

The Role of Safety Culture, Clinical Leadership Capacity, and Teamwork

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Abstract

Purpose: This study aimed to examine the effects of patient safety culture and clinical leadership capacity on nurses' incident reporting compliance, with teamwork tested as a mediating mechanism.

Research methodology: A census survey was conducted among 204 nurses at the Sentra Medika Hospital Cikarang. Data were collected using a structured questionnaire comprising 18 validated indicators and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM).

Results: The results indicate that Patient safety culture significantly and positively affected both incident reporting compliance and teamwork. Clinical leadership capacity also had significant positive effects on teamwork and reporting compliance. Notably, teamwork had a significant negative direct effect on incident reporting compliance, suggesting a preference for informal, team-based problem resolution that may substitute formal reporting processes. However, teamwork significantly mediated the relationships between patient safety culture, clinical leadership capacity, and reporting compliance.

Conclusions: The findings highlight the paradoxical role of teamwork in patient safety. While collaborative environments are essential, they must be strategically aligned with nonpunitive and transparent reporting systems. Strengthening patient safety culture and clinical leadership while institutionalizing team practices that reinforce formal reporting is essential for enhancing sustainable patient safety performance.

Limitations: This study was limited to a specific hospital setting and may not be generalizable to all healthcare environments. Additionally, the study relied on self-reported data, which may have introduced bias.

Contributions: This study contributes to the understanding of how patient safety culture, clinical leadership capacity, and teamwork interact to influence incident reporting compliance in hospitals, emphasizing the need for a balanced approach that integrates formal reporting systems and collaborative team practices.

Keywords: *Clinical Leadership, Incident Reporting, Patient Safety Culture, Teamwork,*

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1. Introduction

Patient safety remains a persistent global challenge and is a critical indicator of health system quality. The World Health Organization estimates that adverse events affect nearly one in ten hospitalized patients in high-income countries and contribute to over 2.6 million deaths annually in low- and middle-income countries (WHO, 2020). Despite rapid advances in medical technology and digital health systems, preventable patient harm continues to occur at alarming rates, highlighting systemic weaknesses rather than isolated errors.

Incident reporting systems are internationally recognized as the cornerstone of patient safety improvement. Beyond documentation, these systems function as organizational learning mechanisms that enable health facilities to identify risks, analyse root causes, and prevent the recurrence of adverse events. Evidence from the Agency for Healthcare Research and Quality indicates that higher reporting rates are associated with stronger safety culture and more proactive risk management. However, global evidence consistently demonstrates substantial underreporting, particularly of near misses, undermining the effectiveness of reporting systems and limiting organizational learning (Dhamanti, Rachman, Sholikhah, & Tjahjono, 2025; Fekadu et al., 2025).

Nurses play a pivotal role in patient safety because they constitute the largest professional group in hospitals and maintain continuous patient contact. Nevertheless, empirical studies across diverse healthcare settings have shown that nurses' compliance with incident reporting remains suboptimal. Reported barriers include fear of blame or punishment, lack of feedback, inadequate leadership support, and weak teamwork dynamics (Alanazi, Lapkin, Molloy, & Sim, 2023; Alsobou et al., 2025). These findings suggest that technical systems alone are insufficient; rather, reporting behaviour is deeply embedded in organizational culture and social context.

Patient safety culture, defined by shared values, beliefs, and norms regarding safety, has emerged as a key determinant of incident-reporting behaviour. Hospitals characterized by open communication, non-punitive responses to error, and effective feedback mechanisms demonstrate significantly higher reporting rates and improved safety outcomes (Chiang, Lee, Lin, & Ma, 2019; Martins, Bellagamba, Simon, Bucher Andary, & Zúñiga, 2025). Psychological *safety*, which enables healthcare workers to speak up about errors and risks without fear of reprisal, is central to this culture (Edmondson, 2018). Leadership practices that promote trust, inclusivity, and learning from failure are therefore essential in sustaining effective reporting systems (Pamela, Ahsan, & Wardhani, 2025).

In parallel, growing attention has been directed toward the clinical leadership capacity of nurses. Clinical leadership extends beyond formal managerial roles and encompasses influence, professional accountability, emotional intelligence, and the ability to mobilize colleagues toward shared safety objectives. Nurses with strong clinical leadership capacities are more likely to demonstrate initiative, ethical responsibility, and adherence to safety protocols, including incident reporting (Guo et al., 2022; Stanley & Stanley, 2018). However, leadership capacity alone may not translate into reporting compliance unless supported by a collaborative and trusting work environment.

Therefore, teamwork has been proposed as a critical mediating mechanism linking organizational culture and leadership to safety behaviours. Effective teamwork—characterized by mutual support, coordination, and open communication—has been shown to strengthen nurses' willingness to report incidents and near misses (Garay, Haeger, Kühnlein, Sulmann, & Suhr, 2023; Shameela & Sulistiadi, 2024). Cohesive teams reduce individual fear and normalize reporting as a collective responsibility rather than a personal risk.

Despite growing international evidence on patient safety culture, leadership, and teamwork, empirical studies integrating these constructs into a single explanatory model—particularly examining teamwork as a mediating variable—remain limited, especially in hospital settings in middle-income countries. Addressing this gap, the present study investigates the influence of patient safety culture and clinical leadership capacity on nurses' compliance with incident reporting, with teamwork as an intervening variable in an accredited Indonesian hospital. By adopting this integrative perspective, this study aims to advance the theoretical understanding of safety behaviour formation and provide actionable insights for strengthening incident reporting systems in hospital practice.

2. Literature Review

2.1 Incident Reporting Compliance

Nurses' compliance with incident reporting is a critical component of hospital risk management and patient safety. Timely and accurate reporting enables healthcare organizations to identify safety risks, conduct root cause analyses, and prevent the recurrence of adverse events (WHO, 2020). Therefore,

incident reporting is not merely an administrative requirement but a core element of professional accountability and ethical nursing practice. Incident reporting compliance is defined as nurses' voluntary behaviour in reporting adverse events, near-misses, or errors without direct patient harm (Gemeda & Kibret, 2025). High reporting compliance reflects a commitment to safe, transparent, and learning-oriented care.

