

FEATURE

Priming patient safety: A middle-range theory of safety goal priming via safety culture communication

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Abstract

The aim of this paper is discussion of a new middle-range theory of patient safety goal priming via safety culture communication. Bedside nurses are key to safe care, but there is little theory about how organizations can influence nursing behavior through safety culture to improve patient safety outcomes. We theorize patient safety goal priming via safety culture communication may support organizations in this endeavor. According to this theory, hospital safety culture communication activates a previously held patient safety goal and increases the perceived value of actions nurses can take to achieve that goal. Nurses subsequently prioritize and are motivated to perform tasks and risk assessment related to achieving patient safety. These efforts continue until nurses mitigate or ameliorate identified risks and hazards during the patient care encounter. Critically, this process requires nurses to have a previously held safety goal associated with a repertoire of appropriate actions. This theory suggests undergraduate educators should foster an outcomes focus emphasizing the connections between nursing interventions and safety outcomes, hospitals should strategically structure patient safety primes into communicative activities, and organizations should support professional development including new skills and the latest evidence supporting nursing practice for patient safety.

KEYWORDS

goal pursuit, middle-range theory, nursing practice, nursing theory, patient safety, priming, safety culture

1 | INTRODUCTION

Patients deserve safe care, and hospital organizations are morally and financially invested in providing it. Despite this duty, patient safety remains a difficult goal to consistently achieve. In 2013, James estimated more than 400,000 inpatient deaths per year were related to preventable harm in the United States, with serious harm occurring 10–20 times more often than lethal harm. Others estimate that annually in the United States, approximately 200,000 avoidable in-hospital deaths occur due to preventable harm (Austin & Derk, 2016) or 250,000 deaths occur due to human error (Makary & Daniel, 2016). Jha and colleagues estimated 42.7 million adverse events occur in the 421 million annual hospitalizations worldwide, resulting

in 23 million lost disability-adjusted life years in primarily low- and middle-income countries (Jha et al., 2013). Aside from the human costs in terms of morbidity and mortality, adverse events are costly to healthcare systems (Adler et al., 2015; Van Den Bos et al., 2011).

Bedside nursing staff are key to providing safe care and ensuring good patient outcomes (Page, 2004). While targeted interventions have resulted in improvement nationwide to certain safety-related outcomes (Agency for Healthcare Research and Quality [AHRQ], 2016), progress has not been consistent (Wang et al., 2014) and there have been concerns that progress has slowed (Kronick, Arnold, & Brady, 2016; National Patient Safety Foundation, 2015). There is little theory to explain how organizations can influence nursing behavior in such a way as to increase the likelihood of patient safety

across a range of outcomes. The complexity of the environment in which nurses provide care and the complexity of any given patient care situation, combined with often variable resources, present a challenge for the leader or researcher wishing to understand how bedside nurses behave to achieve safety goals. To provide insight into these challenges, we present a theory explaining how safety culture can influence nursing safety goal-directed behavior through the psychological mechanism of priming. To set the stage, we begin by providing a brief overview of the impact of nursing care of patient safety, the impact of safety culture on nursing safety-oriented behavior, and the concepts of priming and nonconscious goal pursuit. We then present the theory, followed by a discussion of implications and future directions.

2 | BACKGROUND

2.1 | Impact of nursing care on patient safety

Nurses have a unique ability to impact patient safety in hospitals due to a bedside role providing close and frequent proximity to patients, an understanding of risks both unique to individual patients and common to all patients, and comprehension of care processes impacting patients across settings (AHRQ, 2017; Groves, Manges, & Scott-Cawiezell, 2016; Institute of Medicine, 2011; Page, 2004). An extensive body of literature supports the significant impact of nurses on hospital patient outcomes, including those related to patient safety, such as falls, pressure ulcers, hospital acquired infections, and other adverse events (Agency for Healthcare Research and Quality, 2017; Griffiths et al., 2016; Institute of Medicine, 2011). While a positive association between nurse staffing and safety outcomes is perhaps best recognized internationally (Aiken et al., 2012, 2014; Blegen, Goode, Spetz, Vaughn, & Park, 2011; Griffiths et al., 2016; Patrician et al., 2011; Stalpers, de Brouwer, Kaljouw, & Schuurmans, 2015), investigators have also found that nursing work environments (Aiken, Clarke, Sloane, Lake, & Cheney, 2009; Aiken et al., 2011; Duffield et al., 2011; Stalpers et al., 2015), nursing education (Aiken et al., 2012, 2014; Blegen, Goode, Park, Vaughn, & Spetz, 2013), and nurse autonomy (Rao, Kumar, & McHugh, 2017) can impact patient safety.

