

CHAPTER 2-LITERATURE REVIEW

2.1 Theoretical Frameworks

Safety culture research faces challenges due to its ambiguity and lack of conceptual models (Hopkins, 2005). Common definitions include shared attitudes, values, and outcomes such as risk reduction or organizational health. Some define safety culture by describing its practical application, while others emphasize its impact on employee attitudes and behaviors (Guldenmund, 2000). Schein (2010) Safety culture is a three-layered concept that consists of behavioral norms on the outside, values in the middle, and unconscious assumptions at the center. Recognizing an organization with a safety culture and recognizing poor safety outcomes is a cultural variable rooted in history and habitual patterns. Guldenmund (2000) emphasizes the difference between safety culture factors and their consequences. Confusing safety culture with consequences makes it difficult to address potential problems (J. Reason, 1997). Workers socially create the stable, adaptable quality known as safety culture.

On the surface – norms and artifacts. Safety culture is reflected in visible artifacts and norms, including signage, behavioral norms, practices, and language patterns that reflect the organization's values and priorities. Workers test hypotheses and establish routines as they learn from mistakes and accumulate experience to establish behavioral norms. Effective solutions reinforce assumptions while ineffective solutions challenge them, leading to continuous evolution and adaptation. Safety culture is not just based on norms and artifacts; It is shaped by underlying values and assumptions and requires an understanding of the underlying values (Schein, 2010).

Beneath the surface – values. Safety culture is the value of safety and its performance, expressed through collective attitudes and perceptions. Safety climate is a more accessible and quantifiable indicator for assessing safety culture because it is an obvious manifestation of organizational values (Guldenmund, 2000). Climate can develop from shared experiences and practices associated with risks or potential hazards and is related

to, but distinct from, safety culture. Comparing safety climate metrics to safety culture metrics could reveal a different history of the workplace and fail to challenge long-held beliefs (Zohar, 1980).

At the core: assumptions. According to Schein (2010), an organization's safety culture is a socially constructed element made up of common safety values, shared intangible assumptions, and group practices. It is a socially constructed factor that influences employees' perspectives and actions (Guldenmund, 2000). However, questions about the development and advancement of safety culture and how it can be improved still need to be answered (Bisbey, 2021).

How do employees feel about the safety culture? Culture, according to Schein (1984), develops via educational circumstances, positive reinforcement and active employee participation. Glendon and Stanton (2000) suggest business strategy influences safety culture. Psychologists suggest that individuals categorize social groupings and establish rules, thereby reducing uncertainty by continually developing and refining assumptions (Tajfel and Turner, 1979). This process, called prototypicality, guides cognition in robust organizational cultures and influences employee behavior. Employees who identify with their social group can redefine who they are and how they view themselves, orienting them less on their existing values and norms and more on shared experiences. Social identity and stability in an organization influence employees' adoption of group values and norms. Consistent feedback validates assumptions, leads to the internalization of prototypical and collective values, and forms a safety culture. Social identification processes shape the identity of individuals within an organization and form shared values and norms through shared experiences.

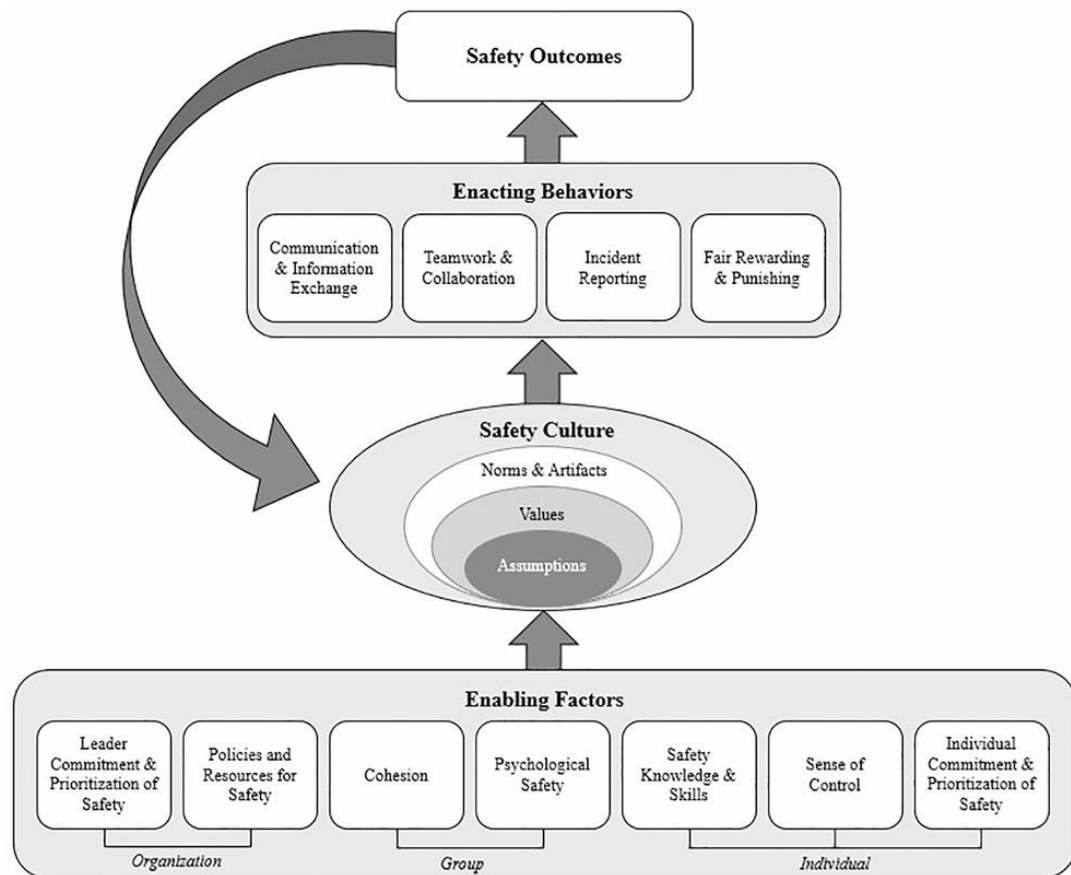


Figure 2. A conceptual structure for comprehending the evolution of safety culture.