However, empirical evidence consistently indicates that reporting rates are suboptimal across healthcare settings. Prior studies have identified both individual and organizational determinants of reporting compliance. Individual factors include knowledge, attitudes toward reporting, motivation, and self-efficacy, whereas organizational factors encompass patient safety culture, leadership support, system accessibility, and feedback mechanisms (Hajizadeh et al., 2025; Lee, Nam, Suh, Lee, & Lee, 2025). Nurses who perceive strong managerial support and understand the benefits of reporting are more likely to comply, while fear of blame, punishment, or negative labelling remains a major barrier (Yilmaz, Yildiz Keskin, & Sönmez, 2025).

Recent research emphasizes the role of broader psychological and organizational frameworks in shaping the reporting behavior. Trust in the organization and perceived benefits of reporting have been shown to exert stronger effects on reporting intention than perceived risks, highlighting the importance of institutional credibility and learning-oriented responses to error (Elseesy, Almezraq, Hafez, Felemban, & Felemban, 2025). In this context, the Psychosocial Safety Climate (PSC) has gained prominence as a determinant of safety behavior. PSC reflects employees' perceptions of organizational commitment to psychological health through fair policies, open communication and participatory management. A strong PSC is associated with lower work stress, higher engagement, and improved patient safety outcomes, including incident reporting (Alabdullah & Karwowski, 2024; Dera, Adedokun, & Iyiola, 2025; Zadow, Dollard, Dormann, & Landsbergis, 2021).

Although the Theory of Planned Behaviour remains widely applied to explain reporting compliance, recent extensions incorporating professional norms, moral obligation, and anticipated regret demonstrate enhanced explanatory power (Zarandona, Labaka, Unanue-Arza, & Lapkin, 2025). Moreover, structural factors such as transparent reporting procedures, consistent managerial feedback, and inclusive leadership have been shown to significantly strengthen nurses' participation in incident reporting systems (Garay et al., 2023; Javed, Naqvi, Khan, Arjoon, & Tayyeb, 2019; Pamela et al., 2025). Overall, incident reporting compliance emerges from the interaction between individual motivation, psychological safety, and organizational support. Building trust-based, non-punitive environments supported by inclusive leadership is essential for sustaining effective and transparent incident-reporting systems.

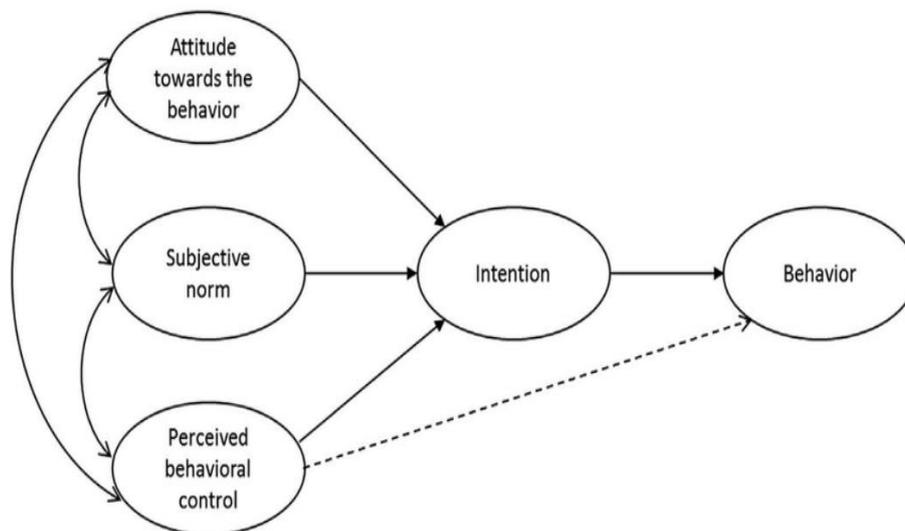


Figure 1. Theory of planned behavior

2.2 Patient Safety Culture

Patient safety culture is a fundamental foundation of healthcare systems aimed at minimizing risks, errors, and patient harm. It reflects the shared values, norms, attitudes, and behaviors that shape how organizational members prioritize and enact patient safety in daily practice (Desty, 2025). In hospital settings, safety culture extends beyond formal policies and must be embedded in routine clinical work, particularly among nurses who are at the frontline of patient care delivery. Recent studies emphasize that an effective patient safety culture is strongly associated with active nurse engagement, open interprofessional communication, and supportive leadership (Alanazi et al., 2023; Chilukuri & Westerman, 2024).

A widely cited conceptualization by Berglund, Johansson, Johansson, Nygren, and Stenberg (2025) frames safety culture as the dynamic interaction between organizational structures, work processes, and individual behaviour. This reciprocal model remains highly relevant, as contemporary evidence confirms that safety culture is strengthened when leadership commitment, supportive systems, and staff participation are aligned. Empirical studies have demonstrated that organizational support and individual safety behaviors jointly contribute to improved care quality and reduced safety incidents (Alanazi et al., 2023; Garay et al., 2023).

Safety culture has also been described as an operational construct encompassing leadership practices, communication patterns, behavioural norms, performance monitoring, just culture principles, and continuous improvement mechanisms. Hospitals characterized by nonpunitive responses to errors, transparent reporting systems, and consistent feedback show stronger safety cultures and higher engagement in patient safety activities. Evidence from both international and Indonesian contexts indicates that integrating safety culture into nurses' daily practices through learning-oriented reporting and collective reflection is essential for sustaining patient safety improvement (Chilukuri & Westerman, 2024; Garay et al., 2023).

From a social and cognitive perspective, safety culture develops through shared experiences and collective sense-making processes that influence how healthcare workers perceive and manage risks (Al-Mekhlafi, Kanwal, Alhadj, Isha, & Baarimah, 2025). Organizations with strong safety cultures promote open communication, learning from errors, and staff empowerment, which are consistently associated with lower adverse event rates and better patient outcomes (Alanazi et al., 2023; Garay et al., 2023). Thus, patient safety culture can be understood as a dynamic social construct shaped by organizational systems, leadership, and daily clinical interactions.

