplace safety is highly important, consistently use all necessary safety equipment, ensure the highest safety standards during task execution, and encourage coworkers to work safely.

Highly motivated employees will manage safety-related actions more effectively due to their awareness of the importance of safety and recognition of accident risks in the workplace. By complying with safety rules and procedures, making efforts to prevent accidents and injuries for themselves and colleagues, and actively seeking improvements in workplace safety, employees contribute to enhanced organizational safety performance.

The test results show that transformational leadership directly affects safety motivation but not safety performance. However, safety motivation has a direct effect on safety performance and mediates the relationship between transformational leadership and safety performance.

Safety motivation is directly associated with performance and indirectly mediates the effect of transformational leadership on performance. It is a critical mediator in the relationship between safety leadership and safety outcomes. This mediation role is only effective when employees have a high level of trust in their leaders (Conchie, 2013).

Motivation is a crucial factor through which transformational leadership influences employee behavior. Transformational leaders encourage followers to focus on personal development and motivate them to exhibit proactive, change-oriented behavior (Bazzoli & Curcuruto, 2020).

This study is consistent with the findings of Conchie (2013), Adjekum (2017), and Subramaniam et al. (2022), who stated that transformational leadership influences safety performance through safety motivation. When leaders demonstrate transformational behavior, employees feel motivated to work safely because the leader instills trust, thereby enhancing their motivation and intention to act safely—particularly through cognitive-based trust in their leader to ensure safety performance.

Transformational leaders who display idealized attributes—such as speaking optimistically about the future and articulating an inspiring vision—can ignite employee motivation by providing a clearer sense of the organization's future direction. Those who exhibit idealized behavior—by seeking different perspectives to solve organizational problems—gain subordinates' trust as employees see their leader as a problem-solver.

Leaders with inspirational motivation who recognize that each employee has unique needs, abilities, and aspirations will help employees feel valued and needed, thereby increasing their motivation to give their best for the organization. Leaders who demonstrate strength and confidence will make subordinates feel proud, and those who apply intellectual stimulation—by emphasizing shared missions and strong goals—will unite with subordinates to

achieve organizational goals. This can trigger subordinates' motivation to achieve safety performance in line with organizational objectives.

Thus, **hypothesis 1a**, which posits that safety motivation mediates the effect of transformational leadership on safety performance, is supported.

## **2. Safety motivation mediates the effect of transactional leadership on safety performance.**

Safety motivation mediates the effect of transactional leadership on safety performance (Subramaniam et al., 2023). Leaders who exemplify safety implementation tend to motivate employees. Management-by-exception practices—such as monitoring worker behavior, detecting problems, and correcting errors—can facilitate workers in engaging in safety-related error recovery and learning from mistakes, which increases their involvement in safety issues and enhances their motivation.

Transactional leaders who provide rewards and recognition to employees who meet expectations can give meaning to their work and are likely to boost engagement. This motivates employees to report safety hazards or unsafe coworkers because they feel they are assisting their leaders in safety oversight.

When followers have a high level of trust in their leaders, they are more likely to behave as expected by participating in organizational activities and supporting others (Li et al., 2018). Employees are more willing to work together to improve workplace safety when they share common values with their leaders and have close relationships that foster affective commitment to the organization (Curcuruto & Griffin, 2018).

Employees with affective commitment are more motivated to engage in safety behavior, such as protecting coworkers and making efforts to prevent accidents (Curcuruto & Griffin, 2018). Those with strong commitment are more likely to follow safety rules and reduce deviant behavior.

Transactional leaders applying the contingent reward dimension motivate employees by providing rewards for good performance. This encourages employees to perform better and reduce mistakes. Subordinates respond positively to proactive leaders who closely monitor errors and focus on addressing problems, complaints, and failures. Passive leaders who intervene only after problems occur may show trust in subordinates by assuming they can work independently, which in turn increases motivation to earn that trust and improve safety performance.

This study demonstrates that safety motivation mediates the effect of transactional leadership on safety performance. According to social exchange theory (Blau, 1964), transactional leadership—through contingent rewards—can increase employee motivation to report hazards and maintain safety (Subramaniam et al., 2023; Bazzoli & Curcuruto, 2020).

These findings are consistent with Addo and Dartey-Baah (2019) and Wu et al. (2022), who found that transactional leadership does not directly influence safety performance. Instead, high safety motivation among employees leads to improved safety performance—especially when they feel appreciated, trusted, and have affective commitment to the organization (Li et al., 2018; Curcuruto &

Griffin, 2018). Thus, **hypothesis 1b**, which posits that safety motivation mediates the effect of transactional leadership on safety performance, is supported.