Source: (Bisbey et. al, 2019)

Supporting elements establish the circumstances necessary for individual workers to embrace beliefs, standards, and behaviors that align with the safety culture. As employees gradually embrace common beliefs, standards, and practices, these elements facilitate the emergence of a safety culture. Employee behavior is a reflection of the underlying beliefs, standards, and assumptions that influence safety results. Workers absorb safety results and use them to challenge negative findings and validate underlying assumptions, values, and norms. A safety culture is built and reinforced with consistency and stability over time, encompassing all employees. In addition to giving employees the opportunity to adopt appropriate norms, values, and assumptions based on organizational, group, and individual analysis, enabling factors also provide a framework for the gradual development of a safety culture.

Organizational level factors. Organizational conditions shape employees' daily routines, with managerial commitment and prioritization of safety being key factors that enable employees to adopt a culture of safety. Social learning theory suggests that employees adopt the behavior of their leaders, even without a visible leader. Organizations communicate their values through symbolic stories and policies, such as diversity and safety policies. An effective safety management system can develop a safety culture with advisory boards and guidelines to reduce risk. These signals help employees engage in behaviors consistent with the organization's perceived values and ensure organizational success.

Group-level elements. In the workplace, norms, values, and presumptions are shaped by interpersonal and social factors. Psychological safety and cohesiveness are two aspects of the group that can facilitate the growth of a safety culture. Psychological safety fosters an atmosphere where information can be freely shared and workers feel comfortable reporting and discussing errors, whereas cohesive groups encourage group solidarity, trust, and commitment to safety goals. These norms and values can be reinforced over time, leading to the development of a safety culture. Transparency in a psychologically safe environment promotes dialogue, learning and culture change. It exposes employees to their subconscious perceptions, potentially encouraging the formation of a new social identity and culture, thereby promoting the development of organizational culture.

Individual-level factors. A safety culture can emerge as a result of individual-level elements including personal commitment to safety, control over one's actions, and knowledge about safety. Safety-related knowledge includes employee competence, training, and compliance with safety procedures. A sense of control that allows employees to realize their abilities and achieve results is also crucial. This sense of control can shape company culture and encourage employees to engage in safe behaviors, ultimately contributing to the overall safety culture. Employee commitment to safety is a crucial factor at the individual level as it influences their attitude and motivation towards safety. Engaged employees prioritize safety over efficiency, speed

and other goals, act as role models, and align individual values with the values of the organization.

What is the performance-based application of safety culture? In order to create and preserve a safety culture, enabling factors are essential.. Employees must implement practices that are consistent with values and assumptions. Establishing a security culture includes behaviors that prevent, respond to, or eliminate threats that become norms and can directly improve security outcomes.

Communication and information exchange. Effective communication and information exchange are crucial for fostering a safety culture within an organization. Miscommunications can lead to preventable medical errors and harm situation awareness. Prioritizing safety encourages employees to share relevant information and participate in debrief discussions, promoting behaviors that promote safety outcomes and reinforce safety culture.

Collaboration and teamwork. Building a safety culture requires a strong emphasis on cooperation and teamwork behaviors. These behaviors, observable through team processes like monitoring progress and defining safety goals, contribute to positive safety outcomes. Safety culture, characterized by individual commitment and group cohesion, encourages collaboration and contributes to safety outcomes.

Incident reporting. Safety culture in organizations encourages more incident reporting, involving employees in notifying others of safety-related errors or near-misses. This encourages learning and corrective action, and is facilitated by supportive policies, rewards, and a confidential reporting system.

Rewarding and punishing. An effective safety-reporting system is crucial for motivating employees to report incidents and learning from them. It should be fair, not excessively punitive, and draw the line between acceptable and unacceptable behavior. This fosters a just culture and encourages learning from past mistakes. Safety culture can be developed through communication, teamwork, incident reporting, and fair rewarding and punishing. Over time, safety culture may become diluted or deteriorated due to organizational changes or major events.

According to the safety culture theory, Figure 8 illustrates people's safety awareness, safety leadership, reward-punishment, and safety culture. This chapter aims to assess the body of research currently available on the factors used in this study.

2.1.1 Safety culture

It has already been noted by well-known writers like Reason (1998) and Guldenmund (2000, 2006) that there is no universal agreement on the definition of safety culture. The definitions do, however, seem to share a lot of similarities. It has to do with a group's common values first. It also deals with formal security concerns within an organization and is associated with management and supervisory teams, among other teams. The third point is to emphasize each group member's contribution. 4. It influences how people behave within a group. Its stability, resistance to change, and permanence make it the fifth. In their summary of definitions, Borys (2007) and Guldenmund (2000) assume that safety culture was a construct that was relatively stable and multidimensional, shared by groups of people and consisting of learned practices. Safety culture is a subset of an organization's broader organizational culture (Haukelid, 2008; Hopkins, 2006; Richter and Koch, 2004), which is perhaps easier to understand. The easiest way to understand organizational culture is “the way we do things around here” (Deal and Kenney, 1982).

This means, according to Edgar Schein, one of the foremost authorities on organizational culture: a set of common fundamental beliefs that a group acquired while resolving its issues with internal integration and external adaptation, and that performed well enough to be accepted as true. It is necessary, therefore, to instruct new members on how to appropriately perceive, think, and feel about these issues (Schein, 2004).