2.3 Patient Safety Culture

Patient safety culture is a fundamental pillar of healthcare systems, shaping how organizations prevent errors and minimize patient harm. It encompasses shared values, norms, attitudes, and behaviors that guide the collective commitment to safety in daily practice. In hospital settings, safety culture must extend beyond formal policies and be embedded in routine clinical activities, particularly among nurses, who play a central role in patient care. Recent evidence highlights that effective safety culture implementation depends on active nurse engagement, open interprofessional communication and supportive leadership (Alanazi et al., 2023; Chilukuri & Westerman, 2024).

Berglund et al. (2025) Reciprocal Safety Culture Model conceptualizes safety culture as a dynamic interaction between organizational structures, work processes, and individual behaviour. This framework remains highly relevant, as contemporary studies demonstrate that the alignment between leadership commitment, supportive systems, and staff participation is essential for strengthening the safety culture in hospitals. Empirical findings show that organizational support and individual safety behaviours jointly contribute to reduced care omissions and improved service quality (Alanazi et al., 2023; Garay et al., 2023).

Safety culture is not merely normative but operational in nature, encompassing leadership practices, communication patterns, just culture principles, performance monitoring, and continuous improvement mechanisms (Lonatrasta & Tj, 2025). Hospitals characterized by non-punitive responses to errors,

transparent reporting systems, and consistent feedback exhibit stronger safety cultures and higher staff engagement in patient safety initiatives. Evidence from the Indonesian context further indicates that integrating safety culture into nurses' daily practices through learning-oriented incident reporting and collective reflection is critical for sustaining patient safety improvement (Chilukuri & Westerman, 2024).

From a social–cognitive perspective, safety culture evolves through shared experiences and collective sense-making processes that shape how healthcare workers perceive and manage risks (Al-Mekhlafi et al., 2025). Organizations with strong safety cultures foster open communication, learning from errors, and staff empowerment, which are consistently associated with improved care quality and lower rates of adverse events (Alanazi et al., 2023; Garay et al., 2023). Thus, patient safety culture can be understood as a dynamic social construct emerging from the interaction of organizational systems, leadership, and clinical practice.

2.4 Clinical Leadership Capacity

Clinical leadership capacity refers to the ability of healthcare professionals, particularly nurses, to lead everyday clinical practice in ways that enhance patient safety and care quality (Stanley & Stanley, 2018). This capacity is not determined by a formal hierarchical position but by a combination of interpersonal competence, clinical decision-making skills, effective communication, and the ability to exert a positive influence on colleagues and patients. Nurses with strong clinical leadership capacity function as role models, actively engage in clinical decision-making, and demonstrate strong commitment to professionalism, ethical standards, and patient safety. Clinical leadership capacity plays a pivotal role in strengthening the patient safety culture and promoting compliance with incident reporting systems (Beecham et al., 2025).

Consistent with El-Sayed, Mohamed, Baddar, and Khattab (2025), effective clinical leadership supports incident reporting by fostering psychologically safe, fair, and collaborative work environments. When nurses possess high clinical leadership capacity, they are more likely to proactively identify and report patient safety risks. Importantly, clinical leadership in this context is not structural or positional but relational and practice-oriented. It emerges through clinical influence and everyday interactions that shape local work practices and safety standards. Thus, clinical leadership capacity is a critical mechanism through which nurses contribute to patient safety improvement and the effective functioning of incident reporting systems.

2.5 Teamwork

Teamwork is a fundamental component of effective and safe healthcare delivery systems. In hospital settings, teamwork refers to the ability of healthcare professionals, such as nurses, physicians, and allied staff, to work collaboratively, support one another, and coordinate actions to ensure high-quality care and patient safety. The World Health Organization emphasizes that effective teamwork relies on open communication, mutual trust, and interprofessional coordination, reflecting the collective nature of modern healthcare practices. Classical team theory defines a team as a group of individuals with complementary skills committed to shared goals and mutual accountability.

In complex and dynamic hospital environments, where clinical decisions are often interdisciplinary, aligning goals and sharing responsibilities is essential. Teamwork is therefore not merely a structural arrangement but a behavioural and psychological process involving communication, trust, role clarity, and collaborative problem-solving (Arzani, Amerzadeh, Alizadeh, Moosavi, & Kalhor, 2025). From a patient safety perspective, teamwork occupies a central position in the safety culture framework. Berglund et al. (2025) model highlights teamwork as the intersection of individual competence, work processes, and organizational support, while major safety culture instruments—such as the AHRQ framework and the Manchester Patient Safety Framework—identify teamwork as a core dimension of patient safety culture. Effective teamwork facilitates coordination, reduces communication failures, and supports learning from errors.

Empirical evidence consistently demonstrates that teamwork influences incident-reporting behavior. Poorly functioning teams are associated with communication breakdowns, unreported errors, and increased safety risks (Nugroho, Said, & Said, 2025). In contrast, collaborative teams characterized by openness and mutual support foster psychological safety, enabling staff to report incidents without fear of blame or retribution. Studies in hospital settings have shown that higher levels of teamwork and communication openness are associated with greater compliance with incident reporting (Shameela & Sulistiadi, 2024).

In the Indonesian healthcare context, collectivist values may provide a strong foundation for teamwork. However, hierarchical organizational structures often inhibit open communication and egalitarian collaboration, leading to incident reporting being perceived as criticism rather than learning. Recent evidence indicates that teamwork is a critical mediating mechanism through which organizational culture and leadership influence incident reporting compliance. This suggests that system-level interventions are most effective when accompanied by deliberate efforts to strengthen teamwork and interprofessional collaboration.

2.6 Hypothesis Development

2.6.1 Patient Safety Culture and Incident Reporting Compliance

Patient safety culture reflects the shared values, beliefs, and norms that prioritize patient safety within healthcare organizations. Key elements include openness in discussing errors, mutual trust among staff, non-punitive reporting systems, and leadership commitment to quality improvement. A strong safety culture encourages healthcare workers to recognize errors and feel psychologically safe and supported when reporting them.

