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Review Article

Psychological Safe Environment: A Concept Analysis

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KEYWORDS

psychological safety;
simulation;
nursing education;
concept analysis

Abstract

Background: Nursing students are increasingly participating in simulation-based learning experiences. The psychological safety of these environments has an effect on learning. Clarity surrounding antecedents, attributes and consequences of this concept can assist nurse educators in providing an optimal simulation learning environment.

Design: Using the Walker and Avant method, a concept analysis of psychologically safe learning environment in simulation was conducted.

Results: Psychological safe learning environments in simulation contain three defining attributes. 1) ability to make mistakes without consequences; 2) the qualities of the facilitator and; 3) foundational activities such as orientation, preparation, and objectives and expectations.

Conclusion: This concept analysis provides a clear definition of psychologically safe learning environments in simulation and will facilitate the application of this concept in simulation-based learning activities.

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High-fidelity patient simulation (HFPS) as a pedagogy has been integrated into most of the nursing education programs during the past decade. Educators and researchers are continually exploring optimal ways to develop, execute, and debrief HFPS to provide an optimal learning experience for participants. An important area identified in the simulation literature is the concept of a

safe environment within HFPS. Paige (2016) describes the need to clarify some of the undefined concepts in HFPS. Psychologically safe learning environment within the context of HFPS is one area where minimal research has been conducted. There is existing literature on safe learning environments (Fey, Scrandis, Daniels, & Haut, 2014; Ganley & Linnard-Palmer, 2012; Henricksen, Altenburg, & Reeder, 2017; Rudolph, Raemer, & Simon, 2014); however, the focus and attainment of psychological safety ranges widely.

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A literature search on the concept of psychologically safe learning environments revealed various disciplinary uses, definitions, terms, and emerging topics. Therefore, the purpose of this concept analysis is to clarify the meaning of psychologically safe learning environment in the context

Key Points

- Psychologically safe learning environments are essential for optimal learning within simulation.
- Student learning is enhanced with students perceiving a psychologically safe learning environment in simulation.
- Defining attributes include making mistakes without consequences, qualities of the facilitator, and orientation activities.

of human patient simulation (HPS) using the approach by Walker and Avant (2011). In addition, identifying defining attributes, antecedents, and consequences will allow for HFPS educators to ensure they are creating and maintaining a psychologically safe learning environment for their learners.

Background

The concept of psychological safety in nursing education is not a new phenomenon. Fowler and Rigby (1994) argued that students experienced distrust and anxiety

during experiential learning activities as they perceived the facilitators as lacking in skills and expertise to provide for the psychological safety of participants. Psychological safety in the health care environment is linked to participants engaging in self-correcting behaviors, as they do not believe they will be punished for mistakes (Aranzamendez, James, & Toms, 2015; Lyman, Ethington, King, Jacobs, & Lundeen, 2017; Tucker & Edmondson, 2003). In studies that addressed psychological safety in simulation, researchers found that increased stress impairs knowledge recall and decreases clinical performance during simulation (Harvey, Bandiera, Nathens, & LeBlanc, 2012), whereas psychological safety is associated with a decrease in anxiety in stressful situations (Ignacio et al., 2015). Psychological safety influences learning in a simulation environment.

Currently in nursing education, the concept of psychological safety in simulation is often associated with simulation-based experiences (SBEs) that include patient death (Baile & Walters, 2013; Bartlett, Thomas-Wright, & Pugh, 2014; DeMaria et al., 2010). This is in large part because of the emotional stress that these situations can create. It is believed that introducing these emotionally stressful situations in a simulated event with a structured debriefing would allow the participant to feel better supported and less anxious when encountering these situations in the clinical setting (Harvey et al., 2012; Twigg & Lynn, 2012). Although these are undoubtedly situations that can be emotionally stressful, this is not the only environment

that elicits emotional distress that requires a psychologically safe learning environment.