2.2 | Impact of safety culture on nursing safety-oriented behavior

2.2.1 | Safety culture theory

There is limited theory to explain how hospitals as healthcare organizations impact nursing behavior in such a way as to improve patient safety outcomes. Investigators frequently reference safety culture, but rarely explain how safety culture impacts outcomes (Groves, 2014; Halligan & Zecevic, 2011). However, one theory option is the structuration theory of safety culture (Groves, Meisenbach, & Scott-Cawiezell, 2011), a grand-level theory that applies Giddens' sociology theory of structuration (Giddens, 1986) to the social system of

hospital safety culture. The structuration theory of safety culture proposes that there is a recursive relationship between safety culture structures and nursing agency in a safety culture system. Communicated rules and resources that support patient safety facilitate the actions taken by nurses to keep patients safe, which in turn reinforce those safety culture structures; this dialectical relationship maintains a safety culture system (Groves et al., 2011). Thus, safety culture is 'a system constituted by and constituting of values about patient safety that organizational members share through communication and enact in practice' (Groves et al., 2017).

2.2.2 | Impact on nursing behavior at the bedside

While the structuration theory of safety culture explains the interaction between safety culture and nursing action from the 10,000-foot view, as a grand-level theory, it is not testable. Structuration theory does not explain *how* safety communication actually facilitates nursing safety-oriented behavior at the level of the bedside. Limited knowledge of how safety culture influences nursing behavior on a day-to-day basis makes it difficult to leverage safety culture for improvement. Kronick et al. (2016) suggest that hospitals need tools to make improving safety easy, noting that it makes sense to appeal to professionals' intrinsic motivation to improve safety. But without a narrower, testable, middle-range theory, it is difficult to generate effective interventions that capitalize on intrinsic motivation. We suggest that the concepts of priming and nonconscious goal pursuit are the foundation for such a middle-range theory.

2.3 | Priming and nonconscious goal pursuit

Scholars trace the concept of priming as far back as Karl Lashley in 1951, who argued that certain serial responses, such as language, were mentally prepared and assembled (or 'primed') prior to the production of fluent, correctly sequenced behavior (Bargh, 2014; Friesen & Cresswell, 2017). Priming, or using stimuli to activate a particular cognitive construct outside of conscious awareness (Weingarten et al., 2016), is now a well-known concept among psychologists. There is an extensive literature base regarding priming of a variety of targets, including judgments, behaviors, and goals. Of particular interest to nursing is the priming of goals.

Patient safety is widely recognized as a goal of nurses (American Association of Colleges of Nursing, 2008; Ebright, Patterson, Chalko, & Render, 2003). Dijksterhuis and Aarts define *goals* as 'mental representations of behaviors or behavioral outcomes that are desirable or rewarding to engage in or to attain' (2010, p. 470). Behavior often stems from goals (Aarts, Custers, & Holland, 2007; Dijksterhuis & Aarts, 2010); thus, most nursing safety-oriented behavior has as its starting point a goal of patient safety. This seems quite intuitive; one decides what one wants to achieve, decides how to go about doing it, and then does it. However, it has become increasingly accepted that much of human goal-directed behavior, or *goal pursuit*, in fact operates at a level below consciousness, referred to as *nonconscious goal*

pursuit (or sometimes, *unconscious goal pursuit*; Aarts, Custers, & Veltkamp, 2008; Dijksterhuis & Aarts, 2010). Safety goals may therefore be activated by features of our environment without our conscious awareness and subsequently implicitly guide our behavior toward achieving the goal of patient safety.

Priming goals has primarily been used deliberately in healthcare to promote healthy behavior in patients and the community (e.g., Papies', 2016 work with healthy eating behavior), not for influencing the behavior of nurses. However, we argue that in a safety culture, safety priming is ongoing and can be used strategically to achieve the goal of patient safety via nursing behavior. We will discuss how the concept of priming nonconscious goal pursuit can (a) provide insight into the influence of safety culture on nursing safety goal-directed behavior and (b) guide design of interventions to impact nursing safety-oriented behavior and ultimately patient quality outcomes. We present a theory of patient safety goal priming via safety culture in support of this aim.

3 | THEORY DEVELOPMENT

We base this discussion of patient safety goal priming via safety culture upon literature in the fields of social and cognitive psychology; existing theory regarding safety culture, priming, and nonconscious goal pursuit; and our personal clinical and leadership experience. We conducted initial in-depth literature searches of PubMed in February of 2017 and updated the search throughout theory development, using the keywords of 'goal priming' and 'nonconscious goals' in the title or abstract, without time constraints. We then conducted additional ancestor, descendant, and author-based searches to broaden the literature base supporting the proposed theory of patient safety goal priming via safety culture. We used the procedures for theory derivation suggested by Walker and Avant (2005) to select a parent theory, identify the relevant content and structure for use, and redefine the concepts and statements in terms of how safety culture can influence nursing behavior in such a way as to increase the likelihood of patient safety across a range of outcomes.

