

ISSN : 0974-2700

Volume 13

Issue 1

January-March 2020



Journal of Emergencies, Trauma, and Shock

Synergizing Basic Science, Clinical Medicine, & Global Health



www.opus12.org



www.indusem.org

Online full text & article submission at
www.onlinejets.org

Wolters Kluwer

PubMed

Medknow

Maximizing Learning and Creativity: Understanding Psychological Safety in Simulation-Based Learning

Fatimah Lateef^{1,2,3,4,5}

¹Department of Emergency Medicine, Singapore General Hospital, ²Duke NUS Graduate Medical School, ³Yong Loo Lin School of Medicine, National University of Singapore, ⁴Sing Health Duke NUS Institute of Medical Simulation, Singapore, ⁵World Academic Council in Emergency Medicine

Abstract

Psychological safety refers to the belief that one can express oneself without fear of the negative consequences or feedback that their speech, comment, or action might generate. It is about the willingness of learners or workers in an organization, in expressing themselves physically, cognitively, and emotionally. Psychological safety is very dynamic and will continue to evolve and change, with the interplay of a variety of external and internal factors affecting the individual, the organization, or the community. It is also closely linked to the culture in the organization, the institution, or the department. It has become a new norm, especially in high-frequency, high-intensity, and high-performance institutions and workplaces, that psychological safety must be mainstreamed and should not be just an incidental element. It also serves as a foundation for effective learning. When people feel safe and comfortable, they are more open to development, growth, and negotiating change. This is a current opinion piece by the author, who is the Director of The SingHealth Duke NUS Institute of Medical Simulation in Singapore. This is the largest and most comprehensive facility in Singapore, which is also the largest in South-East Asia. It has accreditation by the Society for Simulation in Healthcare. The paper is unique in sharing the perspectives of psychological safety in simulation-based education as well as many of the issues related to culture, which can trump strategy. Characteristics and attributes for facilitators, team training and dynamics, as well as the issue of power and hierarchy are also addressed.

Keywords: Culture, debriefing, power distance, psychological safety, simulation-based education, trust

INTRODUCTION

Learning is often seen as a cognitive task. It is often overlooked that learning has deeper psychological and emotional fundamentals. These fundamentals can impact the learning process in an individual. The psychological foundation of learning involves the inculcation of the feeling of well-being, growing, and hope, while, at the same time, helps reduce or contain the feelings of insecurity and threat.

Psychological safety refers to the belief that one can express oneself without fear of the negative consequences or feedback that their speech, comment, or action might generate. It is about the willingness of learners or workers in an organization, in expressing themselves physically, cognitively, and emotionally. Psychological safety is very dynamic and will continue to evolve and change, with the interplay of a variety of external and internal factors affecting the individual, the organization, or the community. It is also closely linked to the culture in the

organization, the institution, or the department. It has become a new norm, especially in high-frequency, high-intensity, and high-performance institutions and workplaces, that psychological safety must be mainstreamed and should not be just an incidental element. It also serves as a foundation for effective learning. When people feel safe and comfortable, they are more open to development, growth, and negotiating change. Psychological safety is a precursor to learning-oriented behavior such as asking questions, sharing thoughts, and asking for help. With psychological safety and the belief that one will not be rejected or humiliated, a climate where learners feel free

Address for correspondence: Prof. Fatimah Lateef,
Department of Emergency Medicine, Singapore General Hospital, Outram
Road, 169608 Singapore.
E-mail: fatimah.abd.lateef@singhealth.com.sg

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Lateef F. Maximizing learning and creativity: Understanding psychological safety in simulation-based learning. *J Emerg Trauma Shock* 2020;13:5-14.

Submitted: 24-Jul-2019. **Accepted:** 20-Aug-2019. **Published:** 19-Mar-2020.

Access this article online

Quick Response Code:



Website:
www.onlinejets.org

DOI:
10.4103/JETS.JETS_96_19

to express themselves, work-related thoughts, and feelings is important. If they do make a well-intentioned mistake, others will not think lesser of them, nor will they resent or penalize them for asking for help, information, or feedback. This kind of environment will foster confidence in the learners to take interpersonal risks rather than just focus on self-protection and preservation. In health care, a lack of psychological safety has been linked to clinical errors.^[1-5]

More and more organizations today are looking at how to ensure the presence of psychological safety in their work environment. It is not uncommon to now frame work as learning problems. Bosses and faculty now learn to acknowledge their frailty or fallibility, and this may even tend to make them more approachable and more human in the eyes of their employees and learners. If there is anything nebulous or unclear, try to create an environment of curiosity and approach this with appropriate, nonjudgmental questioning.^[5-7]

Psychological safety affects our sense of comfort and ease of mind in our educational journey. It is also linked to the development of trust and respect between learners themselves, learners and educators, and also between educators themselves. The presence of psychological safety is powerful enough to create and nurture an environment where all can flourish, grow, and maximize their potential, improve self-esteem, as well as continue to develop their confidence and knowledge. It serves as a kind of safety net for people to act, think, and behave. Often, psychological safety is considered a shared perception of the consequences of taking interpersonal risks in the learning or work environment. This perception of a safe environment or climate is regarded as a precondition or prerequisite for creativity and performance.^[6]

Today, there are more publications in the literature that link psychological safety to increased proactivity, enhanced information sharing, more divergent thinking, better social capital, higher quality, and deeper relationships, in general, as well as more risk taking.^[2,4,7-10] Even in the process of accreditation of simulation centers and programs, one of the requirements in the application to the Society for Simulation in Healthcare, for example, states that there must be “mechanisms to protect the psychological safety of simulation-based training participants, and it must be written clearly to be sure that the program meets its obligation.”^[3]

