



Interprofessional Debriefing and Psychological Safety in Clinical Teams

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Abstract

Clinical care is delivered through interdependent professional relationships in which nurses, physicians, pharmacists, allied-health professionals, and other team members must coordinate decisions under conditions of uncertainty, workload, hierarchy, and time pressure. Debriefing provides a structured opportunity for these professionals to examine what occurred during a clinical event, identify effective and ineffective coordination, surface differences in mental models, and agree on improvements for future care. Its learning value, however, depends partly on psychological safety: team members must believe that raising questions, acknowledging uncertainty, disagreeing respectfully, and discussing mistakes will not lead to humiliation, interpersonal punishment, or professional marginalization. Psychological safety was originally linked by Edmondson to team learning behavior, while healthcare research subsequently showed that professional status and leader inclusiveness can materially influence whether individuals feel able to contribute.

The present study develops a simulation-based model of interprofessional debriefing and psychological safety in clinical teams. Because no original clinical-team dataset was supplied, 480 synthetic team-member profiles were modeled across nursing, medicine, allied health, and pharmacy. Three analytical conditions were considered: baseline team functioning without a consistent debriefing structure, introduction of a structured interprofessional debrief, and a repeated debriefing cycle supported by inclusive facilitation and follow-through. Numerical results are hypothetical and are intended to demonstrate a reproducible research framework rather than estimate real clinical effects.

The paper emphasizes that psychological safety does not mean eliminating standards, criticism, accountability, or difficult feedback. Effective debriefing requires a balance between interpersonal respect and rigorous examination of clinical performance. Debriefing-with-good-judgment and related approaches explicitly combine inquiry with performance feedback, while Kolbe and colleagues describe psychological safety in debriefing as a dynamic condition that must be created, monitored, and sometimes restored. The study concludes that clinical debriefing is most likely to strengthen psychological safety when participation is genuinely interprofessional, status differences are actively managed, facilitation remains behavior-focused rather than blame-focused, and lessons identified during reflection are visibly translated into subsequent team practice.

Keywords: interprofessional debriefing; psychological safety; clinical teams; speaking up; team learning; healthcare simulation; interprofessional collaboration; patient safety



1. Introduction

Modern clinical care depends on teams whose members possess different forms of expertise, authority, professional language, and responsibility. A deteriorating patient may require rapid contributions from medicine, nursing, pharmacy, respiratory therapy, physiotherapy, laboratory personnel, and other services, each observing different aspects of the clinical situation. The quality of care therefore depends not only on individual technical competence but also on whether team members exchange information, challenge assumptions when necessary, identify coordination failures, and learn from events after they occur. Psychological safety is particularly relevant to this process. Edmondson's foundational work defined psychological safety as a shared team climate in which interpersonal risk taking is sufficiently safe to support learning behaviors such as asking questions, discussing mistakes, seeking feedback, and proposing alternative ideas.

Healthcare teams present distinctive challenges because professional hierarchy can influence who speaks, whose interpretation is treated as authoritative, and who is comfortable challenging an established plan. Nemhard and Edmondson examined health-care improvement teams and found that leader inclusiveness was associated with psychological safety, with particular relevance to the inhibiting effects of professional-status differences. A technically diverse team therefore does not automatically become an interprofessional learning team merely because several professions are present. Team members must also believe that their observations will be taken seriously and that raising concerns will not produce disproportionate interpersonal costs.

Debriefing provides one mechanism through which these relational conditions can be developed. Salas and colleagues describe debriefing as a structured opportunity to examine individual and team performance, identify errors and effective behaviors, and formulate strategies for improvement. Fanning and Gaba similarly positioned debriefing as a central component of simulation-based learning because experience alone is insufficient; reflection allows participants to examine why events unfolded as they did and how future action should change. Meta-analytic evidence reported by Tannenbaum and Cerasoli indicates that properly conducted debriefs can meaningfully improve performance across organizational settings.

The relationship between debriefing and psychological safety is nevertheless reciprocal rather than one-directional. Teams require enough psychological safety to participate candidly in debriefing, yet repeated well-facilitated debriefings may themselves strengthen the expectation that candid reflection is legitimate. Kolbe and colleagues describe psychological safety during debriefing as a dynamic balancing act in which facilitators must create a learning environment sufficiently safe for participants to work near the boundaries of their expertise while still examining difficult performance issues. Johnson and colleagues similarly emphasize psychological safety in feedback conversations because learners and professionals may otherwise avoid questions, challenges, or admission of uncertainty when such behavior threatens status or professional identity.