In SBEs, educators and researchers may add emotional stressors to the simulation, either intentionally or unintentionally (DeMaria et al., 2010; Gillan, Jeong, & van der Riet, 2014). In these situations, participants may indicate that the stress in the simulation was helpful in preparing them to manage stress and anxiety in similar situations (Ignacio et al., 2015), whereas others may indicate that the stress was excessive (Nielsen & Harder, 2013). In reviewing the literature, the issue is neither the context of the simulation nor whether to introduce emotional stressors in the simulation; the issue instead is that the simulation is conducted in a psychologically safe environment. The literature is not consistent with what a psychologically safe environment in HFPS entails, which was the impetus for conducting this concept analysis.

The method by Walker and Avant of conducting a concept analysis was used. The purpose of conducting a concept analysis is to determine the structure of a concept and break it down into simpler parts. It is used to clarify overused and vague concepts to promote a shared understanding of what is meant by the concept. Creating psychologically safe learning environments is considered essential in the simulation literature (Henricksen et al., 2017; Watson et al., 2009); however, it is not indicated within the literature how this should be attained. What is missing from the literature is a shared understanding and definition of what psychologically safe learning environments specifically entail. The method by Walker and Avant recommends examining the concept from a broad perspective by including literature beyond a single discipline and to cluster the commonly found characteristics of the concept to create the attributes of the concept. Given that the method by Walker and Avant allows for the broadest insight into the concept, it was chosen for this concept analysis.

Data Sources

A literature search was conducted using the Cumulative Index of Nursing and Allied Health Literature, PubMed, Scopus, PsycINFO, and ABI/INFORM databases using the keywords psychological safety, nursing, health professions, medicine, simulation, and/or education. Articles that were included in the concept analysis included those published in the English language in peer-reviewed journals between the years 2000 and 2016. Articles included in the analysis were related to health care, organizational management, and education. These were included as there was in-depth discussion regarding the safe environment. Although there were articles in the field of aviation, these were excluded as these articles did not address means to create and/or maintain a safe environment in simulation.

Results

Following the approach by Walker and Avant (2011), uses, attributes, antecedents, and consequences were identified. On the initial search, 1651 articles were identified. Once the duplicates were removed, the abstracts were reviewed and 443 articles remained. Inclusion and exclusion criteria were applied, which resulted in 50 articles being appropriate for the concept analysis.

Concept Uses

HFPS has been in use for many decades in multiple disciplines such as aviation and management (Bienefeld & Grote, 2014; Rigby, 2015; Tomczyk, 2010), health professions (Chopra et al., 1994; Hussain et al., 2016; King et al., 2016; Rogers et al., 2000), as well as airport mass casualty emergency response teams (Lawrence, 2016). The phrase *psychologically safe learning environment* does not appear in the literature; however, when broken into *psychological safety* and *safe learning environment*, more literature is found. This article uses the terms *psychologically safe*, *safe environment*, and *safe learning environment* interchangeably. In addition to the health sciences, the literature regarding psychological safety was found in the areas of business and education. Psychological safety is a term that is not unique to the health professions.

The International Nursing Association for Clinical Simulation and Learning (INACSL) Standards of Best Practice: SimulationSM simulation glossary defines psychological fidelity as factors that can be altered based on degree of realism of the simulation and can evoke emotions that are similar to that of the real world (INACSL Standards Committee, 2016a, 2016b, 2016c). They also defined psychological safety as an environment where learners are able to participate without fear of reprisal or embarrassment. INACSL defined the safe environment separately, where the facilitator must be aware of the psychological components of learning and foster a safe environment (INACSL Standards Committee, 2016a, 2016b, 2016c) The Society for Simulation in Healthcare (SSH) defined psychological safety similarly to INACSL; however, their definition of safe environment included being psychologically safe (Lopreiato et al., 2016).

Kahn (1990, p. 708) described psychological safety as the ability to be oneself “without fear of negative consequences to self-image, status or career.” In focusing on psychological safety in health care teams, Edmondson (1999), Edmondson (2004), and Edmondson, Higgins, Singer, and Weiner (2016) defined psychological safety as a belief implied, a variable for speaking up and personal risk taking, as well as a climate where common goals and expectations could be accomplished when individuals are not fearing criticism, retribution, or embarrassment. The organizational learning research in education by Higgins, Ishimaru,

Holcombe, and Fowler (2012) supports the claim by Edmondson (1999) that psychological safety promotes innovation and change. In the area of education, Schepers, de Jong, Wetzels, and de Ruyter (2008) added to the definition of psychological safety in stating that it encompassed feelings such as comfort and value. Fostering psychological safety within organizations allows for employees to learn from their mistakes (Carmeli & Gittel, 2009); however, fear of repercussions from failure impedes the concept of a safe environment, thereby missing the opportunity to use a failure as a source of learning. In nursing, researchers have added that psychologically safe learning environments foster students’ ability to avert defensive behaviors (Rudolph et al., 2014); feel empowered by their successes (Janzen et al., 2016); and is critical to facilitating learning (Fey et al., 2014).