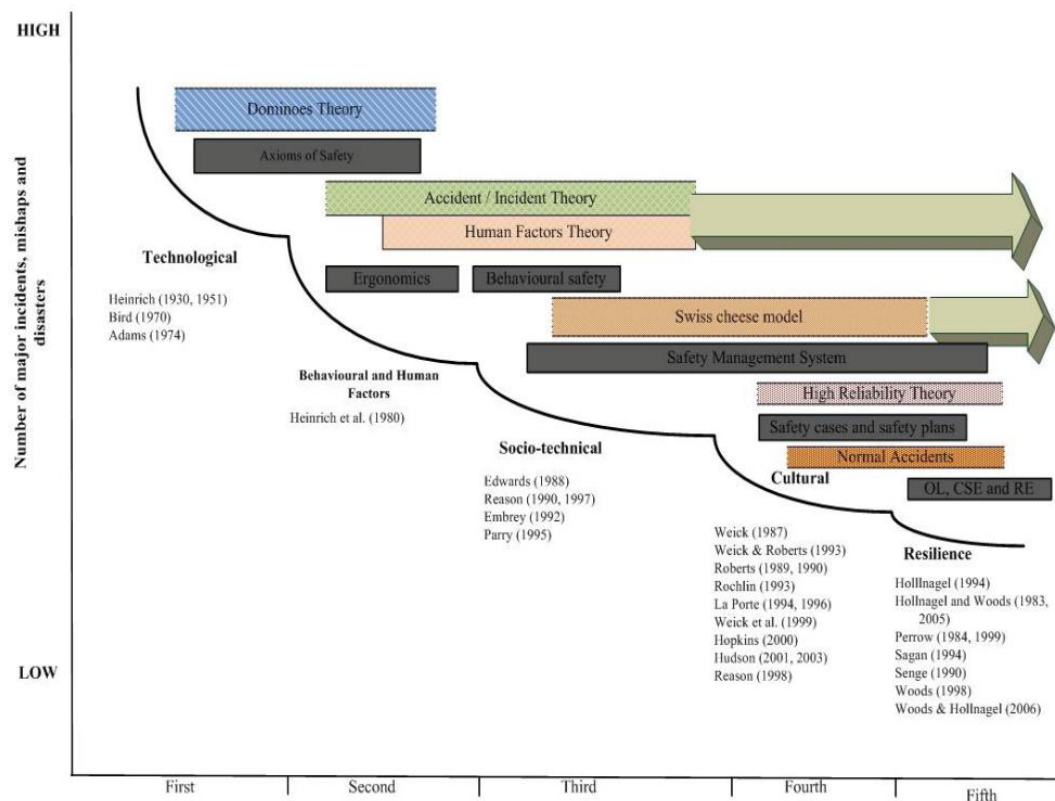


Figure 3. Safety management across five eras

Accordingly, Schein views culture as the outcome of an organization's attempts to oversee internal integration while also adapting to external environments. Three layers make up its definition: the inner (core) layer, which is made up of fundamental presumptions ingrained in the organizational structure; the middle layer, which is made up of declared values and attitudes and includes items like job descriptions, policies, procedures, training, and accident reports; and the upper, or outer, layer, which is made up of the most visible artifacts, such as management statements, audit reports, accidents and incidents, and safety programs and campaigns.

According to Hopkins (2005), there is a problem with the above definition because behaviors are not included. Hopkins introduced the notion of organizational safety culture in a subsequent work. Every organization, or maybe a collection of subcultures, had a culture, and it was expected that this culture would have some bearing on safety (Hopkins, 2006). Citing Reason (1997), he makes the assumption that equity, learning, flexibility, and reporting form a constellation that is safety culture. Hopkins uses the

framework of an organizational culture to make his case rather than giving a definition of organizational safety culture. The distinction between behaviors and practices was made, as noted by Borys (2007). Thus, defining organizational safety culture more broadly might be helpful. Organizational safety culture is made up of the common beliefs, attitudes, behavioral norms, and practices surrounding safety that are established by top management and expressed through policies and procedures that are firmly ingrained in attitudes, behaviors, and practices at all levels and that change and get better over time as an organization gains knowledge.

According to the above description, the definition incorporates the elements suggested by Hopkins and Borys as well as the key attributes of organizational and safety culture as suggested by Schein. We also have the chance to dissect it into several components, for instance, by putting it in the terms previously mentioned:

- An organization's vision, mission, and goals typically include management expectations, which are presumptions, attitudes, behavioral norms, and beliefs.
- Procedures and policies that are transferable across the entire organization.
- Observable behaviors and practices, as well as perception, which can be felt or expressed.

Additionally, the definition offers instructions on how to assess the safety culture of an organization. For instance, an organization's vision, mission, and goals are usually visible as artifacts, but its management systems include policies and procedures. Employee surveys can be used to gauge perceptions, and observation and/or monitoring of behavior and practices is another method.

2.1.1.1 Indicators and measures of safety culture

When compared to medical procedures or air traffic control, the mining industry may find the process less complex. Snap, detonate, load, and transport are the four primary steps. An operation becomes more complex during the mineral processing phase for a variety of reasons, such as the numerous regulations that the industry must follow. Due to significant variations in how work is planned and organized, the labor and skill requirements of the workforce can range from unskilled, semi-skilled, and skilled workers to highly skilled and experienced workers. When numerous contractors and

subcontractors are dispersed among various sites and mining projects, fly-in and fly-out operations can introduce additional complexity. Moreover, alterations in the mining site's environmental parameters may have an impact on the environment. Regarding the cognitive and behavioral abilities of mining staff, it is therefore essential that managers possess the knowledge and tools needed to weigh trade-offs, and that workers can exercise their right to adjust within the parameters of their regular jobs in response to shifting demands.

The following six indicators are one way to achieve this.

1) Prioritization of safety

This refers to the extent to which security is given importance compared to other organizational goals. Organizations that prioritize safety typically invest resources in safety training, equipment, and procedures. Prioritizing security within organizations is critical to ensuring that security goals are effectively integrated into daily operations and organizational culture. This concept includes the provision of sufficient financial and human resources to support comprehensive security initiatives. According to Guldenmund (2020), organizations that prioritize security invest in robust security training programs, regular equipment maintenance, and implementing strict security procedures. This proactive approach not only mitigates risks but also improves overall safety performance by reducing the likelihood of accidents and incidents (Hale, 2000). Additionally, by making safety a top priority, companies demonstrate their commitment to the well-being of their employees and promote a culture in which safety is embedded in every aspect of the workplace (Guldenmund, 2020). This integration of security into the organization's goals and values ensures that security considerations are consistently addressed.

2) Safety perception:

This is about how individuals within the organization perceive security, including their attitudes, beliefs and behaviors regarding security-related issues. Positive security perceptions are associated with a higher likelihood of adhering to security protocols. Safety perception within an organization refers to the way employees perceive and interpret safety-related issues, including their attitudes,

beliefs, and behaviors regarding safety practices and policies. This perception plays a critical role in shaping the overall safety culture and directly impacts employee engagement with safety protocols.