Empirical studies have consistently shown that positive perceptions of patient safety culture are associated with higher incident reporting compliance. When staff members believe that reports are used for system improvement rather than individual blame, reporting becomes a professional responsibility rather than a personal risk. Hospitals with strong safety cultures demonstrate more active and responsive reporting systems that enable organizational learning and error prevention.

H₁: Patient safety culture positively affects incident reporting compliance.

2.6.2 Clinical Leadership Capacity and Incident Reporting Compliance

Clinical leadership capacity refers to healthcare professionals' ability, particularly nurses, to influence peers, guide clinical practice, and promote safe and high-quality care. Effective clinical leaders foster trust, openness, and psychological safety, which are essential for encouraging incident reporting in healthcare settings. Research indicates that strong clinical leadership reduces fear of blame, promotes learning-oriented responses to errors, and increases staff willingness to report incidents. Leadership that emphasizes integrity, support, and system improvement strengthens reporting compliance by framing it as a collective responsibility rather than an administrative burden.

H₂: Clinical leadership capacity positively affects incident reporting compliance.

2.6.3 Patient Safety Culture and Teamwork

Patient safety culture provides a foundation for effective teamwork by promoting trust, open communication, and shared responsibility. In hospitals with a mature safety culture, team members collaborate more effectively, value diverse professional perspectives, and engage in joint decision-making to improve patient safety. Empirical evidence shows that non-blaming, learning-oriented cultures foster stronger teamwork, enabling smoother coordination and mutual support among healthcare professionals.

H₃: Patient safety culture positively affects teamwork.

2.6.4 Clinical Leadership Capacity and Teamwork

Clinical leadership plays a central role in shaping the team dynamics. Leaders who demonstrate effective communication, conflict management, and collaborative decision-making create an environment in which teamwork can flourish. Strong clinical leadership aligns roles, reduces interprofessional conflicts, and enhances coordination within care teams. Studies have confirmed that

leadership capacity directly improves team communication, accountability, and collaboration, which are essential for effective healthcare delivery.

H₄: Clinical leadership capacity positively affects teamwork.

2.6.5 Teamwork and Incident Reporting Compliance

Effective teamwork enhances incident-reporting compliance by fostering open communication, shared accountability, and mutual trust. In cohesive teams, staff feel supported when disclosing errors and are more willing to report incidents without fear of negative repercussions. Conversely, poor teamwork is a major contributor to communication failure and underreporting. Empirical evidence consistently shows that teams characterized by strong collaboration and communication demonstrate higher compliance with reporting.

H₅: Teamwork positively affects incident reporting compliance.

2.6.6 The Mediating Role of Teamwork

Teamwork plays a strategically mediating role in linking patient safety culture and clinical leadership capacity to incident reporting compliance. Safety culture and leadership values influence reporting behaviour most effectively when translated into daily collaborative practices within teams. Without effective teamwork, cultural norms and leadership capacity remain abstract and fail to shape actual behaviours. Clinical leaders operationalize the safety culture by fostering collaboration, shared responsibility, and psychological safety within teams. Strong teamwork enables staff to internalize safety values and act collectively in reporting incidents.

H₆: Teamwork mediates the relationship between patient safety culture and incident reporting compliance.

H₇: Teamwork mediates the relationship between clinical leadership capacity and incident reporting compliance.

2.7 Conceptual Framework

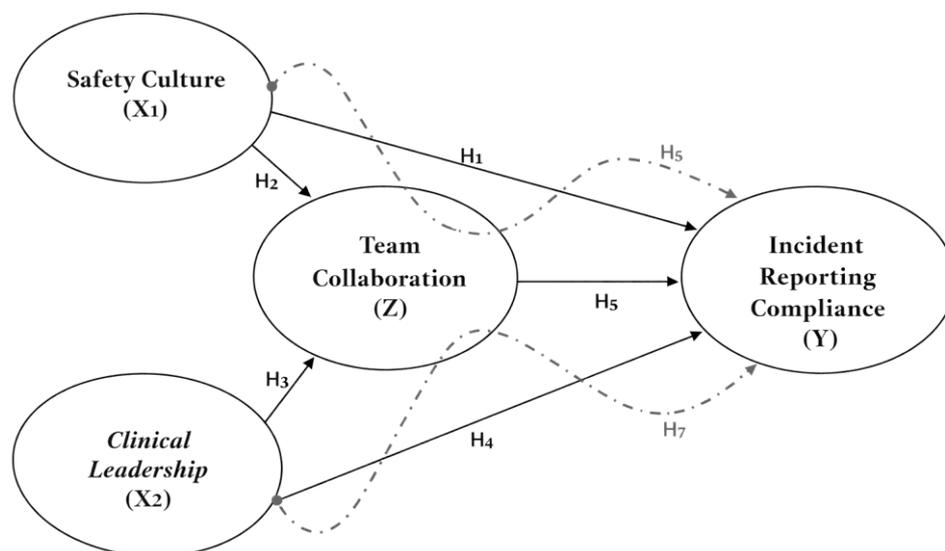


Figure 2. Research conceptual framework

3. Methodology

This study adopts a quantitative approach because it aims to systematically examine the relationships between variables using numerical data. Through this approach, the analysis is based on data processing to test hypotheses that have been formulated beforehand. The main focus of this research is to understand the causal relationships that occur between independent and dependent variables, including

the intervening variables that play a role in strengthening or weakening these effects. This study specifically evaluates the impact of safety culture and clinical leadership capacity on incident reporting compliance, with teamwork as a mediating variable.

3.1 Subjects and Objects of Research

This study was conducted at Sentra Medika Cikarang Hospital from July to August 2025. The study subjects included all employees who had direct roles in patient care at the hospital. The focus of the research was to assess the impact of safety culture and clinical leadership capacity on teamwork and incident reporting compliance.