Psychological distress, on the other hand, refers to the unpleasant feelings or emotions that impair one’s level of function and performance. The symptoms can include physical manifestations, cognitive impairment, depression or low mood, anxiety, and even hostility, as a form of retaliation.^[2,5]

Even though the issue of psychological safety has been around for a long time, its emphasis and prominence has taken a renewed trajectory. This is the result of several factors and development such as the growth of the knowledge economy, greater emphasis on learning, as well as the focus on best practice/best outcome learning. Other factors include the

thrust of lifelong learning, continuing education, emphasis on high-functioning and high-performance teams in institutions and organizations, as well as the recognition and rise of teamwork and collaborative practice.^[6,9,10]

THE PSYCHOLOGY IN SIMULATION-BASED LEARNING

Simulation-based education has now become adopted on a more widespread basis, across many institutions and organizations. This is especially so in healthcare-related organizations as well as medical schools and universities. The spectrum of simulation-based education has also expanded, ranging from the simple, part-task trainers, to the use of standardized patients, hybrid simulations, and even high-fidelity team-based simulation. Simulation is a program that attempts to model reality authentically for the user or learner, therefore providing an opportunity for the learner to acquire skills, engage in problem-solving, and also attain new conceptualizations that they may later encounter in their professional life.^[6,11-15]

Simulation-based learning involves the attainment of mastery of skills and performance, whereby given the necessary amount of time, with the suitable nurturing learning environment, learners can achieve competency and the expected level of performance. With the emphasis on deliberate practice, having a fiction contract, regular formative assessment, and appropriate debriefing and feedback, simulation-based learning seems to be getting more and more popular in training, as well as in up-keeping skills at the various levels of practice. With simulation, learners should approach it with a positive mindset and attitude, and be receptive to learning, developing, and growing from the experience. Another important element is the suspension of disbelief in order to enhance engagement and also maximally benefit from the learning process.

Simulation training participants can indeed go through psychological distress in a simulated event. This can happen through a variety of ways such as the exposure of their educational and knowledge gaps, the stress of performing and being graded in front of peers, or even having their performance recorded and played back for review. Simulation experience can also elicit recall of bad memories that may have influence on the learning process. This, in turn, results in psychological distress, panic, and fear, which will inhibit performance as well. Educators and facilitators may also add emotional stressors to the simulation, either intentionally or unintentionally. In such cases, the participants may find that the stress during the simulation activity was helpful in preparing them to manage the stress and anxiety in similar clinical situations. Others may feel that the stress was tremendous or unacceptable. Being observed during a simulation session may feel like they are being scrutinized under a microscope. Some may feel that this leads to judgment, reprisal, humiliation, and a sense of failure if expectations are not met. It really represents an environment of uncertainty and ambiguity for some learners, and this can be quite unsettling. They may tend to develop a sense of incompetence, lack of worthiness, deficiency, and

even self-blaming for nonperformance. In fact, one school of thought feels that all these repeated “micro-risks” can summate and amount to “meta-risks,” which may have a significant negative effect on learners. This can also be linked to burnt-out, depression, underperformance, and perhaps even low levels of empathy among medical learners.^[14-20]

Psychology can be used to understand, explain, and predict experiences, action, decision-making, as well as responses of learners during simulation-based learning sessions. In fact, psychology has several applications in the context of simulation-based learning, for example, to customize the various needs of learners, trainers, and facilitators in ensuring psychological safety, designing relevant scenarios, and debriefing. Psychology can also offer methodology inputs for designing and conducting simulation-based research. The principles of psychological safety must be borne in mind when writing the scenarios and planning role-playing by standardized patients for simulation training. This is often overlooked and taken for granted. Planning the cognitive requirements and behavioral performance specifications should also be done in order to give weightage to the domains of interest, which is to be assessed or reviewed.^[11-13] Creating a psychologically safe environment for learning is essential in the simulation literature; however, the questions to address are how can it be attained? What makes a facilitator able to instill this feeling of psychological safety in the learner? The following are some of the attributes that encourage psychological safety in facilitations:^[12,20-25]

- Accessible and approachable
- Answer learners’ questions readily
- Challenge learners’ assumptions in a respectful way
- Excellent communication skills
- Foster learners’ engagement and learning
- Maintain professionalism
- Provide immediate and timely constructive feedback
- Invite feedback and inputs
- Demonstrate fallibility and may even admit to mistakes and knowledge gaps, if present.

Facilitators can ensure the psychological safety through the use of structure and some level of predictability. They can reinforce to the learners that the environment remains nonthreatening throughout the session. This way, learners can feel empowerment rather than failure.

In simulation-based learning, there is a need to consider physical, conceptual, and also psychological fidelity. Fidelity refers to how close to reality an element or situation is. Thus, physical fidelity would mean how close the simulated environment replicate or reproduce the actual environment, such as the intensive care unit, or the emergency department. It represents the degree to which the simulation elements are sensed as approximating visual, tactile, auditory, and olfactory reality. It can thus replicate the actual performance environment. Learning can take place with high, medium, and lower fidelity simulations. In fact, the fidelity for a certain

learning cause or training should only be as high as it needs to be and not higher. Conceptual fidelity is how the simulation proceeds in a plausible way. Conceptual fidelity means that a manikin’s physiologic, pharmacologic, and emotional response is appropriate for any interventions.

Psychological fidelity, on the other hand, is about the extent to which the simulated or training environment prompts and nurtures the important underlying psychological processes relevant to performance in the real-world settings.^[12] Psychological fidelity is essential for enhancing the link between “training” and “transfer” to the real world or clinical environment. In designing training using simulation-based learning, the dual considerations which are critical include: [Figure 1].