According to a study by Guldenmund (2020), positive safety perceptions correlate with a greater willingness of employees to comply with safety regulations and procedures. When employees view safety as a priority in their organization, they are more likely to actively participate in safety training, adhere to safety policies, and promptly report safety concerns. This proactive approach to safety contributes to a safer work environment by reducing the likelihood of accidents and encouraging early intervention in potential hazards. Furthermore, Flin et al. (2019) emphasize that security perceptions are influenced by various factors, including organizational communication, leadership behavior and the perceived effectiveness of security measures. Organizations that effectively communicate safety® messages, involve employees in safety decisions, and demonstrate visible commitment to safety initiatives tend to foster positive safety perceptions among their employees. Perception of safety reflects how employees interpret and respond to safety-related aspects of their work environment. By cultivating a positive perception of safety through effective communication, leadership and activity.

3) Management commitment

The commitment of organizational leaders and managers to security initiatives and policies. Strong management commitment is critical to fostering a culture where safety is integrated into everyday practices. Management commitment to safety is critical to maintaining a robust safety culture in organizations. This commitment includes the active participation and visible support of organizational leaders and managers in promoting safety initiatives and policies. According to Guldenmund (2020), strong management commitment is associated with greater employee commitment to safety practices and better safety performance outcomes. Leaders who prioritize safety dedicate sufficient resources to support comprehensive safety programs, including training and equipment maintenance (Guldenmund, 2020). Furthermore, Flin et al. (2019)

emphasize that management engagement involves setting clear expectations for safety performance and behavior, which helps reinforce safety as a core value of the organization. When managers lead by example by following safety protocols and encouraging open communication about safety concerns, they contribute to a culture in which safety is integrated into daily practice.

4) Knowledge of safety procedures

This indicator assesses employees' level of understanding and awareness of safety procedures and protocols. It reflects the effectiveness of safety training programs and communication within the organization. Knowledge of employee safety procedures is critical to ensuring a safe work environment and effective response to potential hazards. This indicator assesses the extent to which employees understand and know security protocols and procedures relevant to their roles and responsibilities within the organization.

According to a study by Guldenmund (2020), knowledge of security procedures reflects the effectiveness of security training programs conducted by organizations. Comprehensive training ensures employees have the skills and knowledge necessary to identify hazards, follow safety protocols and respond appropriately in emergency situations. Employees who have sufficient knowledge of safety procedures are more likely to contribute to a safer workplace by adhering to established safety policies and practices (Guldenmund, 2020).

In addition, the level of knowledge about security procedures also serves as a measure of effective communication within the organization. Clear and consistent communication of safety policies and procedures increases employee awareness and understanding, thereby strengthening a safety-focused culture (Flin et al., 2019). Organizations that prioritize communication about safety issues and provide regular updates on procedures promote an environment in which safety is viewed as a shared responsibility among all employees. In addition, continuous assessment and reinforcement of security procedures based on feedback and insights from incidents contributes to continuous improvement

of security knowledge and practices within the organization (Flin et al., 2019). Understanding employee safety procedures is critical to maintaining a proactive approach to safety and reducing the likelihood of workplace incidents. Effective training and communication strategies are essential to increase employee awareness and understanding of safety protocols and ultimately contribute to a stronger safety culture within the organization.

2.1.2 People safety awareness

Safety awareness is the mindset that determines employees' perceptions and judgments about personal abilities and responsibilities to avoid risks in the workplace (Dursun, 2013). People's security awareness or individual awareness refers to a person's level of understanding and awareness of the social and physical environment around them (Jhonson and Smith, 2018). This awareness includes the perception, understanding and reaction to existing situations and conditions. In the context of organizations and management, people's security awareness plays an important role in creating a productive and harmonious work environment (Jhonson and Smith, 2018). According to Luthans (2002), people's security awareness is a person's ability to recognize and understand social situations and how they place themselves in those situations. Goleman (1995) calls this awareness a part of emotional intelligence, which includes the ability to be aware of one's own feelings and emotions and those of other people.

According to Salovey and Mayer (1990), this emotional and social awareness enables individuals to work more effectively in teams, reduce conflict, and increase job satisfaction. A study by Boyatzis and McKee (2005) shows that managers with a high level of security awareness tend to lead and motivate their teams more successfully. Various strategies can be implemented to increase people's security awareness, including emotional intelligence training, improving interpersonal communication, and developing an inclusive organizational culture. Goleman (2006) emphasizes the importance of training that focuses on developing empathy skills and self-awareness as key to increasing people's security awareness.

Raising employee safety awareness is about more than just knowing how to respond in the event of an incident. The point is that safety is an integral part of everyday working

life. It's the point at which practicing safety becomes as natural as breathing. When all of your employees embrace safety consciousness, you'll be on your way to creating a low-incident, high-productivity workplace. People Safety Awareness is a shared commitment by all employees to prioritize safety awareness. Policies and procedures alone are not enough; It is important that every employee internalizes them to the point that acting safely becomes second nature. It's about building security into the fabric of your organization and making it an integral part of your culture. How do you know when you have achieved security awareness? One indicator of this is that employees regularly perform inspections of machines or review checklists before use to ensure that tasks are completed safely.

Promoting people's security awareness is a win-win situation. Not only does it make the workplace safer, but it also shows your team that well-being is a top priority and increases morale and productivity (Luthans, 2002). When safety is part of your company's DNA, employees feel comfortable reporting hazards and raising concerns, knowing they will be taken seriously. This proactive mindset means your teams can take action to improve workplace safety before an incident forces everyone to act (Christian et al., 2009).