3.2 Population and Sample

The study population consisted of healthcare workers, including medical and paramedical staff, who worked at Sentra Medika Cikarang Hospital, totaling 204 individuals. The sample size in this study was determined based on the approach suggested by Hair et al. (2010), which recommends a minimum sample size of five to ten times the number of indicators used in the research instrument. In this study, there are a total of 18 indicators from the four variables under investigation, so the recommended sample size is between 90 and 180 respondents.

However, given that the total population of the study, which is 204 nurses at Sentra Medika Cikarang Hospital, is within the range that allows for complete inclusion, this study used a census technique. The census technique is a data collection method in which all members of the population are made respondents in the study. This method was chosen because the population size is relatively small, making it feasible to reach all individuals, thus minimizing potential sample bias and improving the external validity of the study. Therefore, the sample size in this study was the entire population of 204 respondents, all nurses working at Sentra Medika Cikarang Hospital.

3.3 Type and Source of Data

The type of data used in this study is primary data, which is directly collected from respondents through a questionnaire instrument that was developed based on the indicators of the research variables. This data is original and specifically gathered to answer the research question. The data source in this study was all the nurses at Sentra Medika Cikarang Hospital who were directly involved in patient care and were considered to have relevant experience and knowledge regarding patient safety incident reporting.

3.4 Operational Definitions of Variables

Table 1. Operational definitions of variables

No	Variable	Definition	Indicators
1	Patient Safety Culture (X_1)	A combination of values, attitudes, norms, perceptions, and behaviors within an organization is focused on patient safety. This culture encompasses organizational, work-related, and individual aspects, guided by frameworks such as MaPSaF and AHRQ (Lawati, Dennis, Short, & Abdulhadi, 2018).	<ol style="list-style-type: none"> 1. Leadership commitment to patient safety 2. Open and effective communication 3. A culture of learning from incidents 4. Support for a non-punitive reporting system
2	Clinical Leadership Capacity (X_2)	The capacity of nursing individuals to lead clinical practice and improve safety and service quality encompasses five key domains based on the NHS CLCF (Mrayyan et al., 2023).	<ol style="list-style-type: none"> 1. Demonstrating personal qualities (self-awareness, integrity, self-development) 2. Working with others (communication, collaboration, conflict management) 3. Managing services (planning, resource management, quality)

			evaluation) 4. Improving services (innovation and service improvement) 5. Setting direction (strategic vision and evidence-based decision-making)
3	Team Work (Z)	The ability of team members in a hospital environment to work effectively together through open communication, coordination, and mutual trust to achieve patient safety goals (Meneses-La-Riva et al., 2025).	1. Coordination among team members in patient care 2. Open and honest communication 3. Trust among professions 4. Team support for incident reporting 5. Collective responsibility for patient safety
4	Incident Reporting Compliance (Y)	The frequency and consistency of healthcare workers in reporting patient safety incidents (Elmi et al., 2025).	1. Frequency of incident reporting 2. Timeliness of reporting 3. Completeness of the report content 4. Willingness to report near-misses

3.5 Data Collection Technique

Data were collected using closed-ended questionnaires distributed to respondents. The questionnaire was designed based on the indicators of each research variable and utilized a five-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree." The statements and scores used in this study were as follows.

- a. Score 1 for Strongly Disagree (SD)
- b. Score 2 for Disagree (D)
- c. Score 3 for Neutral (N)
- d. Score 4 for Agree (A)
- e. Score 5 for Strongly Agree (SA)

3.6 Data Analysis Technique

The data obtained in this study will be analyzed using descriptive and inferential statistical approaches. Descriptive statistics will be used to describe the general characteristics of the respondent data, while inferential statistics will be used to test the relationships between research variables. The main analytical technique used is Partial Least Squares Structural Equation Modeling (PLS-SEM), which will be operated using SmartPLS software.

The selection of the PLS-SEM method was based on several considerations, including its ability to analyze complex models with latent variables, accommodate non-normal data distributions, and remain effective even with relatively small sample sizes. PLS-SEM also allows for the simultaneous testing of both the measurement (outer) and structural (inner) models.

- a. The outer model (measurement model) was used to test the validity and reliability of the indicators reflecting the latent constructs of each variable.
 1. Validity Test
Validity refers to the extent to which an instrument measures what it is intended to measure. An instrument is considered valid if its indicators accurately represent the construct. In PLS-SEM, validity is measured through outer loading values, Average Variance Extracted (AVE), and discriminant validity. An item was considered valid if it had an outer loading value ≥ 0.70 and $AVE \geq 0.50$.
 2. Reliability Test
Reliability refers to the consistency of the measurement results when conducted under different conditions or at different times. An instrument is considered reliable if it yields stable and consistent results. In PLS-SEM, reliability is measured using composite reliability and Cronbach's alpha, where both values should be ≥ 0.70 .

- b. The inner model (structural model) is used to test the causal relationships between the latent variables and the direct and indirect effects (mediation) between the variables.
- c. The path coefficient significance test was performed using T-statistics through the bootstrapping method in SmartPLS. The effect between variables is considered significant if the T-statistic value ≥ 1.96 at the 5% significance level ($\alpha = 0.05$).

4. Results and Discussions

4.1 Respondent Characteristics

The respondents of this study were all nurses at RS Sentra Medika Cikarang, totaling 204. The characteristics of the respondents were reviewed based on gender, age, and years of service.

Table 2. Respondent characteristics by gender

Gender	Quantity	Percentage (%)
Male	62	30.4
Female	142	69.6
Total	204	100
Age	Quantity	Percentage (%)
< 25 years	24	11.8
25 – 40 years	155	76
> 40 years	24	12.2
Total	204	100
length of work	Quantity	Percentage (%)
< 5 years	45	22.1
5–10 years	120	58.8
> 10 years	39	19.1
Total	204	100

Based on Table 2, the majority of the respondents had been working for 5–10 years (58.8%), indicating that most nurses have considerable experience, making them expected to understand patient care procedures and incident reporting mechanisms well.

4.2 Data Analysis

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the SmartPLS application. The analysis was conducted by evaluating the outer model (validity and reliability of instruments) and the inner model (hypothesis testing).