The present study therefore examines interprofessional debriefing as a repeated team-learning process capable of supporting psychological safety rather than merely as a post-event discussion. Because no primary dataset was supplied, the study uses transparent simulated values and does not present fabricated clinical observations. The analytical model distinguishes structured reflection, inclusive facilitation, speaking-up readiness, cross-professional inclusion, blame orientation, and team-

learning behavior. Its central proposition is that debriefing becomes psychologically safer when it combines clear expectations, equal opportunity for contribution, genuine inquiry, behavior-focused feedback, and visible follow-through—and that psychological safety, in turn, allows debriefing to become more candid and useful.

2. Objectives of the Study

2.1 To Examine the Relationship Between Debriefing Quality and Psychological Safety

The first objective is to determine how the quality and consistency of interprofessional debriefing might influence perceived psychological safety within clinical teams. Debriefing quality is conceptualized through clarity of purpose, inclusive participation, facilitator neutrality, respectful inquiry, behavior-focused feedback, and explicit closure around learning points.

Psychological safety is modeled as the perceived freedom to acknowledge uncertainty, raise concerns, disagree respectfully, identify mistakes, ask questions, and contribute regardless of professional status. This formulation is consistent with the broader healthcare psychological-safety literature, which identifies supportive leadership, interpersonal familiarity, organizational support, and inclusive team interaction as important enabling conditions.

2.2 To Assess Speaking Up and Cross-Professional Inclusion as Mechanisms

The second objective is to examine speaking-up readiness and cross-professional inclusion as mechanisms connecting debriefing with team learning. An interprofessional debrief is unlikely to achieve its purpose when only senior clinicians or one profession dominate discussion. The model therefore evaluates whether structured facilitation reduces the perceived interpersonal cost of contributing alternative interpretations.

This mechanism is especially relevant in clinical environments characterized by strong professional hierarchies. Nembhard and Edmondson's healthcare-team research indicates that inclusive leadership can reduce the inhibiting effects associated with professional status and support engagement in improvement activity.

2.3 To Develop an Accountable Rather Than Blame-Free Debriefing Model

The third objective is to distinguish psychological safety from an absence of standards. The proposed approach does not define a psychologically safe team as one in which performance deficiencies remain unchallenged. Instead, teams should be able to examine errors rigorously while separating critique of behavior and systems from humiliation of individuals.

Rudolph and colleagues' debriefing-with-good-judgment approach provides an important foundation for this distinction because it combines rigorous feedback with genuine inquiry into the assumptions and reasoning that produced observed actions. Psychological safety therefore supports accountability when team members can participate in demanding analysis without expecting that honest disclosure will be used primarily for interpersonal punishment.

3. Review of Literature

3.1 Psychological Safety, Hierarchy, and Learning in Healthcare Teams

Edmondson's 1999 study of work teams established psychological safety as an important explanatory variable for team learning behavior. The concept does not refer to general friendliness or emotional comfort. It concerns a shared belief about the interpersonal consequences of behaviors such as admitting a mistake, requesting help, asking an apparently basic question, or challenging an existing idea. This distinction is particularly important in healthcare because the consequences of withholding uncertainty or disagreement may directly affect patient care.

Nembhard and Edmondson subsequently applied these ideas to multidisciplinary healthcare teams. Their work demonstrated the relevance of leader inclusiveness—behaviors that explicitly invite and value contributions from others—and showed how professional status can influence psychological safety.

Their related review of interventions targeting psychological safety, speaking up, and voice also found that the intervention evidence remained limited and heterogeneous, emphasizing the need for better-designed approaches and evaluation. These findings justify examining structured debriefing as one potential mechanism rather than assuming that psychological safety can be created through general statements encouraging staff to speak openly.

3.2 Debriefing as a Team-Learning Intervention

Debriefing has a long history in simulation and high-reliability teamwork because it converts completed action into structured reflection. Fanning and Gaba emphasize that debriefing enables learners to analyze their experience rather than simply repeat it. Salas and colleagues developed evidence-based practices for medical-team debriefing that include establishing an appropriate environment, focusing on teamwork, encouraging participation, examining performance, and linking discussion with future improvement.

Tannenbaum and Cerasoli's meta-analysis provides quantitative support for the broader effectiveness of debriefs, concluding that properly conducted debriefs can improve individual and team performance. In healthcare specifically, Couper and colleagues reviewed debriefing after life-threatening emergencies and identified potential value for learning from critical events, although implementation and evidence quality varied. The implication is that debriefing is potentially powerful but should not be treated as a standardized intervention whose effect is independent of timing, facilitation, team culture, and purpose.