1. Skill acquisition, with some degree of retention
2. “Transfer” of skills and knowledge from the training setup to the real, actual clinical environment.

The latter is more challenging as it involves the transportability of knowledge and skills from the training context to the actual clinical environment. In the real clinical context where the demands are high, prioritization and spot-on accurate skills are required. A very dynamic decision-making environment requires rapid adaptation, and prior practice during simulation has a significant role to play. This is also about pattern recognition, which is inculcated prior to simulation practices. The focus on retention and maintenance of these skills and capabilities is important. When the learners feel psychologically safe, a higher level of learning as well as retention will take place. They will learn better if they are prepared and feel comfortable.^[11-13,24] For each participant that attends a simulation session, the three elements of fidelity come together to provide a perception of the realism for that individual. This realism differs from person to person and is a result of the learner’s perception. The learners in any one particular simulation scenario or session are subjected to the same type of contextual influences. This can to a certain extent be seen as a form of standardization of the environmental and external factors. However, each learner will go through differing internalization, emotions, analyses, and responses.

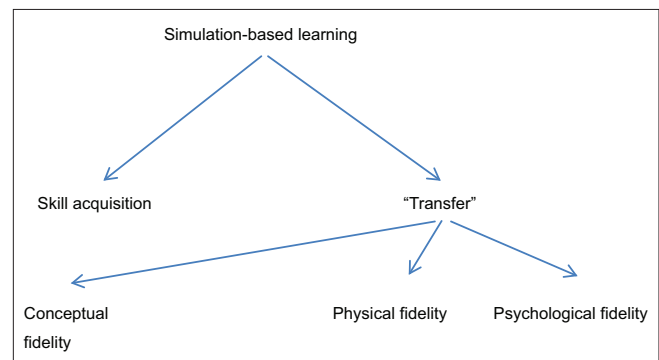


Figure 1: The basis of simulation-based learning for clinicians and other health-care professionals

These are affected by their life experiences, exposures, mindset, views, and individual perspectives.

Simulation-based learning and its applications are making big waves of change in the area of medical education today. It can be viewed as an immersive environment, for making representation of the speech, action, and efforts that evoke the psychological constructs on the job training and performance. Psychological fidelity can be taken into account which guides simulation research and training design. It is an essential feature of training design regardless of the level of physical fidelity of the simulation. Simulation creates experiences and experiential learning for the inculcation of skills, ranging from simple, unifacted ones to more complex, multidimensional skills and even adaptive ones. Both physical and psychological fidelity can be made complementary with some conscious effort in planning and executing the simulation-based scenarios.

FACILITATION, PREBRIEFING, AND DEBRIEFING

People are being evaluated in one way or another in their jobs. This is part of an ongoing process improvement, skill acquisition, and individual growth. This is especially true in apprenticeship model occupations such as in health care and the practice of medicine. Assessment and appraisal is often done in the presence of others, including superiors and mentors, who are perceived to have more power, with higher status. Surely, in a climate as this, the “threat” of performance is highly relevant and salient. Thus, it is essential for people to be able to reflect critically on their current and past performances. The risk of being seen as negative often can hinder people from delivering their utmost and thus, limit their thoroughness and accuracy of collective reflection. Health-care professionals take psychological risks when they allow their performance to be watched and analyzed by their peers and facilitators.

Simulation is viewed as a platform for training and experiential learning, for learners to build on their already-existing exposures and skills. A psychologically safe environment will certainly help to get “buy-in,” engagement, and a higher level of commitment as well as participation from them. There is a need for insight and sensitivity from educators’ perspective in planning and executing these sessions. The role of facilitators is to help create and maintain an environment whereby learners are comfortable and are able to express themselves.^[12,25-27]

Asking the right questions, at the right time, in the right context, with the right tone and appropriate level of clarity, is important. The balance and congruency of facilitators’ verbal and nonverbal communications is also a factor often overlooked, but just as important. Being aware of psychological safety, what it entails and how to ensure that it is reflected in the sessions conducted, is a foundational requirement for educators. This way, it can drive learners to maximize their potential and be as creative as they can. They are then less afraid to push their boundaries and even make mistakes. After all, mistakes and errors in the simulation setting serve as a bridge to learning, via repeated practice to reach mastery, eventually. Educators

need to be aware of conditions that can enable or hinder the influence of psychological safety on creativity of their learners.

Psychological safety can be viewed as a fundamental element that makes a training session positive. The sessions that allow the learners to experience this would often get better feedback. Often, we are not conscious about how critical this is as a factor that makes an organization or department tick [Figure 2].

For all simulation sessions, it is recommended that an orientation or prebriefing is conducted for participants. This is even more crucial for those attending simulation sessions for the first time. The presimulation briefing starts the process of creating a safe container for learning that sets the stage for learners to tolerate and accept constructive feedback, some being, outside their comfort zone.^[11,12,27]

During the prebriefing stage, there is the first opportunity for faculty and facilitators to share and reflect the element of psychological safety and encourage proactive participation and discussion [Table 1 and Figure 3].