4.2.1 Outer Model Analysis

4.2.1.1 Validity and Reliability Test

The results of the convergent validity test in Table 4.4 show that one indicator did not meet the loading factor criterion of > 0.70 . This indicator, X_{1_4} (0.684), was eliminated from the model.

Table 3. Outer loading

	BK (X_1)	CL (X_2)	TW (Z)	KPI (Y)
X_1 1	0.913			
X_1 2	0.864			
X_1 3	0.758			
X_1 4	0.684			
X_1 5	0.872			
X_2 1		0.752		
X_2 2		0.792		
X_2 3		0.806		
X_2 4		0.864		
Z_1			0.764	
Z_2			0.745	

Z_3			0.832	
Z_4			0.793	
Z_5			0.849	
Y_1				0.884
Y_2				0.875
Y_3				0.799
Y_4				0.794

After eliminating the indicators with a loading factor below 0.70 (X_{1_4}), the model was re-evaluated. The evaluation of the corrected outer model showed that all other indicators for each construct had a loading factor > 0.70 . This indicates that these indicators contribute significantly to explaining each latent construct. Therefore, the research instrument, after filtering the indicators, met the convergent validity criteria and was suitable for further analysis.

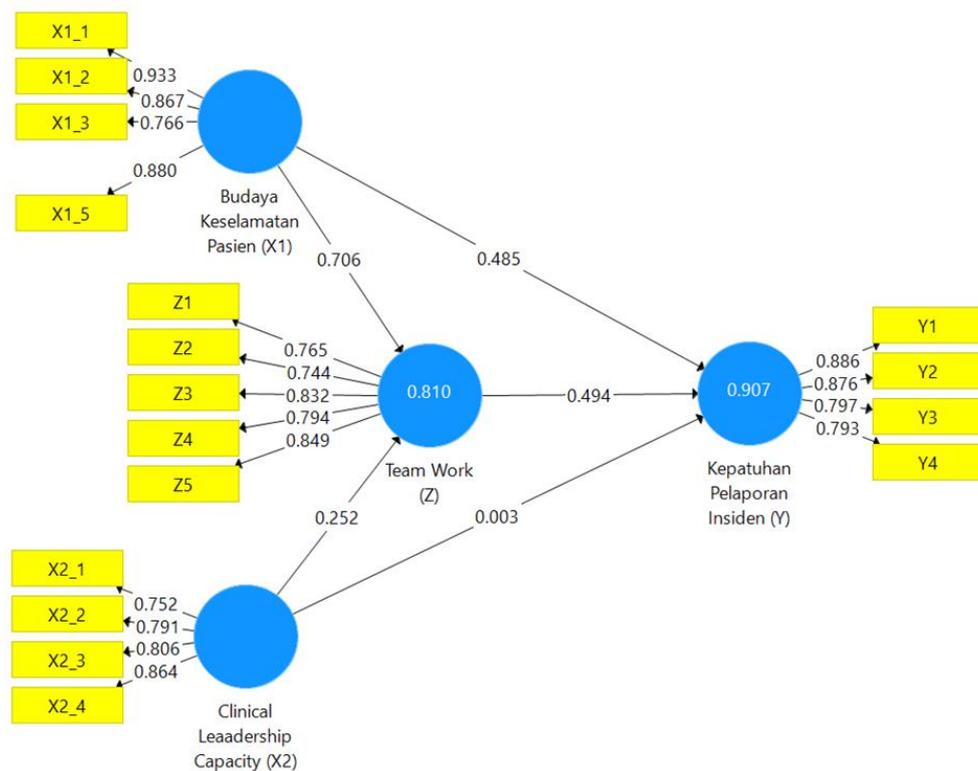


Figure 3. Measurement model with outer model

In Table 4, the Average Variance Extracted (AVE) value for each variable is also above 0.50, thus fulfilling the convergent validity criteria.

Table 4. Cronbach's alpha, composite reliability and AVE

	<i>Cronbach's Alpha</i>	<i>Composite Reability</i>	<i>AVE Value</i>
BKP (X_1)	0.885	0.921	0.745
CLC (X_2)	0.820	0.880	0.647
TW (Z)	0.856	0.897	0.636
KPI (Y)	0.859	0.905	0.704

Table 4 shows that the reliability test, measured by Composite Reliability (CR) and Cronbach's alpha, both exceeded 0.70, indicating that the instrument is reliable.

4.2.2 Structural Model Analysis (Inner Model)

The final stage in PLS modeling is to analyze the structural or inner model. This analysis aimed to test the causal relationships between the latent variables in accordance with the hypotheses formulated earlier. The analysis was conducted using T-statistics and p-values to determine whether the paths between the constructs were statistically significant. Data processing in this study was performed using SmartPLS version 3.0 software. The output from this software includes path coefficients, T-values, and significance levels, which are then used to evaluate whether the hypothesized effects between the research variables can be accepted or rejected.