The definition provided by INACSL and used by SSH for psychological safety is adequate; however, merging both psychological safety and safe learning environment together in the context of HFPS is a natural progression because they are intimately tied to one another. This could allow for a broader and clearer definition. Psychologically safe learning environments could then be defined as: A feeling or climate whereby the learner can feel valued and comfortable yet still speak up and take risks without fear of retribution, embarrassment, judgment or consequences either to themselves or others, thereby promoting learning and innovation.

Defining Attributes

Defining attributes are described by Walker and Avant (2011) as recurrent themes in the literature that are essential to making the concept. Attributes that are closely associated to psychologically safe learning environments are the ability to make mistakes without consequences, the qualities of the HFPS facilitator, and includes foundational activities, such as orientation, preparation, and objectives and expectations. See Tables 1–3 for a summary of all attributes and associated articles.

Ability to Make a Mistake Without Consequences

Although there are many benefits to HFPS, a significant benefit appears to be the ability to make mistakes risk free and without consequences (Edmondson, 2004; Engelmann, 2009; Failla & Macauley, 2014; Feingold, Calaluce, & Kallen, 2004; Fey et al., 2014; Ganley & Linnard-Palmer, 2012; Nielsen & Harder, 2013; Rudolph et al., 2014; Weiss, Scott, Reed, Dubosky, & Vines, 2016). Learners can participate in difficult complex situations in a psychologically safe learning environment where making a mistake does not have devastating and/or permanent consequences for either the learner, patient, or both (Gore, Hunt, & Raines, 2008). Instead, learners have the freedom to explore potential decisions and to take risks without fear of harming a

Table 1 Themes Related to Psychologically Safe Learning Environments in Simulation

Defining Attributes	Articles
Ability to make a mistake without consequences	Edmondson, 2004; Engelmann, 2009; Failla & Macauley, 2014; Feingold et al., 2004; Fey et al., 2014; Ganley & Linnard-Palmer, 2012; Gore et al., 2008; Halbesleben & Rathert, 2008; Nielsen & Harder, 2013; Rathert et al., 2009; Rudolph et al., 2014; Weiss et al., 2016
Qualities of an HPS facilitator	Edmondson, 1999, 2004; INACSL Standards Committee, 2016a, 2016b, 2016c; Cantrell, 2008; Edmondson, 1999, 2004; Fey et al., 2014; Janzen et al., 2016; Nielsen & Harder, 2013; Rathert & Fleming, 2008; Sappington, 1984
Foundational activities: orientation	Fey et al., 2014; INACSL Standards Committee, 2016a, 2016b, 2016c; Nielsen & Harder, 2013; Page-Cuttrara, 2015
Foundational activities: preparation	Cantrell, 2008; Ganley & Linnard-Palmer, 2012; Ironside et al., 2009
Foundational activities: objectives and expectations	Carmeli, 2007; Edmondson, 1999; Howard et al., 2011; INACSL Standards Committee, 2016a, 2016b, 2016c; Sappington, 1984

Note. HPS = human patient simulation.

patient (Failla & Macauley, 2014). A psychologically safe learning environment enhances innovation, fosters collaboration, and permits participants to speak up when errors are noticed instead of assigning blame or punitive behaviors (Edmondson, 2004; Halbesleben & Rathert, 2008; Rathert, Ishqaidef, & May, 2009). This is necessary in HFPS as learners need to realize that as health care team members, they must be comfortable to speak up and identify potential or real errors.