In the prebriefing stage, introduction of participants is important. This is followed by some of the following elements and pointers:^[11,21,23]

1. Stating the basic assumptions of the simulation-based training session (i.e. that every participant is assumed to be knowledgeable, is capable, and has the intention to improve/learn

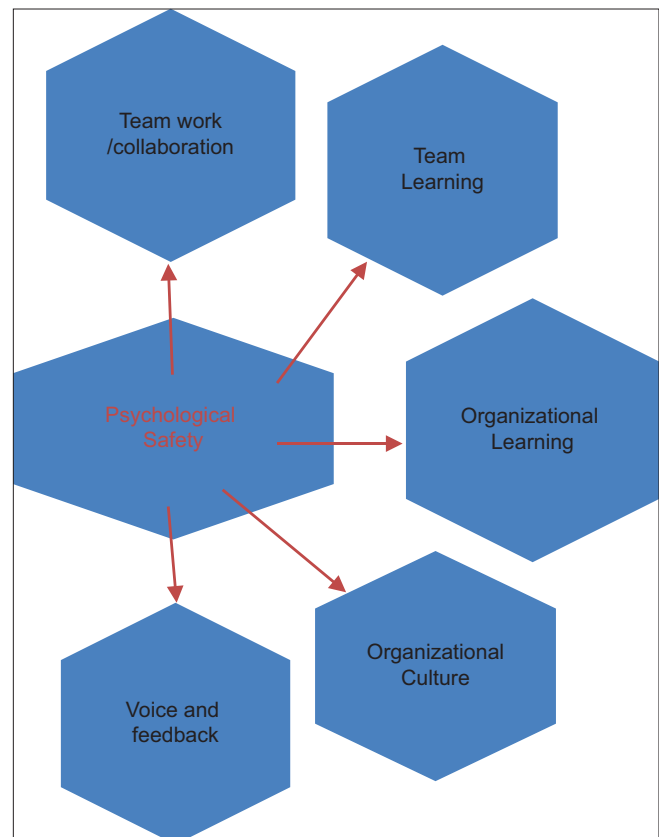


Figure 2: Psychological safety and the domains of impact

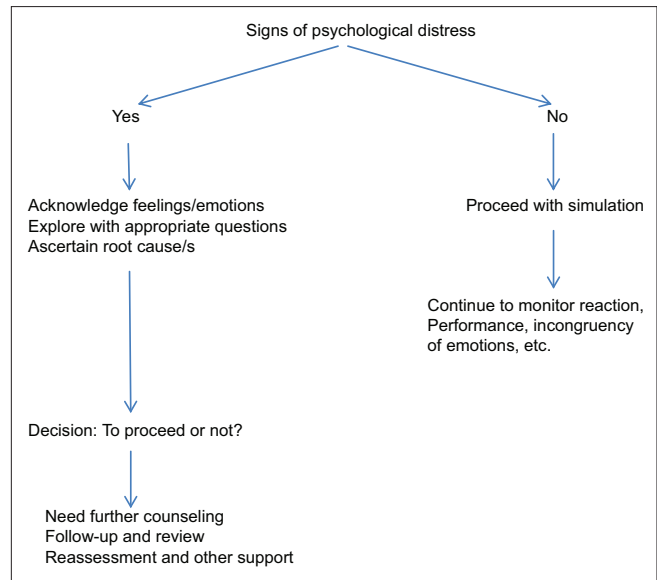
Table 1: Checklist for facilitators: Prebrief

Ensure that participants understand the concept of simulation
Ascertain the level of motivation
Manage presimulation mindset and perception with prebriefing
Reinforce fiction contract, handling of fidelity, and suspension of disbelief
Signing of informed consent form of the simulation center or program
Orientation to environment, room, and equipment capabilities
Address any professional identity issues
What is discussed stays in the room
Team support and collaboration
Importance of feedback and reception to feedback
Use of questioning/facilitation technique/s
Tolerance for practice on the edge of ability
Other factors, customizable

- Cover and explain the principles of crisis resource management across all domains, namely situational awareness, teamwork, communications, and decision-making
- Define and clarify the fiction contract on the “suspension of disbelief.” It can be a unique challenge to act though the “scenario” is real. An engaging faculty will be able to create the fictional environment to draw participants in
- Reinforce the process of learning together and from each other
- Maintenance of confidentiality of all that go on in the session. This is also the point where facilitators and faculty will get the informed consent forms from their simulation center signed by all participants
- Orientation and familiarization with the room or simulation laboratory as well as all the equipment and layout
- Taking and handling any queries and feedback from participants.

Following the simulation, there will be the debriefing session, and this serves as another platform for active and opportunistic learning, inculcation of reflection, and, often with this, an opportunity to change behavior or correct practice as necessary. It is important that debriefing be carried out by faculty who have been trained on how to maximize learning and draw the most out of the participants, as well as instill the elements of psychological safety. Debriefing faculty must be cognizant of the participants’ reaction to the simulation. Participants may react differently to the same scenario. This may be colored by their exposure and life experiences.

Much has been written on debriefing, choice of techniques, various models in use, as well as debriefing style and expertise.^[1,12,13,25-27] The choices are many, and the best would be to utilize a simple framework that works for the facilitator and is able to draw out the most and deepest from the participants. It is important to be aware that the questioning techniques and verbal and even nonverbal communications of the facilitator contribute toward the psychological safety of the whole session. Elements such as acknowledgment of participants’ feelings and emotions,

**Figure 3:** Pathway for psychological distress management

normalization, and taking control of the scenario during the simulation are commonly addressed. Using the “Advocacy–Inquiry” line of questioning can help facilitators to be nonjudgmental and do not appear to be taking sides. More experienced facilitators and faculty encourage speaking up and sharing of ideas and emotions, allow reflection, seek active feedback with deeper reflection by questioning techniques, and can even test out new ideas that are being generated. Faculty must also be aware of “social facilitation,” whereby people perform better under scrutiny as well as “evaluation apprehension,” which refers to degrading performance under scrutiny. To maintain psychological safety, debriefers have to give participants the benefit of the doubt and regard both mistakes and good performance as a “situation” to be analyzed by the appropriate line of inquiry.

