



Psychological Safety in the Operating Room: Resident Perspectives in General Surgery



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Introduction

Psychological safety in organizational learning is defined as a shared belief held by team members that the team is safe for interpersonal risk-taking.^{1,2} In medical education, this has been further interpreted to mean that learners feel free to concentrate on engaging in a task without the need to monitor their external image.³ When we provide a psychologically safe environment, we are promoting the ability for learners to seek feedback, share information, ask for help, talk about errors, and experiment, further supporting their education.^{4,5} The aim of this project was to identify and describe general surgery residents' perspectives regarding psychological safety in the operating room, what behaviors shaped these perspectives, and how psychological safety affected learning in the operating room.

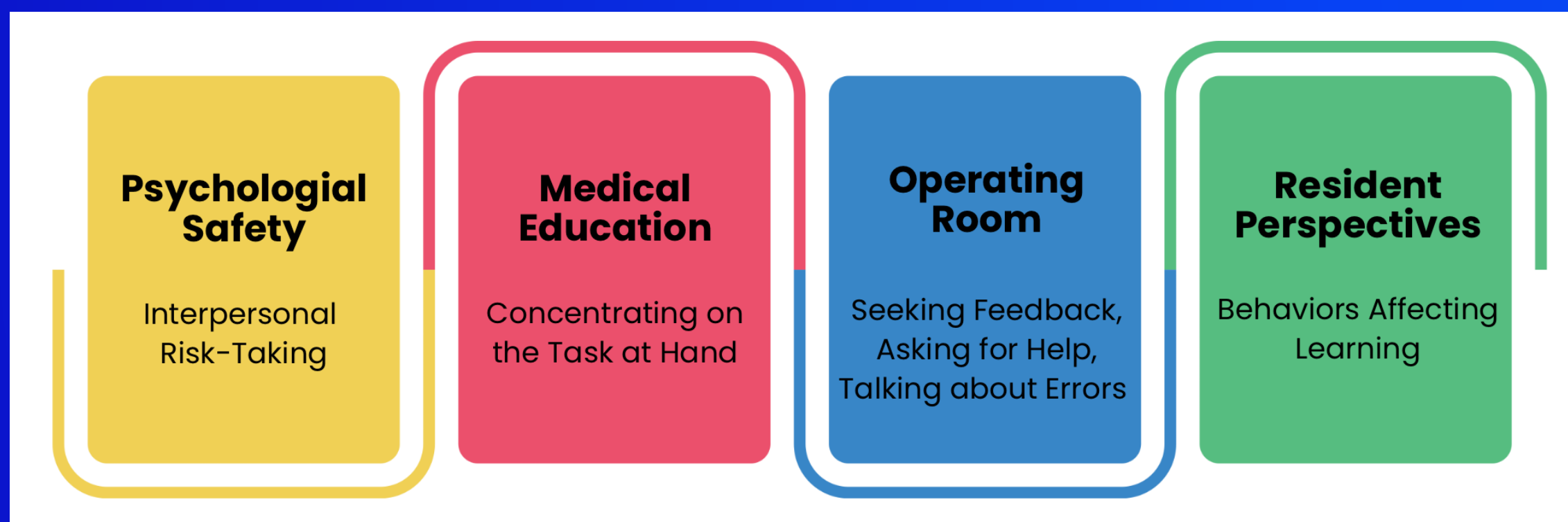


Figure 1. Connection between psychological safety, medical education, and the operating room

Methods

We approached this study using grounded theory qualitative research methodology. We created an interview guide exploring topics such as seeking feedback, asking for help or raising concerns, discussing errors, and the learning process in the operating room, and how these relate to psychological safety. We recruited general surgery residents (PGY1-5) at Naval Medical Center Portsmouth and conducted 1-on-1 virtual interviews. Interviews were recorded, transcribed, coded, and analyzed using thematic analysis and Edmondson's Framework. All interview transcripts were decoded of personally identifying information and analyzed by two team members. A codebook was created to define our coding framework and continuously analyzed for validity as interviews were conducted.