### **3. Safety motivation mediates the effect of laissez-faire leadership on safety performance.**

By motivating employees to achieve company goals, laissez-faire leadership empowers followers by involving them in decision-making and instilling a sense of being an integral component of the business process (Iqbal et al., 2021). Employees thrive when they feel competent in performing tasks. Laissez-faire can be highly effective when employees are skilled and motivated, as making their own decisions can enhance safety performance.

Although laissez-faire leadership is often regarded as poor leadership, some employees view the increased responsibility and authority to make decisions as an opportunity to exceed expectations and improve themselves. It can benefit the organization when both leaders and employees are motivated and knowledgeable in their fields. Laissez-faire leadership fosters employee motivation by enhancing their self-efficacy and granting autonomy, which helps improve employee performance.

This study shows that laissez-faire leadership has a positive effect on safety motivation, as employees are given the freedom to determine their own methods of achieving workplace safety (Sulistiyani et al., 2022), even though its contribution to motivation is only 3.66%. While laissez-faire leaders tend to avoid responsibility (Bass, 1999), potentially increasing safety risks, they also encourage employees to take greater initiative.

Laissez-faire leadership affects individuals differently depending on their self-concept (Robert & Vanderbergh, 2021; Wisse & Sleebos, 2016), where employees with strong self-concepts may become more motivated. Additionally, leaders who provide autonomy and trust encourage proactive involvement in safety (Lorena & Hariasih, 2019; Jiang & Probst, 2016; Tong, 2020). Despite often being viewed negatively, this leadership style can enhance safety motivation and performance when applied to skilled and motivated employees (Iqbal et al., 2021). Thus, **hypothesis 1c**, which posits that safety motivation mediates the effect of Laissez-faire leadership on safety performance, is supported

### **Safety motivation mediates the effect of safety climate on safety performance**

Employees will be more motivated to comply with safety procedures and participate in safety activities if they believe such behaviors will yield valuable outcomes. Perceptions of the safety climate reflect employees' beliefs about the priority of safety, and these perceptions influence behavioral expectations and outcomes. A better safety climate in a company will increase employees' motivation to adopt safe behaviors, ultimately enhancing safety performance. This study reveals that safety motivation partially mediates the effect of safety climate on safety performance, as indicated by the direct effect estimate being higher than the estimate with motivation included as a mediator. This suggests that safety climate affects safety performance both directly and indirectly through safety motivation. When motivation is involved as a mediator,

the relationship becomes more structured, with safety motivation supporting the internalization of safety values among employees.

The safety climate includes dimensions such as active practices (where supervisors directly monitor safe work and ensure necessary safety equipment), proactive practices (where supervisors insist on following safety rules), and declarative practices (where supervisors inform employees about job hazards). With such leaders, employees feel that their safety is a priority, increasing motivation to improve safety performance.

This study shows that a positive safety climate—reflecting employee perceptions of safety policies and practices—plays a vital role in enhancing safety motivation (Santoso et al., 2020; Rahlin et al., 2022), fostering responsibility and active participation. Supervisors emphasizing safety procedures even under pressure further enhance employees' intrinsic motivation (Flatau-Hariston et al., 2020). Thus, **hypothesis 2**, which posits that safety motivation mediates the effect of Laissez-faire leadership on safety performance, is supported.

## CONCLUSION

Safety motivation fully mediates the effect of full range leadership on safety performance, with transformational leadership directly affecting safety motivation but not safety performance, and safety motivation significantly influencing safety performance. These findings indicate that transformational leaders who speak optimistically about the future, explore different perspectives to solve problems, value every employee, and inspire pride and shared mission can enhance employees' safety motivation, indirectly influencing their compliance and participation in safety behavior.

Transactional leadership also has a direct effect on safety motivation but not on safety performance, while safety motivation affects safety performance. This suggests that employees' internal motivation, driven by contingent rewards and attention to error handling and improvement, is essential for enhancing safety performance.

Laissez-faire leadership directly influences safety motivation, though not safety performance, and safety motivation influences safety performance. By empowering employees through autonomy in decision-making, this leadership style fosters a sense of value and ownership, encouraging them to improve both individual and organizational performance.

Safety motivation partially mediates the effect of safety climate on safety performance. Motivation increases when leaders actively discuss safety improvements with employees and assist them in identifying potential issues before they arise. A good safety climate directly improves safety performance, as leaders monitor safe work, ensure equipment availability, and consistently emphasize safety rules. Employees feel cared for, which boosts their safety motivation and, consequently, their safety performance.

These findings deepen the understanding of the influence of full range leadership and safety climate on safety performance through safety motivation. The study highlights how each component of full range leadership—especially laissez-faire—impacts safety motivation and performance. The results also

confirm that safety climate has a stronger impact on safety motivation than full range leadership. Importantly, safety motivation contributes the most to safety performance compared to the other variables, making it a critical factor in achieving safety performance. This research focuses on coal mining companies in Indonesia, an area that remains underexplored by other scholars.

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