Several frameworks have attempted to improve debriefing quality. Rudolph and colleagues' good-judgment approach uses genuine inquiry to uncover the frames and assumptions underlying performance rather than simply telling participants what they did incorrectly. Eppich and Cheng's PEARLS framework blends learner self-assessment, focused facilitation, and directive feedback according to the needs of the debriefing conversation. The Debriefing Assessment for Simulation in Healthcare was subsequently developed to provide a structured method for assessing important characteristics of debriefing quality. Together, these approaches illustrate the shift from informal discussion toward facilitation as a learnable professional skill.

3.3 Psychological Safety Within Debriefing

Psychological safety is especially important during debriefing because reflection inherently exposes professional vulnerability. Participants may need to state that they did not know what to do, misunderstood another clinician, failed to communicate information, or recognized a problem but did not speak. Kolbe and colleagues argue that threats to psychological safety can undermine reflective learning and reduce the likelihood that lessons from simulation or clinical events transfer to future care.

The same authors emphasize that safety must be actively maintained during the conversation. Facilitators influence it through introductions, learning contracts, respectful inquiry, behavioral integrity, positive regard, management of disagreement, and responses to moments when a participant appears threatened or excluded. Lateef similarly emphasizes psychological safety as a major component of simulation-based education and notes that culture can shape how safe participants feel even when educators intend to create a supportive environment.

By 2021, Kolbe and colleagues were arguing that healthcare debriefings should align their intended purpose with their actual interpersonal impact. A debrief intended to improve safety can paradoxically reduce future disclosure if participants experience it as public blame, professional shaming, or hierarchical interrogation. Conversely, excessively superficial debriefing can preserve comfort while avoiding the very performance issues that need to be addressed. High-quality debriefing therefore requires simultaneous attention to candor, inclusion, accountability, and learning.

4. Research Methodology

4.1 Research Design and Synthetic Team Population

The present study adopts a simulation-based explanatory quantitative design. No practicing clinicians were recruited, no healthcare organization supplied incident reports, and no actual post-event debriefings were observed. Simulation was selected because no primary dataset was provided and because invented clinical-team observations should not be represented as empirical evidence.

A synthetic population of 480 clinical-team members was modeled, consisting of 120 nursing professionals, 120 medical professionals, 120 allied-health professionals, and 120 pharmacy professionals. The categories were selected to represent interprofessional participation rather than to claim that these four professions exhaust the membership of clinical teams.

The same modeled population was examined across three conceptual stages: baseline practice with inconsistent or unstructured reflection, implementation of a structured interprofessional debrief, and a repeated debrief cycle in which facilitation principles were used consistently over time. This structure allows examination of both immediate and cumulative theoretical effects.

4.2 Measurement Framework

Psychological safety was measured conceptually on a 0–100 scale. Higher values represent greater confidence that interpersonal risks can be taken without disproportionate humiliation or punishment. Speaking-up readiness, professional inclusion, and team-learning orientation were modeled in the same direction, while blame orientation was reverse coded as an adverse team characteristic.

Table 1: Proposed Measurement Framework

Construct	Operational Definition	Proposed Scale	Analytical Role
Psychological Safety	Perceived safety of questioning, acknowledging uncertainty, discussing mistakes, and offering alternative views	0–100	Primary outcome
Debriefing Quality	Structure, inclusiveness, inquiry, behavioral specificity, reflection, and follow-through	0–100	Primary explanatory variable
Speaking-Up Readiness	Willingness to raise patient-safety or teamwork concerns despite status differences	0–100	Proposed mediator
Cross-Professional Inclusion	Perception that contributions are invited and valued across professions	0–100	Proposed mediator
Team-Learning Orientation	Readiness to convert experience, error, and disagreement into future improvement	0–100	Secondary outcome
Blame Orientation	Perception that discussion of failure primarily attributes fault to individuals	0–100	Adverse contextual outcome
Follow-Through Reliability	Degree to which debrief learning points are converted into future team actions	0–100	Implementation outcome

4.3 Debriefing Intervention and Analytical Procedure

The structured debriefing condition was modeled around four phases: establishing the purpose and behavioral norms of discussion, reconstructing the clinical or simulated event, analyzing coordination and reasoning across professions, and agreeing on future actions. Facilitation emphasized questions directed across professional boundaries rather than only toward the formal team leader.

The repeated-debrief condition added continuity. Learning points from previous discussions were reviewed, agreed changes were checked, and the facilitator explicitly invited observations from participants who had spoken less frequently. Such repetition was included because psychological safety is a team climate and is unlikely to be transformed completely by one successful conversation.