Results

We conducted 15 interviews evenly distributed across all PGY levels, which generated multiple themes within five core topics.

Feedback Delivery

- **Immediacy vs Delay:** Timely feedback "in the moment" in the OR was preferred and more useful to operative growth than end-of-rotation evaluations, which were believed to be subject to recall bias and felt disconnected from actual operative performance.
- **Privacy and Framing:** Feedback given in a private, 1-on-1 setting rather than in front of a full OR team was preferred. Many felt that positive psychological safety is fostered when feedback, even if negative, is framed constructively, focusing on what went well alongside what needs improvement.
- **Descriptive and Direct:** Vague feedback distracted from the feedback being provided. Residents appreciated attendings who were descriptive about their expectations and provided clear, real-time directional guidance in the OR.

Managing External Image

- **Fear of Judgment:** Residents feel pressure to "look good" in front of their superiors, which can sometimes hinder them from asking questions or admitting struggle.
- **Seeking Feedback on Weaknesses:** Residents tended to focus on cases they struggled with rather than those they did well on, highlighting a vulnerability in the feedback-seeking process.
- **Internalized Feedback:** As residents became more senior, they were better able to provide feedback to themselves, whereas junior residents rely more heavily on external prompting.

Impact of Negative Experiences

- **Anticipatory Anxiety:** Receiving poor or non-reflective feedback caused residents to preemptively expect negative judgment in future interactions with that attending.
- **Learning What Not to Do:** Residents sometimes learned more from negative role models in the OR than they did about actual surgical technique.
- **Attending Competence:** Psychological safety is tied to the attending's perceived skill level. Residents felt safer "doing as much as I could" when the attending could fix their mistakes.

Pre-operative Planning and Goal Alignment

- **The Roadmap Approach:** Meeting with staff immediately before the case to discuss the steps of the procedure decreased residents' cognitive load and anxiety about the case.
- **Defining Roles Ahead of Time:** Knowing exactly who will perform which parts of the case helped residents feel more secure in their roles and reduce the fear of overstepping or underperforming.
- **Explicit Openness:** A "if you see something, say something" verbal direction to all team members from attendings reduced residents' fear of speaking up.

Attending-Resident Relationship

- **Trust and Autonomy:** When residents become more senior, receiving autonomy is crucial, and is felt to be closely tied to the level of trust the attending placed in the resident.
- **Reliability and Respect:** Residents felt safer with attendings who treat them "like a human" and show respect. Conversely, a subconscious disregard for a trainee's psychological safety can lead to a complete breakdown in the educational process.
- **Investment in Learning:** Feedback is more likely to be sought out from attendings who demonstrate an investment in residents' growth, such as those who sought out the resident to discuss written feedback in person.