There is a term, “debriefing performance gap,” which refers to the mismatch between good intentions of the debriefer and the negative impact on the learners. This may be seen as the difference between the desired and the actual outcomes. There is also a task versus relationship dilemma that describes how facilitators may worry that their critique may damage relationships or make their learners feel ashamed and defensive. This can affect their future participation and training. On the other hand, not mentioning it may not help to sufficiently guide learners through feedback. Debriefers are human after all, and may face internal conflicts as well. Thus, there needs to be some balance in order to maintain learners’ self-esteem.^[24,26,27] The question then is how can the balance be achieved? Some suggestions to maintain this balance could be:

- To use the advocacy–inquiry method of asking
- To clarify and provide options for learners to explain
- To be consciously objective and gracious in the line of questioning
- To direct the query or task to the team rather than an individual, especially when some controversial issues or situation is involved

5. To be open minded and also realize that there is always two sides to a coin. This may then allow some degree of flexibility.

There is now more realization that debriefing tends to enhance team learning more than individual learning. The team setting may pose some challenges to some individual learners and affect its effectiveness.^[1,7,8,21,22] Among team members, some individuals still continue to feel vulnerable and may need repeated reassurance. Taking a mindful approach to debriefing, with a focus on the following structure, may help guide the process:

- The content: specific learning objectives
- The structure: phases of debriefing
- The attitude: such as honesty, curiosity, and an open mindset
- The setting: whether prebrief or orientation was done to set the appropriate context

Ill-defined and less structured debriefing can sometimes lead to failure to attain objectives. Properly structured debriefing has been shown to improve performance by some 25% in a recent meta-analysis.^[28] The quality of debriefing is also another consideration. There are benefits of assessing debriefing, but it is always difficult to capture everything and every observation. These observations can be useful as feedback to facilitators to help them realize and reflect on their own debriefing facilitation process. There are currently tools available for assessing debriefing such as Debriefing Assessment for Simulation in Healthcare, which has been shown to have relatively good reliability and validity, or Simulation in Healthcare reAction Rating Tool, which is utilized to assess shorter debriefings.^[29-31]

POWER, HIERARCHY, AND PSYCHOLOGICAL SAFETY

It is important that facilitators and educators in simulation training needs to be aware of a frequent power distribution or hierarchy in the organization.^[9,10,17] This is also true in health care. The perceived power in the hierarchy affects the psychological safety and teams' function. In organizations with salient power hierarchies such as universities and hospitals, the interpersonal risks of speaking up can be very real and acute.^[7,20,21] The "equation" below may reflect the state of affairs in many departments and organizations.

Perceived Power → Psychological Safety → Team Function and Performance

affects affects

The facilitator is in a position of power, and it is important to realize this because learners will approach them for advice and support. They, therefore, play a critical role in mitigating self-censorship by encouraging team members to speak up and share. They need to reinforce that each learner's contributions is important which will contribute toward high-quality care for patients. For facilitators, creating the fundamental environment of inclusiveness is the baseline.^[22,24,32-34]

This power distance is a real thing and often not realized in the education and learning environment. It may be one of the reasons why some learners underperform. Faculty and facilitators who are aware of the issue of psychological safety can strive to narrow the hierarchy gap, be more nurturing and approachable. They must realize that their position does not mean pulling rank, being overly authoritative or demonstrating incivility. Some examples of hierarchical oppression and action in medical learning environments include the following:^[33,34]

- Harm to self-image and thus, avoidance by learners and others
- Protection of one's self-image by behaving thus
- Humiliating and punitive measures toward learners and
- Use of intergenerational medical staff derogatory remarks, among many others.

Power differences in organizations have been observed for several factors such as gender, age, and race. Individuals and learners who are cognizant of this threat of negative stereotyping associated with a certain cultural identity may feel that they have to "overcome" these in order to be on equal footing as the others. Some of these stereotypes can indeed be unconscious or subconscious. Such situations may require repeated and multiple attempts to gradually iron out the differences.^[34-38]

In a study about incivility in the emergency department, the following two major findings were noted by the authors:^[5]

1. A significant correlation between the level of internal incivility and psychological safety, which is a key factor for innovation and learning in individuals and teams
2. A significant correlation between the level of external incivility and irritation/personal well-being which has a negative impact on workplace satisfaction and commitment.

Some of the incivility discussed and noted in this paper include: putting one down, being condescending, paying little or no attention to someone, a lack of interest in the person, doubting the person's judgment, ignoring behavior, excluding a person, lack of professional camaraderie, and demeaning or derogatory remarks, among others.^[5] Incivility, in general, is known to affect personal well-being, a factor that influences work, teamwork, and performance. Awareness of incivility, both internal and external, should lead organizations and departments to focus on the support and development of countermeasures against these behavior.^[18,19]

Humble leadership may be a response to handling the power distance issue. It can certainly enhance follower and learner buy-in, participation, creativity, and free expression. Practicing humble leadership allows the sharpening of psychological safety. It can enhance knowledge sharing, learning, and job satisfaction.^[39-41] Even though critics may argue that humble leadership and psychological safety are not "hard constructs" or firm targets in most organizations, they can be "unspoken

or hidden” critical factors. Individual learners may “feel” and utilize the environmental inputs and stimuli cues to make sense of events and situations. Learners who are more at ease will be more empowered in their departments or organizations.