2.1.2.1 The Indicators of people safety awareness

Safety awareness is the mindset that determines employees' perceptions and judgments of their personal abilities and responsibilities to avoid risks in the workplace (Dusun, 2013). Goleman (1995) calls this awareness a part of emotional intelligence, which includes the ability to be aware of one's own feelings and emotions and those of other people. This emotional and social awareness allows individuals to work more effectively in teams, reducing conflict and increasing job satisfaction (Salovey and Mayer, 1990). The indicator of people's security awareness regarding security used by the author is:

1) Emotional Self-awareness

Emotional self-awareness involves the ability to recognize and understand one's own emotions, their triggers, and their effects on thoughts and behavior. It is a fundamental component of emotional intelligence and crucial for effective

emotional regulation and interpersonal relationships. Brown & Ryan (2019) provide comprehensive insights into the role of emotional self-awareness in overall emotional intelligence. Her research suggests that mindfulness and self-reflection practices can significantly improve a person's ability to recognize and understand their emotions. They emphasize that emotional self-awareness is crucial:

- Better emotional regulation
- Improved decision-making
- Enhanced interpersonal relationships

Their studies show that individuals with high emotional self-awareness are better able to manage their emotions, leading to more adaptive responses in different situations. Emotional self-awareness is essential for dealing with prejudice. It helps individuals recognize how their emotions influence their perceptions and judgments and enables them to address and mitigate unconscious biases. Wilson & Brekke (1994) provided scientific evidence that awareness of bias, motivation to overcome it, and strategies to overcome it can significantly reduce the influence of bias on decision-making.

2) Emotional Self-control

The ability to manage and regulate one's emotions (Brown & Ryan, 2019). Emotional self-awareness, a cornerstone of emotional intelligence, includes the ability to accurately recognize and label one's emotions. This process, described by Brackett (2006), forms the basis of emotional competence and includes the identification of both basic emotions such as joy or sadness as well as more nuanced feelings. Understanding the triggers and causes of these emotions requires introspection and self-knowledge, Goleman's seminal work on emotional intelligence (1995). Additionally, emotional self-awareness goes beyond mere recognition and includes the influence of emotions on thoughts and behaviors. Mayer and Salovey (1997) emphasize that this awareness allows individuals to monitor and regulate their cognitive processes and actions in response to emotional signals, promoting better decision making and interpersonal interaction. Self-reflection is a natural result of emotional self-

awareness and encourages individuals to examine their emotional reactions and the underlying reasons, as noted in Saarni's research on emotional competence (1999). Furthermore, Gross (1998) discusses how emotional self-awareness.

3) Social Awareness

Social awareness involves the ability to understand and respond effectively to the emotions, needs, and concerns of others in social interactions and contexts. Brown & Ryan (2019) emphasize that this aspect of emotional intelligence is crucial for developing meaningful relationships and fostering collaborative environments. Comprehending and sharing the feelings of others, along with identifying social cues and patterns, are all components of empathy. Socially conscious people are adept at reading verbal and nonverbal signals, listening actively, and showing sensitivity to different perspectives and backgrounds. This skill is crucial in various situations, from personal relationships to professional environments, where it facilitates teamwork, conflict resolution, and effective leadership.

4) Emphaty

Empathy, as suggested by Shapiro et al. (2020) is the ability to understand and share the emotional experiences of others. It's not just about recognizing the emotions someone else is feeling, but also about experiencing a similar emotional state yourself. This understanding allows individuals to connect deeply with others and show genuine concern and support. According to Shapiro et al. Empathy plays a critical role in promoting positive relationships, improving communication, and encouraging prosocial behavior. It enables individuals to respond compassionately to the needs and problems of others, thereby contributing to mutual understanding and emotional well-being in interpersonal interactions.

2.1.3 Safety Leadership

As stated by Jiangchi Zhang and colleagues (2020) Several elements, such as safety leadership, have an impact on safety behavior. It is believed that this safety leadership component is essential to reducing the likelihood of work errors. This is so that safety goals can be achieved by both the organization as a whole and by individual

subordinates, as safety leadership is a type of supervisor interaction with subordinates (Lyubykh et al. 2022).

As stated by Syakur et al. (2020), the behavior of individuals within any organization is greatly influenced by the culture within it. An organization that has a strong organizational culture is more stable. Robbins and associates (2015) characterize organizational culture as a framework of mutual understanding among participants that sets the organization apart from others. Gold mining companies have established safety systems, procedures, and regulations that are followed as part of a safety culture that includes all systems, procedures, employees, and even visitors to the mine site. These measures are based on best practices from around the world..

Conversely, in the field of organizational behavior research, motivation is becoming one of the most studied subjects. Robbins and others. explains a person's strength, direction, and perseverance in pursuing a goal. This is the definition of motivation according to Abraham Maslow's (2015) hierarchy of needs theory is the most well-known application of motivation theory. Physical/physiological, safety, social, reward, and self-actualization are the five needs that Maslow proposed exist within every human being (Mkpojiogu et al., 2022). The degree to which an individual enjoys their work is also reflected in job satisfaction.

People who are charismatic leaders should be able to solve problems in novel ways, inspire their team members to act creatively and imaginatively, and set an example for them. Furthermore, the creation of job satisfaction among employees can be facilitated by charismatic leaders showing concern for their problems and consistently offering incentives to enhance performance (Shafi et al., 2020). Managers who are unable to set a good example for their staff will find it difficult to keep employees happy on the job, which may hinder the organization's efforts to meet its objectives.

According to Peker et al. (2022), Supervisor behavioral integrity refers to engagement in work-related behavior through two distinct processes. First, behavioral integrity sends the message that the boss is sincere with his words, which further strengthens the employee's trust in his manager. Both theory and research support the role of

employees' trust in their supervisors in explaining safety and performance behaviors. Second, behavioral integrity also sends the message that safety is valued in different circumstances, thereby promoting predictability of employee tasks.

2.1.3.1 Indicators of safety leadership

Zhang Jiangchi and associates. (2020) A number of variables, such as safety leadership, affect safety behavior. It is believed that this safety leadership component is essential to reducing the likelihood of work errors. Safety leadership can influence the attainment of safety goals for both the organization as a whole and for individual subordinates, as it is a form of interaction between the manager and his subordinates (Lyubykh et al. 2022). The author uses to gauge people's awareness of security issues is:

1) Charismatic leadership

Charismatic leadership is characterized by a leader's ability to inspire and motivate others through their personal charm, influence and vision. Leaders with charisma have a compelling presence that attracts and retains followers, often through powerful communication and a clear sense of purpose. They have the unique ability to articulate a compelling vision for the future and inspire hope and excitement within their teams. Charismatic leaders are adept at creating a sense of unity and shared mission and engaging others with passion and conviction toward shared goals. Their magnetic personalities and confidence make them influential individuals who can mobilize support, drive change and promote a positive company culture. Examples such as Martin Luther King Jr. and Steve Jobs illustrate how charismatic leadership can energize movements and drive innovation, leaving a lasting impact on organizations and society (Avolio & Yammarino, 2019) and (Yukl, 2019).