Qualities of an HFPS Facilitator

The qualities of an HFPS facilitator significantly impact the integrity of a psychologically safe learning environment in HFPS. Much of the organizational and education literature showed a distinct parallel with organizational team leaders and employees and that of HFPS facilitator and learners. Both the team leader and the HFPS facilitator are in positions of power, and the employees or learners are answerable and seek guidance from the team lead or HFPS

facilitator. For our purposes, leader and HFPS facilitator are synonymous and interchangeable.

In organizational literature, leadership qualities that foster a psychologically safe learning environment are being accessible and approachable to learners. This includes answering questions or challenging assumptions in a respectful manner (Edmondson, 1999, 2004); inviting input and feedback from their employees/learners and demonstrating fallibility in admitting a mistake or a knowledge gap (Edmondson, 2004). INACSL's Standard of Best Practice: SimulationSM facilitation lists specific qualities of an effective facilitator as someone with excellent communication skills who fosters participant learning, provides immediate responsive and constructive feedback, and maintains professional integrity (INACSL Standards Committee, 2016a, 2016b, 2016c).

Other qualities found in the literature that determines the leader's ability to develop psychological safety within learning environments is honesty, flexibility, and adaptability

Table 2 Articles With Overlapping Attributes

Articles	Defining Attributes
Cantrell, 2008 Edmondson, 1999 Edmondson, 2004 Fey et al., 2014	Qualities of an HPS facilitator; foundational activities: preparation Qualities of an HPS facilitator; foundational activities: objectives and expectations Ability to make a mistake without consequences; qualities of an HPS facilitator Ability to make a mistake without consequences; qualities of an HPS facilitator; foundational activities: orientation
Ganley & Linnard-Palmer, 2012 INACSL Standards Committee, 2016a, 2016b, 2016c Nielsen & Harder, 2013	Ability to make a mistake without consequences; foundational activities: preparation Foundational activities: orientation; foundational activities: objectives and expectations Ability to make a mistake without consequences; qualities of an HPS facilitator; foundational activities: orientation
Sappington, 1984	Qualities of an HPS facilitator; foundational activities: objectives and expectations

Note. HPS = human patient simulation.

Table 3 Behaviors That Affect the Psychological Safe Environment

Positive Behaviors	Negative Behaviors
<ul style="list-style-type: none"> • Learners are provided orientation to simulation room/equipment • Learners are provided prelearning activities and clear objectives before simulation • Prebriefing is provided • Time limits are provided • Learners are reminded about ability to make mistakes in simulation • Formative assessment is provided 	<ul style="list-style-type: none"> • No prelearning activities or clear objectives are provided • Debriefing focuses on mistakes made in simulation • No orientation to the simulation room/equipment is provided. • Summative evaluation is used cautiously • Facilitator does not respect learner confidentiality

(INACSL Standards Committee, 2016a, 2016b, 2016c; Sappington, 1984). Additional qualities include clinical proficiency, being well prepared and organized in the overall execution of the HFPS (Cantrell, 2008; Fey et al., 2014; INACSL Standards Committee, 2016a, 2016b, 2016c), and remaining mindful of any ethical components or possible triggers within the HFPS and to inform learners of these ahead of time (INACSL Standards Committee, 2016a, 2016b, 2016c; Janzen et al., 2016). A supportive facilitator is one who is inclusive, empowering, and encourages learner participation (Cantrell, 2008; Edmondson, 1999; Fey et al., 2014; INACSL Standards Committee, 2016a, 2016b, 2016c; Nielsen & Harder, 2013; Rathert & Fleming, 2008; Sappington, 1984). The qualities of being approachable, accessible, inviting feedback, admitting mistakes, being honest and flexible, and being prepared are all qualities that a supportive facilitator possesses, which appears to be the most influential attribute.

Foundational Activities

During an HFPS, learners apply theory to realistic situations, requiring the learner to have a rich knowledge base or background before coming to HFPS. Foundational activities are separated into three subsections: orientation, preparation, and objectives/expectations.

Orientation

This refers to orientating the learners to the physical environment. To decrease apprehension in HFPS and promote a psychologically safe learning environment, learners must be oriented before starting the HFPS. This includes showing them the space, manikin, if necessary, and letting them touch and feel the supplies within the HFPS laboratory (Fey et al., 2014; Nielsen & Harder, 2013; Page-Cuttrara, 2015).