Psychological safety mediates the relationship between humble leadership and follower creativity. Knowledge sharing, in turn, moderates the relationship between psychological safety and follower creativity. The indirect influence of humble leadership on follower creativity through psychological safety is definitely stronger when knowledge sharing is high.^[22,39,42,43] One might then go on to ask why is creativity featuring prominent in the equation? This is because it is the critical element that helps with the generation of new ideas and innovation in organizations. It is now one of the important bottom lines for organizational performance, survival, and success. Similarly, when talking about the different models of leadership styles, transformative, servant, empowering, shared, and authentic leadership styles have greater influence on follower creativity and this is, again, linked to feeling psychologically safe.^[22,23,31,33]

Lu *et al.* theorized that leaders’ benevolent paternalism, a leadership style seen often in East Asia, can reduce the negative consequences of intercultural diversity on communications. Examples of leaders’ benevolent paternalism include care and concern for members of the team and looking out for the learners’ well-being and protecting them. This style is derived from Chinese Confucian heritage. In China, there is usually a high level of collectivism and thus this type of approach is relevant, compared to cultures which tend to be more individualistic.^[35]

In societies whereby hierarchy is prominent, the power distance is greater. In education and simulation debriefing, it would be easier to bear some of these in mind in order not to exacerbate the power gap further:

- a. Approach any conflict or contrasting views as a collaborator, rather than as an adversary
- b. Speak from the heart as a human, with principles, beliefs, and perspectives.
- c. Replace blame with curiosity. The latter is demonstrated with questioning and using the advocacy–inquiry method
- d. Anticipate reaction and feelings as a debriefer, so that it would help one plan countermeasures
- e. Request for objective feedback as necessary, with no preconceived notions.

PSYCHOLOGICAL SAFETY AND TEAMS

Psychological safety can help people in a team overcome the defensiveness and anxiety. Each of them may be presented with observations and data that dis-confirm their expectations or hopes when functioning together, and this may have impact on productive team learning.^[35,36,38] It has to be clear to everyone that it is not just about being cozy and unchallenged with close friends in the same team, but it should be a climate of active and productive discussions that would allow exchange of ideas

and evidence-based practices that allow early prevention of complications in patient care and thus achievement of shared goals. There is also the psychology of teams in team-based learning and measure of performance in high-performance and high-functioning teams.^[22] These are also linked to human factors. Psychology can thus be the contributing element to be considered in planning simulation sessions, research, decision-making, and clinical reasoning processes.

Team psychological safety is a shared belief that the team is safe for interpersonal risk taking. There must be a sense of confidence that the team will not embarrass, reject, or punish any members for speaking up. There must be mutual respect and trust among members. The psychological safety level will vary from team to team, and the team efficacy is shown to be positively linked to team-learning behavior as well. The latter is reflected by team members seeking feedback, asking questions, discussing errors, and even getting inputs from others outside the team at times. The positive emotions of team members include curiosity, motivation, resilience, feeling safe and comfortable with each other, and being nonjudgmental and open minded^[22,42-45] [Table 2].

Psychological safety not only enables the performance of teams, but also serves as a mediator of relationships between various levels of staff and even across different professions (interprofessional). Psychologically safe learning environments enable learners to solve problems, difficult situations, and challenges together as a team. The learners will become empowered to play a more active role in crisis intervention. All these will empower more critical thinking and the necessary skill development. This will also promote patient safety, which is what health-care personnel are all interested in, as a bottom line. The team leader has an important bearing on the psychological safety of the team members. He or she can be the initiator of positive sharing and thinking as a group. Team members’ psychological needs must be understood and protected. There must be the right kind of environment to ensure that the team members can flourish, can develop, be connected, can communicate effectively, and be able to contribute. When all the elements to team function are optimal and at the peak, teams become high functioning and high performance, and this can effect patient care and patient safety

Table 2: Characteristics of psychological safety in teams

Every team member’s goals and objectives are aligned with a shared mental model (which must be known to everyone)
Ability to trust team members to assist and support each other
Communication which is open and respectful toward each other
Communications and actions are assumed to be carried out with good and positive intentions and thus, no “hidden agendas”
Ability to brainstorm and challenge each other’s ideas in a collegial and positive manner
Each member is accountable for his/her own actions and inputs
An open and supportive environment to learn from mistakes and inaccurate decisions
The absence of fear in learning

in a positive way. High-performance teams are not defined by who the members are but by how they work together and treat each other. People in high-performance teams tend to speak in equal amounts of time, rather than a few individuals dominating the conversation. There is an atmosphere of social sensitivity and psychological safety. Team members are simply, just nice to each other.

Individuals who feel a significant degree of psychological safety will not leave the team, will learn to harness the power of diverse ideas in the team, bring in effective solutions, and function may be two to three times more efficiently. In the paper by Smith and Tan, accounting for country differences and company or departmental size, psychological safety has ten times the positive impact on team work relative to all other organizational climate factors combined together. That is how powerful it can be.^[44]

Trust is the other element which is critical in group and team performance. It is the feeling and knowledge that the action of others in the team would be favorable to one's own interest. How does trust differ from psychological safety? The construct of trust straddles a longer or wider temporal range and may be very long, into future, compared to psychological safety, which may be a consideration only during one session or a shorter time span. The object of focus with trust, is on others, for example, their potential and their trustworthiness. With psychological safety, the main consideration is whether others will give you the benefit of the doubt and be supportive. Thus, the focus becomes self.

CROSS-CULTURAL PSYCHOLOGICAL SAFETY

Culture can trump strategy. This statement alone suggests that culture can have a domineering impact on team performance and also on psychological safety. With practice, it is not one size fits all when it comes to cultural considerations. Thus, theories in social science must take this into account when evaluating models of practice or models of care. Many of the Western models will need adaptation and modifications when applied to other parts of the world. Each country and place will have its own cultural norms, and this may require interpersonal, intrapersonal, and technical skill adaptation. Short-term adaptation is easier as it may involve as few as a single-level or single-episode interaction. Long-term adaptation may require one to change the mindset and practice which may have been ingrained in the person and thus, not so easy to alter. This may sometimes be termed cross-cultural code switching and its part of having cultural intelligence and adjustment on an individual's part.