Analysis was descriptive. Statistical significance testing was deliberately avoided because synthetic observations cannot provide evidence about real healthcare populations. A future empirical implementation could use longitudinal multilevel models with clinicians nested within teams, departments, and organizations and could combine self-report psychological-safety measures with

observed speaking-up behavior, debriefing-quality scores, incident-reporting behavior, and clinical teamwork assessments.

5. Analysis

5.1 Change in Core Team-Learning Outcomes

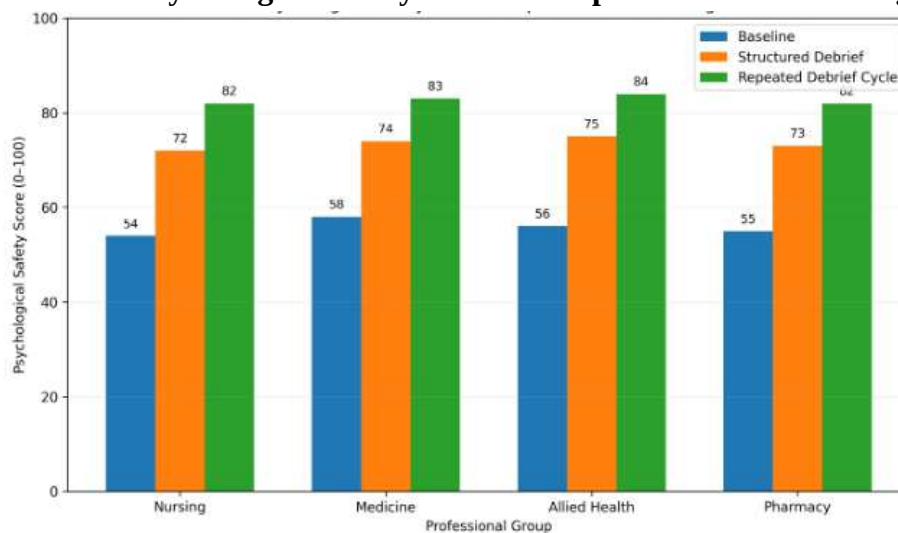
The simulated results show progressive improvement across all positive team-learning outcomes and a reduction in blame orientation.

Table 2: Simulated Outcomes Across Debriefing Conditions

Team Outcome	Baseline	Structured Debrief	Repeated Debrief Cycle
Psychological Safety	55.8	73.5	82.8
Speaking-Up Readiness	51	69	80
Cross-Professional Inclusion	49	70	81
Team-Learning Orientation	58	75	84
Follow-Through Reliability	44	67	79
Perceived Blame Orientation	61	39	26

5.2 Psychological Safety Across Professional Groups

Graph 1: Simulated Psychological Safety Across Interprofessional Debriefing Conditions



The heatmap demonstrates the modeled progression within each professional group. Nursing psychological-safety scores increase from 54 at baseline to 72 after structured debriefing and 82 following repeated debrief cycles. Medicine increases from 58 to 74 and then 83; allied health increases from 56 to 75 and 84; pharmacy increases from 55 to 73 and 82.



Importantly, the repeated-debrief condition produces both higher scores and greater convergence across professions. Baseline scores range from 54 to 58, while final scores range only from 82 to 84. This pattern represents the theoretical possibility that inclusive debriefing can create a more shared team climate rather than allowing psychological safety to remain primarily dependent on professional position.

5.3 Reduction in Blame and Increase in Speaking-Up Readiness

The modeled decrease in blame orientation is important because speaking up becomes unlikely when staff expect error discussion to result primarily in personal accusation. However, reduction in blame should not be confused with removal of responsibility. A learning-oriented debrief still examines specific decisions, omissions, communication failures, and deviations from expected practice.

The difference lies in the sequence of inquiry. Rather than moving immediately from an undesirable outcome to an individual fault judgment, the debrief asks what information participants possessed, how they interpreted the situation, what competing goals were present, what communication occurred, and what system or team conditions shaped the response. This approach is consistent with good-judgment debriefing, which combines rigorous feedback with genuine inquiry into the reasoning that produced behavior.

As blame orientation declines from 61 to 26 in the simulation, speaking-up readiness rises from 51 to 80. The modeled relationship captures a practical team-learning hypothesis: clinicians are more likely to reveal weak signals, uncertainty, and near misses when previous disclosures have led to constructive investigation rather than disproportionate humiliation.

6. Discussion

6.1 Psychological Safety as a Condition for Candid Interprofessional Learning

The findings support the view that psychological safety is not a peripheral emotional feature of debriefing but a prerequisite for obtaining accurate team-learning information. When nurses, junior physicians, pharmacists, therapists, and other professionals believe that particular observations are unwelcome, the debrief may produce a formally coherent account that omits important information. Psychological safety improves the probability that different interpretations of the same event become visible.