Preparation

This term is used regarding the learner's preparation before coming to HFPS laboratory. Preparation can include watching a video, required readings, or answering questions. Being prepared helps learners to feel psychologically safe because the preparation questions are typically tied closely to the content of the HFPS and allows for the learner to transfer their theory knowledge into clinical knowledge

(Cantrell, 2008; Ganley & Linnard-Palmer, 2012; Ironside, Jeffries, & Martin, 2009).

Objectives and Expectations

Objectives and expectations for both the HFPS facilitator and learners should be clearly defined from the beginning (Howard, Englert, Kameg, & Perozzi, 2011; Sappington, 1984). This allows for transparency and questions from the learners. This also allows for identification of shared goals among the team members (Carmeli, 2007; Edmondson, 1999), further fostering a psychologically safe learning environment.

Constructed Cases

Model Case

A model case consists of all defining attributes of the concept (Walker & Avant, 2011). Therefore, an example of a psychologically safe learning environment in the context of HFPS is as follows:

One week before HFPS, learners are given an orientation to the HFPS laboratory to touch, feel, and interact with the manikin. Learners are given expectations, objectives, prelearning activities, and questions to complete before the HFPS. On HFPS day, learners meet with the facilitator and clarify questions. They are given the scenario via a verbal report, a chart, and the same learning objectives. Learners are assigned roles and discuss their plan of care with each other. The facilitator shows the learners to the HFPS laboratory and gives them a time limit to finish reviewing information. At the end of the prebrief, the facilitator inquires if the learners have any further questions, reminds them of the run time and the debrief post-HFPS. The facilitator encourages the learners and reminds them that we learn from our mistakes. The learners begin their HFPS confident, encouraged, and with a plan in mind.

This model case exemplifies a psychologically safe learning environment as the learners are encouraged to participate without fear of consequences, can draw on their prior knowledge, are clear with the objectives and expectations, and have a supportive facilitator.

Contrary Case

Walker and Avant (2011) describe a contrary case as one that does not include any of the defining attributes. In the context of HFPS, a situation that does not promote a psychologically safe learning environment is the following:

Learners come to HFPS laboratory with no preparation questions and no orientation to the physical environment. They are given the scenario via a verbal report, a chart, are assigned roles, and instructed to discuss their plan of care with each other. The facilitator leads the learners to the HFPS laboratory and gives them a time limit to finish reviewing information. At the end of the prebrief, the facilitator reminds them of the run time and the debrief post-HFPS. The students begin their HFPS unsure of expectations, objectives, and with no prior knowledge or preparation. After the simulation, the facilitator focuses only on the mistakes the learners made.

In this case, none of the defining attributes are evident. The ability to make mistakes without fear of consequences did not occur because the facilitator spoke only of the mistakes, no prior knowledge or prebriefing was presented, and the learners were unaware of expectations and goals/objectives. This would be considered a psychologically unsafe learning environment for the learners.

Borderline Case

A borderline case, unlike a model case, contains most defining attributes instead of all of them (Walker & Avant, 2011). An example of a psychologically safe learning environment in the context of HFPS is:

One week before HFPS, learners are given orientation to the HFPS laboratory to touch, feel, and interact with the manikin. Learners are given prelearning activities and questions to complete before the HFPS. On HFPS day, learners meet with their facilitator and clarify any questions. They are given the scenario via a verbal report and a chart. Learners are assigned roles and discuss their plan of care with each other. The facilitator shows the learners to the HFPS laboratory and gives them a time limit to finish reviewing information. At the end of the prebrief, the facilitator inquires if the learners have any further questions, reminds them of the run time and the debrief post-HFPS. The facilitator encourages the learners and reminds them that we learn from our mistakes. The learners begin their HFPS; however, they remain unsure of their objectives or the expectations of the HFPS.

In this example, the attribute of explaining objectives and expectations is omitted, impairing the psychologically safe learning environment. The learners may still have a positive experience; however, by remaining transparent in

the objectives and expectations, the learners know exactly what is expected of them and in turn, have the best learning outcomes possible.