In some cultures, people tend to be more vocal and express themselves readily. In many of the "more eastern" culture, people tend to be more quiet and less expressive, and the hierarchical gap is larger as well. The issue of "face" is a big thing, and it is extremely significant when open derogatory remarks are made publicly, such as in front of a group or the class. The culture in many Asian countries tends to emphasize

protection of relationships and social face. It may become more challenging to discuss mistakes and provide feedback as openly as we do in other areas or cultures.

In culturally diverse teams, which is a phenomenon seen often today, members' perspectives can serve to increase or, at times, decrease team psychological safety as well as learning. Diversity offers a great learning platform. The positive elements of such teams can be their diversity in views and range of perspectives as well as a larger repertoire of knowledge and sharing. Diversity can help members appreciate differences, and if this can be harnessed appropriately, the team can develop a strong collective group identity. Today, it is the norm for diversity to exist in learning groups, and there is really no need to "melt" the members all down to become a uniform-thinking group.

On the other hand, such culturally diverse teams can limit communications, have stereotyped mindsets and thus, affect the treatment of each other. The chance of conflict may also increase, thus reducing the possibility of positive collaboration or collaborative practice.

Faculty and facilitators must be aware of the diversity in the groups they are coaching and facilitating in order to manage this. They are the agents of integration and thus, need to moderate as relevant. They must demonstrate acceptance on a horizontal continuum. They must also realize that differences in opinion on certain issues can be strongly culturally driven. It is also important to realize that, in general, people tend to prefer homogeneity in their groups, as they perceive that they would all have similar values, attitudes, beliefs, and practices, and these would make working together easier. This is the concept of "herd mentality," whereby members of the "same herd" stick together, closely. Such homogeneous groups may have deeply entrenched beliefs and cognitive biases, and they may even interfere with the creative processes. However, with proper leadership and attention from an experienced facilitator, diverse groups can come and learn together, work together, and flourish. As they work more, the level of trust will be heightened as well. Of course, some degree of discipline will be required for this as well. In addition, when significant cultural differences are apparent in a group, individuals may tend to identify with their own cultural subgroup rather than the larger group. They may then perceive that their performance is linked to these members having the same values and principles. In such circumstances, it takes a lot of effort to correct the interpersonal climate of relations to break down these bias-created barriers. The facilitators must be observant to these signs during their sessions and manage them strategically.^[43-46]

CONCLUSION

Psychological safety is important, but it cannot be the only thing to consider in the learning environment. If this is so, then the learning process will become counterproductive. It is important for facilitators and faculty doing simulation-based learning to

realize this pitfall. There must be other elements considered such as individual learner's accountability, commitment, as well as his/her ownership mentality. There must, at the same time, be group accountability and the emphasis on group interest, in order to achieve collective success. Psychological safety can unlock enormous potential in both individuals and teams, but it must be viewed in light of the bigger picture of other attributes such as the need for good, close-loop communication skills, and a collaborative culture with teams. Psychological safety will also enable team diversity to be better handled, accessed, and leveraged, releasing the benefits of diverse skill sets, experience, knowledge, and background. Well-trained and informed faculty/facilitators can certainly help to shape learners' and teams' interaction to manage power distribution and psychological safety within the teams' dynamics.