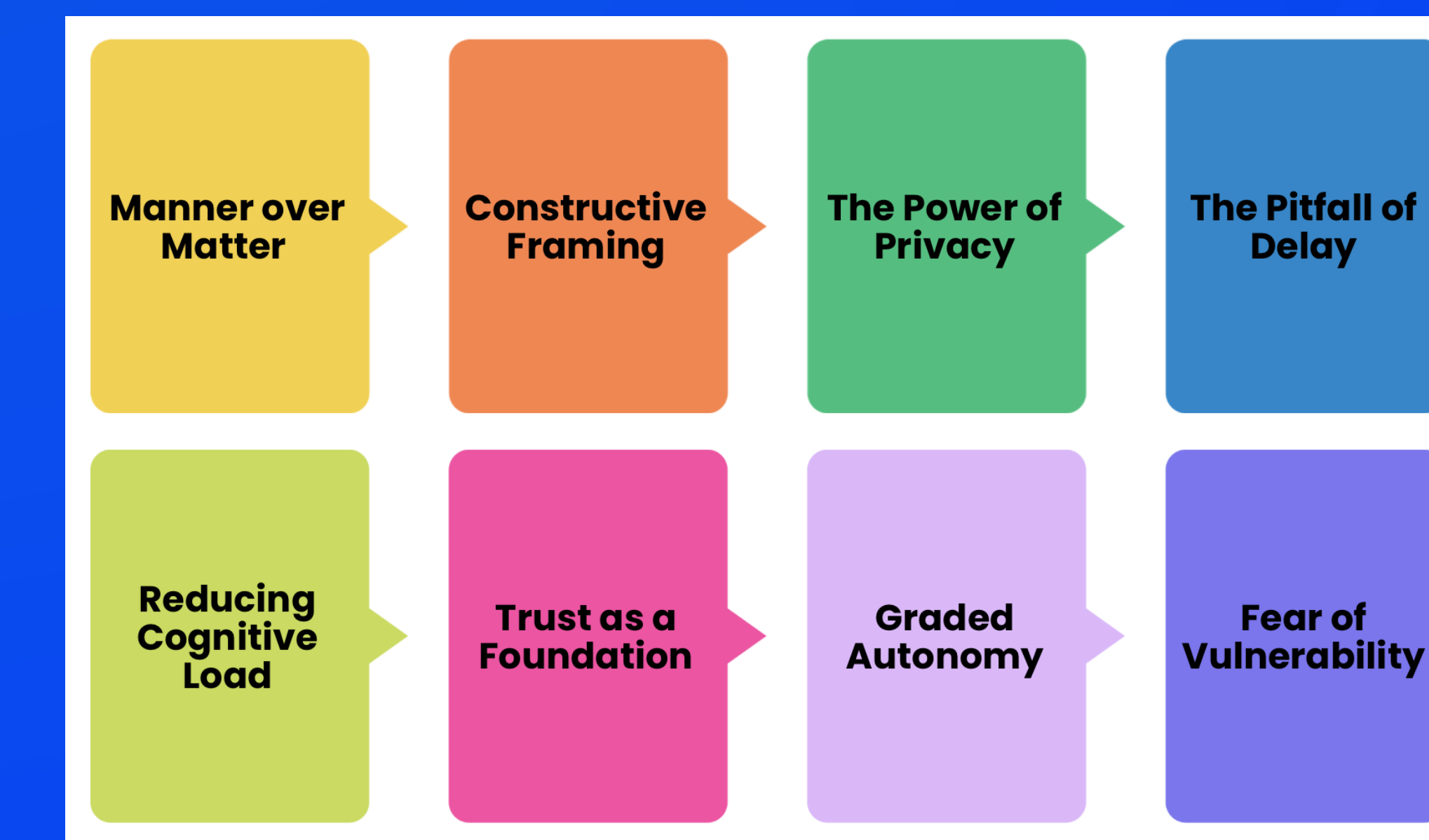


Figure 2. Discussion points generated by interview data.

Discussion

Manner over Matter: How feedback is delivered often outweighs the actual content.

Constructive Framing: Residents are highly receptive to "negative" feedback when it is framed as an area for growth.

The Power of Privacy: Feedback is most effective when given one-on-one, rather than in front of the entire OR staff.

The Pitfalls of Delay: Timely feedback reduces the anxiety of "not knowing where you stand."

Reducing Cognitive Load: Planning the steps of the procedure beforehand allows the resident to focus on the task rather than guessing expectations.

Trust as a Foundation: First and foremost, psychological safety is built on a "human-to-human" relationship.

Graded Autonomy: For senior residents, psychological safety is synonymous with being trusted to lead parts of the case.

Fear of Vulnerability: This can prevent trainees from asking questions or admitting they are struggling with a technique.

Conclusion

In conclusion, when residents feel safe to fail, they are better equipped to succeed. Surgical skill, functionality, and interoperability directly reflect surgical education and training received during residency. By seeking to understand the role of psychological safety in the operating room, we can create a more effective educational environment for general surgery residents, supporting the development of competent and confident surgeons.

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