Related Case

Walker and Avant (2011) describe related cases as instances where the concepts are involved or studied but do not contain all the defining attributes. The following is an example of a related case of the psychologically safe learning environment in the context of HFPS:

On HFPS day, learners are given the scenario via a verbal report and a chart. Learners are assigned roles and discuss their plan of care with each other. The facilitator shows the learners to the HFPS laboratory and gives them a time limit to finish reviewing information. At the end of the prebrief, the facilitator inquires if the learners have any further questions, reminds them of the run time and the debrief post-HFPS. The facilitator then reminds them that we learn from our mistakes. The learners begin; however, they remain unsure of their objectives and/or expectations, have no prior knowledge to draw on, and are unsure of what to expect from the facilitator.

This example demonstrates part of the concept but not in its entirety. This could be appropriate if educators want to test the manikin's functionality and flow of a scenario rather than for educational purposes. In this case, the learners are unprepared, have no direction in terms of objectives and/or expectations, no prior knowledge, no orientation to the manikins, and are unsure of their facilitator's expectations.

Antecedents

According to Walker and Avant (2011), antecedents are components or events that must occur before the concept existing. Antecedents identified for a psychologically safe environment include a controlled environment, formative evaluation, and confidentiality and trust.

Controlled Environment

Educators try to create a psychologically safe learning environment through structure, predictability, and informing learners so the environment remains nonthreatening (Edmondson, 1999; Kahn, 1990; Sappington, 1984). HFPS does this by creating boundaries in the form of start and end times (INACSL Standards Committee, 2016a, 2016b, 2016c; Sappington, 1984), organizing the content of the HFPS and making it less ambiguous (May, Gilson, & Harter, 2004) and by being predictable through prebriefing (INACSL Standards Committee, 2016a, 2016b, 2016c; Kahn, 1990). This could mean that once the students prepare with the prelearning information, they could easily predict the general content of an HFPS. This controlled

environment allows learners to take risks and learn about roles within their professions, thereby creating a psychologically safe learning environment (Ganley & Linnard-Palmer, 2012; Smithburger, Kane-Gill, Kloet, Lohr, & Seybert, 2013).

Formative Evaluation

Whether HFPS has a formative or a summative evaluation component can have an impact on the learner's perception of the environment. In summative evaluation, the learners are graded based on their performance, which can negatively impact the psychologically safe learning environment (Howard et al., 2011; Rudolph et al., 2014). However, if the HFPS experience includes a formative evaluation component, the learners feel safe to take risks that may or may not lead to making mistakes.

Confidentiality and Trust

Confidentiality and trust can affect the psychologically safe environment, as learners expect that the facilitators will be respectful of what occurs within HFPS, further developing trusting relationships between learners and facilitators (Ganley & Linnard-Palmer, 2012; Janzen et al., 2016; Nielsen & Harder, 2013; Rudolph et al., 2014). Developing a relationship of trust is imperative in maintaining and fostering a psychologically safe learning environment because the learner is vulnerable to the actions of the facilitator in the HFPS experience (Edmondson, 2004). Maintaining trust through confidentiality promotes mutual respect between learners and facilitators.

Consequences

Consequences consist of outcomes that stem from the concept itself (Walker & Avant, 2011). In a psychologically safe environment in HFPS, consequences include learning from mistakes, problem solving, and skill acquisition.

Learning From Mistakes

Ensuring that a psychologically safe learning environment has been created for learners enables educators to take advantage of the rich teachable opportunities that can occur within the HFPS-based experience. This can provide learners with a sense of empowerment rather than failure and an overall ability to learn from their mistakes (Aranzamendez et al., 2015; Carmeli, 2007; Carmeli & Gittel, 2009; Janzen et al., 2016; Rudolph et al., 2014).

Problem Solving

Psychologically safe learning environments encourage learners to problem solve through difficult situations and challenges together as a team (Bastable, 2008; Edmondson, 1999; Valadares, 2004). Other advantages of a psychologically safe learning environment are that learners can take an active role in crisis intervention and apply a higher level

of problem solving in complex situations. This enables critical thinking skill development and allows for a richer learning experience (Edmondson, 2004; Ganley & Linnard-Palmer, 2012; Halbesleben & Rathert, 2008; Ironside et al., 2009).