Be that as it may, customization and adaptation to the local context and culture is necessary. After all, a balanced model that encompasses all the positive principles of adult education that provide the desired outcomes must continue to be pursued and inculcated.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Bell BS, Kozlowski SW. Adaptive guidance: Enhancing self-regulation, knowledge and performance in technology-based training. *Pers Psychol* 2002;55:267-306.
- Matheson KM, Barrett T, Landine J, McLuckie A, Soh NL, Walter G, *et al.* Experiences of psychological distress and sources of stress and support during medical training: A survey of medical students. *Acad Psychiatry* 2016;40:63-8.
- Accreditation of Healthcare Simulation Programmes. Society for Simulation in Healthcare. Available from: <https://www.ssih.org>. [Last accessed on 2019 Jul 01].
- Henricksen JW, Altenburg C, Reeder RW. Operationalizing healthcare simulation psychological safety. *Sim Healthc* 2017;12:289-97.
- Klingberg K, Gadelhak K, Jegerlehner SN, Brown AD, Exadaktylos AK, Srivastava DS, *et al.* Bad manners in the emergency department: Incivility among doctors. *PLoS One* 2018;13:e0194933.
- Edmondson AC, Lei Z. Psychological safety: The history, renaissance and future of inter-personal construct. *Ann Rev Organ Psychiatry Organ Behav* 2014;1:23-43.
- Edmondson AC. Learning from failure in health care: Frequent opportunities, pervasive barriers. *Qual Saf Health Care* 2004;13 Suppl 2:ii3-9.
- Gaba DM. Simulations that are challenging to the psyche of participants: How much should we worry and about what? *Simul Healthc* 2013;8:4-7.
- Calhoun AW, Boone MC, Porter MB, Miller KH. Using simulation to address hierarchy-related errors in medical practice. *Perm J* 2014;18:14-20.
- LeDoux J. The emotional brain, fear, and the amygdala. *Cell Mol Neurobiol* 2003;23:727-38.
- Rudolph JW, Raemer DB, Simon R. Establishing a safe container for learning in simulation: The role of the presimulation briefing. *Simul Healthc* 2014;9:339-49.
- Dieckmann P, Krage R. Simulation and psychology: Creating, recognizing and using learning opportunities. *Curr Opin Anaesthesiol* 2013;26:714-20.
- Kolbe M, Grande B, Spahn DR. Briefing and debriefing during simulation-based training and beyond: Content, structure, attitude and setting. *Best Pract Res Clin Anaesthesiol* 2015;29:87-96.
- Lepnurm R, Lockhart WS, Keegan D. A measure of daily distress in practising medicine. *Can J Psychiatry* 2009;54:170-80.
- Bynum WE, Haque TM. Risky business: Psychological safety and the risks of learning medicine. *J Grad Med Educ* 2016;8:780-2.
- Newman A, Donohue R, Eva N. Psychological safety: A systematic review of the literature. *Hum Resour Manag Rev* 2017;27:521-35.
- Pentland A. The new science of building proactive teams. *Harv Bus Rev* 2012;90:60-9.
- Porath C. An antidote to incivility. *Harv Bus Rev* 2016;94:22.
- Porath C, Pearson C. The price of incivility. *Harv Bus Rev* 2013;91:114-21, 146.
- Turner S, Harder N. Psychological safe environment: A concept analysis. *Clin Simul Nurs* 2018;18:47-55.
- Bienefeld N, Grote G. Speaking up in ad hoc multi-team systems: Individual level effects of psychological safety, status and leadership within and across teams. *Eur J Work Organ Psychol* 2014;23:930-45.
- Lateef F. Grace under pressure: Leadership in emergency medicine. *J Emerg Trauma Shock* 2018;11:73-9.
- Edmondson AC, Higgins M, Singer S, *et al.* Understanding psychological safety in healthcare and educational organizations: A comparative perspective. *Res Hum Dev* 2016;13:65-83.
- Hodges B. Assessment in the post-psychometric era: Learning to love the subjective and collective. *Med Teach* 2013;35:564-8.
- Lateef F. Inter-professional education, inter-professional practice and team science: learning together, working together. *Educ Med J* 2018;10:81-91.
- Rudolph JW, Simon R, Dufresne RL, Raemer DB. There's no such thing as "nonjudgmental" debriefing: A theory and method for debriefing with good judgment. *Simul Healthc* 2006;1:49-55.
- Rudolph JW, Foldy EG, Robinson T, Kendall S, Taylor SS, Simon R, *et al.* Helping without harming: The instructor's feedback dilemma in debriefing – A case study. *Simul Healthc* 2013;8:304-16.
- Tannenbaum SI, Cerasoli CP. Do team and individual debriefs enhance performance? A meta-analysis. *Hum Factors* 2013;55:231-45.
- Rudolph JW, Palaganas J, Fey MK, *et al.* A DASH to the top: educational debriefing standards on a path to practice readiness for nursing students. *Clin Simul Nurs* 2016;12:412-7.
- Rivière E, Aubin E, Tremblay SL, Lortie G, Chiniara G. A new tool for assessing short debriefings after immersive simulation: Validity of the SHORT scale. *BMC Med Educ* 2019;19:82.
- Boyatzis KE, Smith ML, Blaize N. Developing sustainable leaders through coaching and compassion. *Acad Manag Edu* 2006;5:8-24.
- Brett-Fleegler M, Rudolph J, Eppich W, Monuteaux M, Fleegler E, Cheng A, *et al.* Debriefing assessment for simulation in healthcare: Development and psychometric properties. *Simul Healthc* 2012;7:288-94.
- Appelbaum NP, Dow A, Mazmanian PE, Jundt DK, Appelbaum EN. The effects of power, leadership and psychological safety on resident event reporting. *Med Educ* 2016;50:343-50.
- Torralla KD, Loo LK, Byrne JM, Baz S, Cannon GW, Keitz SA, *et al.* Does psychological safety impact the clinical learning environment for resident physicians? Results from the VA's learners' perceptions survey. *J Grad Med Educ* 2016;8:699-707.
- Lu L, Li FL, Leung K, *et al.* When can culturally diverse teams be more creative? The role of leaders benevolent paternalism. *J Organ Behav* 2017; p. 1-14. doi: <https://doi.org/10.1002/job.2238>.
- Glikson E, Kim YJ, Harush R, Wooley AW. Psychological Safety and Collective Intelligence in Multicultural and Globally Diverse Teams; 2018. Available from: <https://www.researchgate.net/publication/328942701>. [Last accessed on 2019 Jul 01].
- Erez M, Lisak A, Harush R, *et al.* Going global: Developing management students cultural intelligence and global identity in virtual, culturally diverse teams. *Acad Manag Learn Educ* 2013;12:330-55.
- Landvisana F. Simulation and learning: The role of mental model. *J E Learn Knowl Soc* 2009;5:23-32.
- Wang Y, Liu J, Zhu Y. Humble leadership, psychological safety,

- knowledge sharing, and follower creativity: A cross-level investigation. *Front Psychol* 2018;9:1727.
40. Anderson N, Potonik K, Zhou J. Innovation and creativity in state of the science review: Prospective commentary and guiding framework. *J Manag* 2014;40:1297-333.
 41. Oc B, Bashir MR, Daniels MA. Leadership humility in Singapore. *Leadersh Q* 2015;26:68-80.
 42. Edmondson A. Psychological safety and learning behavior in work teams. *Adm Sci Q* 1999;44:350-83.
 43. Wong A, Tjosvold D, Lu JF. Leadership values and learning in China; the mediating role of psychological safety. *Asia Pac J Hum Resou* 2010;48:86107.
 44. Smith RR, Tan V. The Making of Successful Teams: A Study in Psychological Safety and Great Work Places in Asia Pacific 2018 Asia Insights. Research Collaborative. Lee Kong Chian School of Business. Institute of Knowledge @ SMU. Available from: https://ink.library.smu.edu.sg/kcsb_research/5931. [Last accessed on 2019 Jul 01].
 45. Cauwelier PR, Vincent M, Bennet R. Team psychological safety and team learning: A cultural perspective. *Learn Organ* 2016;23:458-68.
 46. Deng H, Leung K, Lam C, Huang X. Slacking off in comfort: a dual pathway model for psychologically safe climate. *J Manag* 2019;45:1114.