2) Integrity and Consistency

Integrity and consistency are essential characteristics of effective leadership and guide leaders in their interactions, decisions, and overall behavior within an organization. Integrity, characterized by honesty, trustworthiness and adherence to ethical principles, forms the basis of a leader's credibility and reputation. Leaders with integrity demonstrate transparency in their communications, responsibility for their actions, and a commitment to ethical decision-making,

even under difficult circumstances. This ethical foundation not only creates trust between team members and stakeholders, but also promotes a culture of fairness and respect within the organization. Consistency complements integrity by providing reliability and predictability in a leader's actions and decisions over time. Consistent leaders set clear expectations, consistently maintain standards, and demonstrate stability in their leadership approach. This predictability promotes a sense of security and trust among team members, allowing them to work effectively and clearly and purposefully toward the organization's goals. Together, integrity and consistency contribute to a positive organizational culture and enhance performance.

3) Communication

Effective communication is the cornerstone of successful leadership and enables managers to clearly and convincingly formulate their vision, goals and expectations. This is about more than just conveying information; It requires the ability to actively listen, understand different perspectives, and adapt communication styles to engage with different audiences. Leaders who communicate effectively build trust and credibility with their team members and stakeholders by promoting transparency and openness. By fostering a culture where ideas are freely exchanged and feedback is valued, effective communicators create an environment that encourages innovation, collaboration and continuous improvement. Examples from leaders like Satya Nadella and Oprah Winfrey demonstrate how effective communication can inspire and engage diverse audiences, drive organizational success, and improve relationships in the workplace and beyond (Hackman & Johnson, 2009) and (Yukl, 2019).

4) Management Skills

Management skills are an essential part of effective leadership and include the ability to plan, organize, direct and control resources to achieve organizational goals. Planning is about setting clear goals and developing strategies to achieve them to ensure alignment with the organization's mission and vision. Effective managers excel at structuring tasks, roles, and resources to optimize efficiency

and productivity. Leadership within management involves inspiring and guiding teams, fostering collaboration, and empowering individuals to achieve their best. In addition, managers exercise control by monitoring progress, evaluating results, and making adjustments as necessary to ensure goals are met. These skills are essential to driving operational success, increasing team effectiveness, and fostering a culture of innovation and continuous improvement within organizations. Leaders such as Elon Musk and Sheryl Sandberg exemplify these capabilities through their strategic vision, organizational prowess, and ability to overcome complex challenges while achieving sustainable growth and innovation in their respective industries (Robbins et al., 2017) and (Daft et al., 2010).

2.1.4 Reward and punishment

The reinforcement sensitivity theory is commonly used to define reward and punishment sensitivity (Gray, 1970). Reward sensitivity, which has been defined as follows: "The behavioral approach system is sensitive to rewarding stimuli and assumed to guide approach behaviors," is one way in which this theory proposes to reflect the sensitivity of the behavioral approach system (Glashouwer et al. 2014, page. 97%). One definition of punishment sensitivity is that it is thought to represent the sensitivity of the behavioral inhibition system: "People high in punishment sensitivity are assumed to have a highly sensitive behavioral inhibition system, easily activated when confronted with punishment and exhibiting stronger inhibitory or avoidant responses compared with people scoring lower on punishment sensitivity" (Vandeweghe et al., 2016b, p. 2). Penalty sensitivity is believed to represent the sensitivity of the flight-fight-freeze response in the updated version of the reinforcement sensitivity theory (Gray and McNaughton, 2000). On the other hand, the suggested behavior that reflects punishment sensitivity is unaffected by this modification. Thus, punishment sensitivity has also been used in this revised theory to index the response to punishing stimuli (i.e. E. the inclination to stay away from such stimuli, punishment responsivity). According to theory, reward sensitivity measures how a person reacts to rewarding stimuli (i.e. E. the propensity to approach reward, reward responsiveness, etc.

Rewards and punishment involve various variables that influence how rewards and punishments are given and received in an organization.

1) Types of Rewards

- Financial Rewards: Bonuses, salaries and other monetary incentives.
- Non-Financial Rewards: Recognition, praise, development opportunities and work flexibility.

2) Types of Punishments

- Financial Penalties (Financial Punishments): Fines, salary cuts, and loss of incentives.
- Non-Financial Punishments: Reprimand, demotion, and suspension of duties.

3) Fairness of Rewards and Punishments

- Procedural Justice: Employee perceptions of the fairness of the reward and punishment process.
- Distributive Justice: Employee perceptions of the fairness of the distribution of rewards and punishments.

4) Impact on Motivation (Impact on Motivation)

- Intrinsic Motivation: Motivation that comes from within the individual, such as job satisfaction and a sense of achievement.
- Extrinsic Motivation: Motivation that is influenced by external factors, such as incentives and external recognition.

5) Consistency and Transparency (Consistency and Transparency)

- Consistency: How consistently rewards and punishments are applied throughout the organization.
- Transparency: How clear and transparent the process and criteria for giving rewards and punishments are.

2.1.4.1 Indicators of reward and punishment

Reward and punishment theory provides a fundamental framework for organizational behavior and management, suggesting that incentives such as rewards and consequences such as punishments influence individual behavior and compliance with organizational goals and standards. According to Skinner (1953), individuals tend to

repeat behaviors that will be rewarded and avoid those that result in punishment, thereby influencing their actions in the context of the workplace. This theory posits that the effective implementation of rewards such as bonuses and recognition can predictably motivate employees to achieve desired outcomes (Deci & Ryan, 1985). Additionally, as outlined by Armstrong and Taylor (2020), the consistent and fair application of punishment serves to deter undesirable behaviors and promote compliance with organizational policies and procedures. These principles not only predict employee responses but also promote a culture where performance is rewarded and misconduct is appropriately addressed, contributing to organizational effectiveness and employee engagement (Deci et al., 2020).