This interpretation is consistent with Edmondson's original relationship between psychological safety and learning behavior and with Nembhard and Edmondson's healthcare evidence concerning leader inclusiveness and professional status. Interprofessional teams are particularly dependent on this process because each profession may notice risks that are less visible to others. Debriefing should therefore create deliberate opportunities for each professional perspective rather than assuming that open invitation alone neutralizes status.

The simulated convergence across professions is theoretically meaningful for this reason. A team in which senior clinicians feel psychologically safe while other professionals remain hesitant cannot be described as fully safe at team level. Psychological safety should be sufficiently shared that contribution does not depend excessively on occupational status.

6.2 Accountability and Psychological Safety Should Reinforce One Another

A frequent misconception is that psychologically safe debriefing requires facilitators to avoid criticism or difficult questions. Such an approach could make participants comfortable while reducing learning. Kolbe and colleagues explicitly frame psychological safety as allowing learners to operate at the edge of expertise without humiliation, not as protecting them from examination of performance.

Rudolph and colleagues' good-judgment model is particularly useful because it treats observable performance and participant reasoning as equally worthy of investigation. A debriefer can state a concern about an action, explain the clinical or teamwork standard involved, and genuinely ask what the participant was noticing or trying to achieve. Such inquiry preserves accountability while reducing the assumption that an error automatically demonstrates incompetence or indifference.

Psychological safety and accountability may therefore become mutually reinforcing when designed correctly. A safer team reveals more problems; more complete information permits better corrective action; and visible improvement following candid disclosure strengthens confidence that speaking up is worthwhile. By contrast, a punitive environment can produce apparent order while driving uncertainty, near misses, and disagreement underground.

6.3 From One-Time Debriefing to a Sustainable Team Learning System

The simulated results indicate larger gains under repeated debriefing than after a single structured conversation. This reflects the proposition that psychological safety is built through consistent interpersonal experience. A facilitator can announce that a debrief is confidential and blame-free, but team members will judge that claim by observing what actually happens when someone criticizes a senior decision, admits uncertainty, or describes a coordination failure.

Kolbe and colleagues' 2021 discussion of team debriefings emphasizes the need to align debriefing intention with its actual impact. A debrief intended as learning but experienced as interrogation may reduce willingness to participate in the next one. Conversely, a team that repeatedly sees respectful disagreement, inclusive questioning, and visible follow-through may develop stronger expectations that reflection is part of normal clinical work.

Sustainability also depends on what happens after discussion. Repeated debriefing without change can become performative: team members identify the same workflow problem several times but see no organizational response. The present model therefore includes follow-through reliability as a distinct outcome, increasing from 44 to 79 across the simulated conditions.

7. Conclusion

Interprofessional debriefing offers a structured mechanism for converting clinical experience into collective learning, but its effectiveness depends heavily on the interpersonal climate in which reflection occurs. Psychological safety enables clinicians to acknowledge uncertainty, raise concerns, discuss mistakes, challenge assumptions, and contribute expertise without expecting disproportionate humiliation or punishment. Evidence available through 2021 supports the importance of psychological safety in healthcare teams and the broader performance benefits of well-conducted debriefing.

The simulation presented in this study demonstrates a progressive theoretical relationship between debriefing structure and psychological safety. Mean psychological safety rises from 55.8 at



baseline to 73.5 after structured debriefing and 82.8 following repeated debrief cycles. Speaking-up readiness, professional inclusion, team learning, and follow-through also improve, while perceived blame orientation declines. These values are entirely synthetic and should not be interpreted as measured clinical effects.

The principal conceptual contribution is the argument that psychological safety and accountability should not be positioned as competing objectives. Effective debriefing can challenge performance rigorously while remaining respectful, curious, and behavior-focused. Approaches such as debriefing with good judgment and psychologically safe debriefing explicitly support this balance. Team members should feel safe enough to expose uncertainty, but the team should also be disciplined enough to analyze that uncertainty and translate lessons into improved practice.

Future empirical research should examine repeated interprofessional debriefing in actual clinical teams using longitudinal designs. Studies should compare professions, hierarchy levels, and clinical contexts while combining psychological-safety measures with observed participation, speaking-up behavior, debriefing quality, team-learning actions, near-miss reporting, and patient-safety outcomes. The strongest debriefing culture is unlikely to be the one in which every conversation feels comfortable. It is the one in which difficult truths can be discussed respectfully, professional differences can be examined openly, and what the team learns is reliably converted into safer future care.

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