Skill Acquisition

Psychomotor and communication skill development can be attributed to psychologically safe learning environments. Communicating with standardized patients or manikins allows learners to practice and learn essential nursing skills, such as the ability to interact and communicate in a therapeutic manner (Nielsen & Harder, 2013). This ability to further develop skills will enable learners to be better prepared for integration into traditional clinical setting (Bastable, 2008; Feingold et al., 2004; Ironside et al., 2009).

Empirical Referents

Many of the empirical referents are similar to the consequences because of the abstractness of the concept. How does one see a psychologically safe learning environment? This is based on participant engagement during the HFPS, feedback during the debrief session, and overall level of learning for the duration of the HFPS. Confidence in the learner and reduced anxiety when entering the clinical environment could also be perceived as empirical referents (Feingold et al., 2004; Gore et al., 2008) as well as the learner's engagement in the HFPS-based experience itself (Ganley & Linnard-Palmer, 2012; Kahn, 1990; May et al., 2004).

Discussion

The purpose of this concept analysis was to develop a definition of a psychologically safe environment in simulation and determine antecedents, attributes, and consequences to assist simulation facilitators to establish and provide a learning environment that is psychologically safe for learners. In identifying these elements of the concept, simulation facilitators are able to identify what is or is not psychologically safe environment. On reviewing health care-related literature, a psychologically safe environment in simulation attributes is the ability to make mistakes without a fear of the consequences, the qualities of the simulation facilitator, and the foundational activities before simulation begins. Antecedents included having a controlled environment that is predictable and organized, providing formative feedback rather than conducting summative assessments, and building a facilitator/learner relationship that fosters confidentiality and trust. In creating a psychologically safe environment in simulation, this can assist the learner to

learn from their mistakes, improve problem solving, and promote skill acquisition.

In 2016, the SSH developed a dictionary for simulation-related terms (Lopreiato et al., 2016). This concept analysis includes this definition and goes beyond just defining the concept and provides additional literature on how to create a psychologically safe learning environment. The definition provided in the dictionary includes the theme of being able to learn from mistakes and feeling free of concern to make mistakes. This concept analysis adds criterion regarding orientation activities and qualities of the simulation facilitator as means to identify and implement psychological safety in SBE.

Psychologically safe learning environments promote learning (Lyman et al., 2017) and contribute to patient safety (Dieckmann & Krage, 2013; Salas, Wilson, Burke, & Priest, 2005). Based on this concept analysis, there is direction on how to create a psychologically safe learning environment for simulation in the health professions and literature to support the need to do so.

Limitations

This concept analysis was specific to the health care environment; however, it is important to note that the act of simulating learning environments is not unique to health care only. The literature can be found in the disciplines of business, the airline industry, and education, to mention a few. As such, there may be additional components that affect a psychologically safe learning environment. However, similar concepts related to simulation and learning were noted when reviewing the literature.

Psychologically safe learning environments in HPS were the main focus of this concept analysis. There are other types of the simulation experiences such as virtual simulation, and these results should not be generalized to that population.

Conclusion

Psychological safe learning environment is a diverse and used concept in disciplines other than health care; however, in HFPS-based learning, more research is needed to further support the need for a psychologically safe learning environment. Attributes that clarify measures to ensure psychologically safe learning environments are that of the prior knowledge base, qualities of the facilitator, and the ability to allow the learners to make mistakes in a nonjudgmental consequence-free learning environment. This enables positive effects on the learners' ability to learn and develop confidence and problem-solving abilities. However, because of the concept being vague and abstract in nature, some of the antecedents, consequences, and empirical referents could overlap. Engagement and

confidence could be seen as a consequence of a psychologically safe learning environment and an empirical referent. Personal confidence may be intrinsically needed as an antecedent in the learner before a psychologically safe learning environment could be established. Prior knowledge might be considered an antecedent instead of an attribute because it comes before the HFPS; however, without it, a psychologically safe learning environment is unachievable, therefore, essential to concept.

This concept analysis identified gaps where further research is needed, such as, supporting learner's perception of psychologically safe learning environments, and the effect of formative and summative assessments on the environment and learner. Through further research, the goal of creating a psychologically safe learning environment will continue in HFPS and provide learners with exceptional, realistic, and valuable learning experiences.

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