1) Bonus and Incentive System

The bonus and incentive system is a crucial component of reward management within organizations, designed to motivate employees by linking financial rewards directly to their individual or team performance achievements. According to Armstrong and Taylor (2020), these systems typically include bonuses, commissions, profit-sharing, or other monetary incentives based on specific performance metrics such as sales targets or productivity goals. This structured approach aims to align employee efforts with organizational objectives, encouraging higher levels of performance and productivity. Research by Deci et al. (2020) emphasizes that such financial incentives can significantly enhance employee motivation by providing tangible rewards for achieving desired outcomes. Furthermore, effective bonus and incentive systems contribute to a positive organizational culture by fostering a sense of fairness and transparency in reward distribution, as highlighted in Armstrong and Taylor's work. By clearly communicating performance expectations and reward structures, organizations can cultivate a work environment where employees are motivated to excel and contribute to overall organizational success.

2) Recognition and Praise

Recognition and praise are integral components of a holistic approach to employee motivation and engagement within organizations. According to Armstrong and Taylor (2020), these non-monetary forms of reward encompass verbal expressions of appreciation, public acknowledgments, and formal awards that celebrate employees' contributions and achievements. Such gestures serve as powerful tools of positive reinforcement, reinforcing desired behaviors and encouraging sustained excellence among employees. Research by Deci et al. (2020) underscores the significance of recognition in enhancing intrinsic motivation and job satisfaction, as employees feel valued and validated for their efforts. Moreover, Armstrong and Taylor (2020) emphasize that effective implementation of recognition practices not only boosts morale but also cultivates a supportive organizational culture where appreciation and acknowledgment are integral to daily operations. By integrating regular and meaningful recognition into their practices, organizations foster an environment where employees are motivated to perform at their best, contributing to overall organizational success and employee well-being.

3) Non-financial Rewards

Non-financial rewards play a pivotal role in modern organizations by offering diverse benefits beyond monetary compensation, thereby enhancing job satisfaction and fostering greater employee engagement. According to Dessler (2020), these rewards encompass a range of incentives such as flexible work arrangements, which allow employees to achieve a better work-life balance and enhance their overall job satisfaction. Additionally, privileges such as preferred parking spots or access to exclusive amenities contribute to creating a positive work environment where employees feel valued and appreciated for their contributions. Furthermore, opportunities for career development and training, as highlighted by Dessler (2020), are critical non-financial rewards that demonstrate organizational commitment to employees' professional growth and skill enhancement. These opportunities not only empower employees to expand their knowledge and capabilities but also foster a sense of loyalty and long-term engagement with the organization. By integrating non-financial rewards

effectively, organizations can create a supportive culture that promotes employee well-being and enhances overall organizational performance.

4) Appropriateness of Punishment

The appropriateness of punishment within organizations is a critical aspect of maintaining discipline and upholding organizational standards. Dessler (2020) emphasizes that effective punishment systems are characterized by fairness, ensuring that disciplinary actions are administered impartially and without bias. This fairness instills trust among employees that disciplinary decisions are based on objective criteria rather than subjective judgment. Consistency in punishment, as noted by Dessler (2020), is equally vital, ensuring that similar infractions are met with comparable consequences across the organization. This consistency reinforces the organization's commitment to fairness and helps establish clear expectations regarding behavior and accountability. Moreover, Dessler (2020) stresses the importance of proportionality in punishments, where the severity of consequences aligns with the seriousness of the offense committed. This approach prevents disproportionate reactions and supports a balanced disciplinary process that respects the dignity of all employees involved. Ultimately, an appropriate punishment system, as outlined by Dessler (2020), not only discourages undesirable behaviors but also promotes a culture of compliance with organizational policies, contributing to a cohesive and productive work environment.

2.2 Previous Studies

The following table offers a succinct but thorough summary of ongoing research on people safety awareness, safety leadership, and reward punishment in the context of safety culture from the past to the present. It does this by contrasting the author's own research with the results of earlier studies. Table 2. Previous research is shown below.

Table 2. Previous Research	Fin ding	Safety leadership positively affects commitment to and involvement in safety, and safety leadership's safety awareness positively impacts safety monitor. Positive effects on safety training within the safety climate are also a result of the safety leadership's safety motivation.	Safety performance is positively impacted by safety behavior, safety leadership, and safety culture. Compared to when it is mediated by safety behavior, the direct impact of safety leadership and safety culture on safety performance is more significant.	Perceived safety climate and safety participation both showed positive correlations with transformational leadership, with perceived safety climate acting as a partial mediating factor between leadership and safety participation. While transformative leadership is mainly linked to promoting employee involvement in safety, transactional leadership is crucial for guaranteeing adherence to laws and regulations.
	Vari able s	Safety leadership, safety climate	safety performance, safety behavior, safety leadership, and safety culture.	Safety behavior, perceived safety climate, and safety leadership.
	Year s	2012	2021	2012
	Aut hors	Xuesheng Du, Wenbiao Sun	Supardi S, Grahita Chandrarin, Sunardi	Sharon Clarke
	Publ isher s	Science Direct	EAS Publisher	Wiley
	Title s	An investigation into the connection between coal mine safety climate and safety leadership.	Safety Leadership and Safety Culture's Role in Improving Safety Performance.	Transformational and transactional leadership philosophies as precursors to safety behaviors are reviewed meta-analytically in safe leadership.

	No	1	2	3
Table 2. Previous Research	Findings	Strong safety leadership improves safety performance and fosters a positive safety culture. Enhanced safety awareness among employees leads to better safety outcomes. Both leadership and awareness are integral to developing a strong safety culture and improving performance.	Leadership effectiveness is key to fostering a strong safety culture. Reward systems for safe behavior enhance safety performance and reinforce safety culture. A well-developed safety culture, supported by leadership and rewards, leads to better safety performance.	Effective safety training programs are fundamental for raising safety awareness. Leadership significantly affects safety culture and performance. A balanced approach to reward and punishment is crucial for maintaining a strong safety culture.
	Variables	Safety Leadership, Safety Awareness, Safety Performance	Safety Leadership, Reward Systems, Safety Culture	Safety Training, Safety Leadership, Reward and Punishment
	Years	2023	2023	2022
	Authors	Li, X., Xu, W., Liu, X., & Wang, X.	Smith, M. A., & Johnson, R. C	Lee, J. Y., & Choi, S. J.
	Publishers	Safety Science	Journal of Environmental Management	Journal of Safety Research