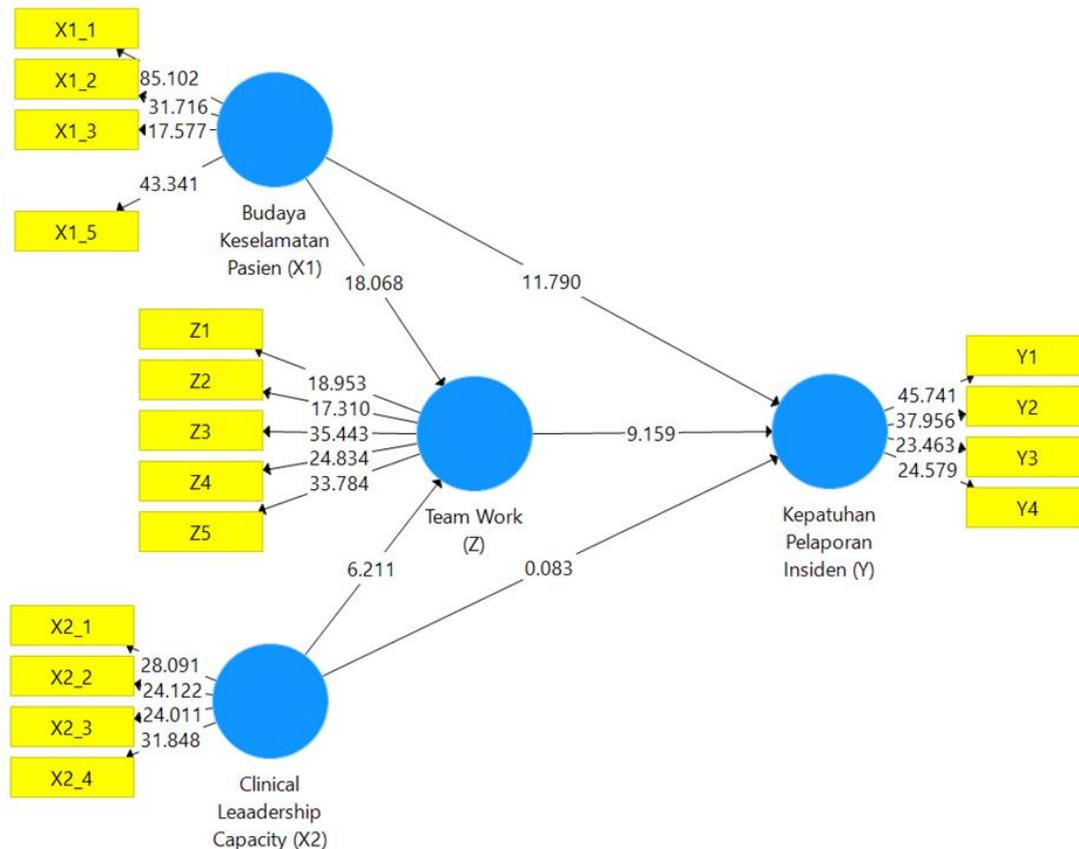


Figure 4. Inner model PLS-SEM

4.2.2.1 Direct Effects Analysis

Based on the data processing results using SmartPLS v3.0, path coefficients, t-statistics, and p-values were obtained, which served as the basis for hypothesis testing. The direct effects analysis of the inner model is presented in Table 6.

Table 5. Path coefficients of direct effects

No	Variable Influence	Original Sample	t-statistic	p-value
1	Patient Safety Culture (X_1) → Incident Reporting Compliance (Y)	0.485	11.790	0.000
2	Patient Safety Culture (X_1) → Team Work (Z)	0.706	18.068	0.000
3	Clinical Leadership Capacity (X_2) → Team Work (Z)	0.252	6.211	0.000
4	Clinical Leadership Capacity (X_2) → Incident Reporting Compliance (Y)	0.003	0.083	0.934
5	Team Work (Z) → Incident Reporting Compliance (Y)	0.494	9.159	0.000

Explanation of the Relationships between Constructs

1. The effect of Patient Safety Culture (X_1) on Incident Reporting Compliance (Y)
The coefficient value of 0.485 with t-statistics of 11.790 ($p = 0.000$) indicates that patient safety culture has a significant positive effect on incident reporting compliance. In other words, the better the patient safety culture established in the hospital, the higher the nurses' compliance with incident reporting.
2. The effect of Patient Safety Culture (X_1) on Team Work (Z)
The path coefficient value of 0.706 with t-statistics of 18.068 ($p = 0.000$) indicates that patient safety culture has a significant positive effect on teamwork. Therefore, strengthening the patient safety culture will improve communication, coordination, and mutual trust among healthcare team members.
3. The effect of Clinical Leadership Capacity (X_2) on Team Work (Z)
A path coefficient of 0.252 with t-statistics of 6.211 ($p = 0.000$) shows that clinical leadership capacity has a significant positive effect on teamwork. In other words, strong clinical leadership by nurses or healthcare workers can strengthen team synergy and improve service delivery effectiveness.
4. The effect of Clinical Leadership Capacity (X_2) on Incident Reporting Compliance (Y)
A path coefficient of 0.003 with t-statistics of 0.083 ($p = 0.934$) indicates that clinical leadership capacity does not have a significant direct effect on incident reporting compliance. This means that clinical leadership does not directly influence nurses' compliance in reporting incidents; however, its role may be more substantial through indirect mechanisms, such as teamwork.
5. The effect of Team Work (Z) on Incident Reporting Compliance (Y)
The path coefficient of 0.494 with t-statistics of 9.159 ($p = 0.000$) shows that teamwork has a significant positive effect on incident reporting compliance. In other words, the better the teamwork in healthcare teams, the higher the compliance with incident reporting.

4.2.2.2 Indirect Effects Analysis

Based on the data processing results with SmartPLS v3.0, the specific indirect effect values were obtained, which explained the indirect influence between the research constructs through the mediating variable (teamwork). The results of this analysis are presented in Table 7.

Table 6. Specific indirect effects

No	Variable Influence	Original Sample	t-statistic	p-value
1	Patient Safety Culture (X_1) → Team Work (Z) → Incident Reporting Compliance (Y)	0.349	7.476	0.000
2	Clinical Leadership (X_2) → Team Work (Z) → Incident Reporting Compliance (Y)	0.125	5.846	0.000

Explanation of Indirect Effects:

1. Patient Safety Culture (X_1) → Team Work (Z) → Incident Reporting Compliance (Y)
The indirect effect coefficient of 0.349 with t-statistics of 7.476 ($p = 0.000$) shows that teamwork positively and significantly mediates the relationship between patient safety culture and incident reporting compliance. This means that the stronger the patient safety culture in the hospital, the better the teamwork, which ultimately improves healthcare workers' compliance in reporting incidents.
2. Clinical Leadership Capacity (X_2) → Team Work (Z) → Incident Reporting Compliance (Y)
The indirect effect coefficient of 0.125 with t-statistics of 5.846 ($p = 0.000$) proves that teamwork also plays a significant mediating role in the relationship between clinical leadership capacity and incident reporting compliance. This implies that although clinical leadership may not directly influence reporting compliance, it can still foster positive contributions through improved teamwork, ultimately enhancing incident reporting compliance.

4.3 Hypothesis Testing

Hypothesis testing was conducted by examining the path coefficients (β), t-statistics, and p-values obtained from the estimation of the structural model. A hypothesis was considered supported when the t-value exceeded 1.96 at the 5% significance level ($\alpha = 0.05$). The results of each hypothesis test are presented below.

H₁: Patient safety culture positively influences incident reporting compliance

The results indicate that patient safety culture positively and statistically significantly affects incident reporting compliance ($\beta = 0.485$; $t = 11.790$; $p < 0.001$). Therefore, *H₁* is supported, suggesting that a stronger patient safety culture leads to higher compliance among healthcare professionals in reporting safety incidents.

H₂: Patient safety culture positively influences teamwork

The path from patient safety culture to teamwork was positive and significant ($\beta = 0.706$; $t = 18.068$; $p < 0.001$). Thus, *H₂* is supported, confirming that a well-established safety culture enhances collaboration, communication, and coordination within healthcare teams.

H₃: Clinical leadership capacity positively influences teamwork

The analysis demonstrated that clinical leadership capacity had a positive and significant effect on teamwork ($\beta = 0.252$; $t = 6.211$; $p < 0.001$). Accordingly, *H₃* is supported, indicating that effective clinical leadership strengthens team coordination and synergy in healthcare settings.

H₄: Clinical leadership capacity positively influences incident reporting compliance

The direct effect of clinical leadership capacity on incident reporting compliance was not statistically significant ($\beta = 0.003$; $t = 0.083$; $p = 0.934$). Therefore, *H₄* is not supported, indicating that clinical leadership does not directly influence compliance with reporting.

H₅: Teamwork positively influences incident reporting compliance

The results show that teamwork positively and significantly affects incident reporting compliance ($\beta = 0.494$; $t = 9.159$; $p < 0.001$). Thus, *H₅* is supported, suggesting that stronger teamwork increases healthcare professionals' willingness to report safety incidents.

H₆: Teamwork mediates the relationship between patient safety culture and incident reporting compliance

The indirect effect of patient safety culture on incident reporting compliance through teamwork was positive and significant ($\beta = 0.349$; $t = 7.476$; $p < 0.001$). Consequently, *H₆* is supported, indicating that teamwork strengthens the influence of the patient safety culture on reporting compliance.

H₇: Teamwork mediates the relationship between clinical leadership capacity and incident reporting compliance

The indirect path from clinical leadership capacity to incident reporting compliance via teamwork was also positive and significant ($\beta = 0.125$; $t = 5.846$; $p < 0.001$). Therefore, *H₇* is supported, demonstrating that although clinical leadership capacity does not directly affect reporting compliance, its influence becomes significant when it is mediated by teamwork.

5. Conclusions

5.1 Conclusion

This study examined the effects of patient safety culture and clinical leadership capacity on incident reporting compliance, with teamwork as a mediating variable, among healthcare professionals at RS Sentra Medika Cikarang Hospital. Based on these empirical findings, several key conclusions can be drawn. First, patient safety culture positively and significantly affected incident reporting compliance. A strong safety culture encourages healthcare professionals to consistently report patient safety incidents, reflecting a work environment that prioritizes learning, transparency, and non-punitive responses to errors. Second, the patient safety culture positively and significantly influenced teamwork.

A well-established safety culture enhances coordination, communication, and mutual trust among healthcare professionals, thereby fostering stronger collaboration.

Third, clinical leadership capacity positively and significantly affects teamwork. Effective clinical leaders strengthen teamwork by providing clear directions, serving as role models, and motivating staff to collaborate across professional boundaries. Fourth, clinical leadership capacity does not have a direct, significant effect on incident reporting compliance. This finding suggests that leadership alone is insufficient to directly influence reporting behavior unless it is translated into supportive team dynamics and daily collaborative practice. Fifth, teamwork positively and significantly affected incident reporting compliance. Teams characterized by strong collaboration, open communication, and shared responsibility are more likely to demonstrate higher compliance with reporting patient safety incidents.

Sixth, teamwork mediates the relationship between patient safety culture and incident reporting compliance. A strong safety culture enhances teamwork, which in turn increases reporting compliance, highlighting the importance of collective processes in translating organizational values into individual behaviors. Finally, teamwork also mediated the relationship between clinical leadership capacity and incident reporting compliance. Although clinical leadership does not directly affect reporting behavior, its influence becomes meaningful through strengthening teamwork, underscoring the indirect but critical role of leadership in promoting patient safety practices.

5.2 Research Limitations

This study had several limitations. First, the research was conducted in a single hospital, which may limit the generalizability of the findings to other healthcare settings with different organizational cultures or leadership. Second, the study employed a cross-sectional design, which restricted the ability to draw causal inferences or capture changes in reporting behavior over time. Third, data were collected using self-reported questionnaires, which may be subject to response bias or social desirability effect.

5.3 Suggestions and Directions for Future Research

Based on the findings and limitations of this study, several recommendations are proposed. For hospital management, it is recommended that the implementation of a patient safety culture be continuously strengthened through regular training, socialization programs, and systematic monitoring. Developing an accessible, transparent, and non-punitive incident-reporting system is essential to ensure that healthcare professionals feel safe and supported when reporting incidents. For clinical leaders, greater emphasis should be placed on fostering teamwork by promoting open communication, interdisciplinary collaboration, and role-modeling safety-oriented behaviors. Leadership development programs should prioritize transformational leadership competencies, including empowerment, shared vision, and staff engagement.

For healthcare professionals, particularly nurses, incident reporting should be reinforced as a core component of professional responsibility and ethical practices. Strengthening communication and coordination within teams is crucial for building trust and collective accountability in patient safety efforts. For future research, scholars are encouraged to incorporate additional variables, such as safety climate, psychological safety, organizational support, and workload, which may further explain variations in incident reporting compliance. Employing mixed-methods or longitudinal research designs would provide deeper insights into the mechanisms underlying reporting behavior and allow for a more comprehensive understanding of the facilitators and barriers to patient safety incident reporting.

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