	Title	An analysis from China shows how safety awareness and safety leadership affect safety performance in the mining industry.	Examining the Impact of Leadership, Reward Systems, and Safety Culture on Safety Performance in the Mining Industry.	The Impact of Safety Management Strategies on Safety Performance and Culture in the Mining Industry.
	No	4	5	6
Table 2. Previous Research	Finding	Effective leadership is crucial for fostering a safety culture. Open and effective communication supports safety initiatives and culture. Rewards for safety compliance	The more deeply military volunteer soldiers sense safety leadership, the clearer their risk perception will be and the more helpful it would be in achieving safety performance. risk perception can serve as a mediator while safety culture can mediate the relationship between safety leadership and safety performance.	Training programs are essential for raising safety awareness. Leadership drives safety culture and improves safety behavior. Incentives for safe behavior enhance safety culture and performance.
	Variables	Safety Leadership, Safety Communication, Reward Systems	safety leadership, risk perception, safety culture, and safety performance	Safety Training, Safety Leadership, Incentives
	Years	2023	2023	2023
	Authors	Tan, S. M., & Cheong, K. H.	Siao-Yun Wei	Zhang, Y., & Xu, J.

	Publisher	International Journal of Hospitality Management	Frontier	Resources Policy
	Title	Hotel Safety Culture: The Function of Safety Leadership, Safety Communication, and Reward Systems.	The case study of military volunteer soldiers demonstrates the relationship between safety leadership, risk perception, safety culture, and safety performance.	Safety Behavior and Culture in Mining Operations: The Impact of Safety Training, Leadership, and Incentives.
	No	7	8	9

2.3 Study Differences

The purpose of the author's research was to ascertain the impact on safety culture of individual safety awareness, safety leadership, and reward and punishment systems. The author wants to find out how safety leadership, reward and punishment systems, and employee safety awareness are applied to safety culture in Indonesian mining companies. This investigation is based on prior research. In this study, safety culture is examined as a dependent variable using quantitative methods. This study aims to investigate the behaviors of coal miners in Indonesia through surveys and interviews. It's critical to establish and uphold a personnel program in the fields of human resource management and environmental health safety.

Utilizing unit analysis and quantitative research methods, safety performance in the mining, hotel, and construction industries has been the subject of prior research. Numerous prior studies have established correlations between variables, including the impact of incentives, leadership, and safety training on safety culture and behavior in mining operations (Zhang et al., 2023), Security leadership, risk perception, security culture, and security performance: a case study using military volunteer soldiers (Siao and Yun, 2023); Safety leadership, safety communication, and reward systems: a role in hotel safety culture (Tan et al., 2023).

2.4 Hypothesis Development

Examining how independent factors affect the dependent variable is the goal of hypothesis testing. The degree to which variables influence one another is indicated by the path coefficient (β). To evaluate hypotheses 1 to 3, a one-sided t-test will be employed to determine whether a variable significantly affects the hypothesis using PLS-SEM software. The bootstrap report is utilized to assess if there exists a significant relationship among the variables under examination. It is crucial that the minimum number of bootstrap samples exceeds the number of valid observations in the original dataset, typically set at 500 (Sarstedt, Ringle, & Hair, 2017). If the t-value surpasses 1.65 at a 5% significance level and the p-value (probability value) is below 0.05, the hypothesis can be deemed acceptable.

To find out the effect of each variable requires hypothesis testing. Hypotheses in this study include:

2.4.1 People's awareness of safety and its impact on safety culture.

The hypothesis that people safety awareness (X1) positively influences safety culture (Y) is based on the Health Belief Model and the Theory of Planned Behavior, which suggest that increased awareness and knowledge significantly impact individuals behaviors and attitudes. In the context of workplace safety, raising employees awareness about safety issues leads to a deeper understanding of potential hazards and the importance of adhering to safety protocols. As employees become more knowledgeable about safety practices, they are more likely to adopt safe behaviors, thereby contributing to a stronger and more proactive safety culture. Empirical studies support this, indicating that the importance of targeted safety awareness campaigns in fostering a positive safety culture, ultimately reinforcing the overall safety culture (Clarke, 2019); (Jones et al., 2017)

As a result, This study aims to investigate the following hypothesis.

H₁#1: Safety culture is positively and significantly impacted by people's awareness of personal safety.

2.4.2 Safety leadership's impact on safety culture.

The hypothesis that safety leadership (X2) positively influences safety culture (Y) is grounded in Transformational Leadership Theory, which posits that leaders who inspire, motivate, and demonstrate a commitment to safety can significantly shape their followers' attitudes and behaviors. Effective safety leadership involves setting a clear vision for safety, modeling safe behaviors, and creating an environment where safety is prioritized. Leaders who actively promote and engage with employees on safety issues can embed safety values within the organizational culture, leading to a more robust and deeply embedded safety culture. Empirical evidence supports this, showing that transformational leadership positively impacts safety outcomes by influencing employees' attitudes towards safety and promoting a culture of safety (Conchie & Burns, 2019); (Tan et al., 2023); (Smith and Johnson, 2023).

As a result, the following is the hypothesis for this study.

H₂#2: Safety culture is positively and significantly impacted by safety leadership.

2.4.3 The impact of reward and punishment on the safety culture

The hypothesis that a reward and punishment system (X3) positively influences safety culture (Y) is based on Behaviorist Theory, particularly Operant Conditioning, which explains how reinforcement strategies can shape behavior. Implementing a structured reward and punishment program can effectively encourage employees to consistently adhere to safety protocols by reinforcing positive safety behaviors and deterring unsafe practices. When employees are rewarded for following safety procedures and penalized for violations, it creates a system of accountability that promotes a culture where safety is a top priority. Research supports this, showing that reinforcement strategies such as incentives for safe behavior and penalties for unsafe actions are effective in modifying employee behavior and reinforcing desired safety practices (Hoffmeister et al., 2020); (Lee and Choi, 2022).

As a result, the following is the hypothesis for this study.

H₃#3: Safety culture is positively and significantly impacted by reward and punishment.

The research paradigm incorporates the previously discussed formulations and descriptions of hypotheses, as illustrated in Figure 4.