4 | DISCUSSION OF THEORY

4.1 | Priming and the pursuit of safety goals

This section presents a 'patient safety goal priming via safety culture' theory in part derived from the affective-motivational route to nonconscious goal pursuit proposed by Aarts, Custers, and colleagues (Aarts, Custers, & Marien, 2009; Aarts et al., 2007, 2008; Custers & Aarts, 2010; Dijksterhuis & Aarts, 2010). This theory is ideal for explaining how the positive communication surrounding patient safety in a safety culture can unconsciously prime the bedside nurse to pursue a goal of patient safety via prioritization of safety goal-directed behavior, including performance of safety tasks and risk appraisal.

4.1.1 | Affective-motivational route to nonconscious goal pursuit

Aarts and colleagues argue that following outside activation of a goal (goal priming), people can both unconsciously assess the reward value of the goal and prepare actions to achieve the goal, resulting in motivated nonconscious goal pursuit (Custers & Aarts, 2010). Three key assumptions underlie this 'affective-motivational route to nonconscious goal pursuit' (Aarts et al., 2008; p. 555). First, Custers and Aarts suggest that one's mind 'is designed for action', and is constantly processing incoming information so one can make decisions about what one wants and should do in the current situation (2010, p. 47). In order for this continual process to be efficient, much of it happens automatically and without conscious awareness (Hassin, Bargh, & Zimerman, 2009). Second, as an extension of that idea, evidence supports that goal setting and the pursuit of those goals through action can happen nonconsciously (Custers & Aarts, 2010). Finally, successful goal activation and attainment relies not only on whether achieving the goal is perceived as attainable, but also on whether the goal is perceived as desirable enough to motivate pursuit (Aarts et al., 2007).

4.1.2 | Patient safety goal priming via safety culture communication

The affective-motivational route described by Aarts and colleagues is an appropriate perspective on how safety culture impacts pursuit of safety goals. We suggest that the affective-motivational route not only helps explain the possibility of safety goal priming through the frequent patient safety communication that occurs within a safety culture, but also accounts for the *desirability* of patient safety as a goal within a safety culture. Because cultures are built around shared and communicated values (Groves et al., 2011), this perspective is a logical link between theories of organizational safety culture and actual nursing behavior undertaken to achieve safety goals.

We theorize that safety culture communication about patient safety both (a) activates a previously held patient safety goal of the nurse and (b) increases the perceived value of actions that nurses can take to achieve that goal. After safety culture communication activates the patient safety goal, the nurse nonconsciously prioritizes nursing tasks and risk assessment related to the desirable goal of patient safety. The nurse has increased motivation to perform the safety tasks and risk appraisal needed to achieve the goal of patient safety, which continues until the nurse has mitigated or ameliorated the identified risks and hazards during the patient encounter. Figure 1 illustrates this theory, and in the subsequent sections, we explain the theory in greater detail.

4.1.3 | Primes

Safety culture communication about patient safety acts as a prime, both activating the nurse's previously held patient safety goal and

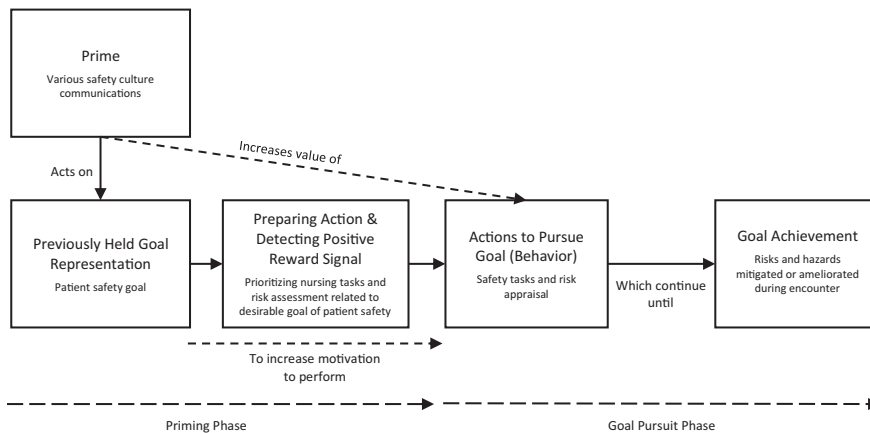


FIGURE 1 Patient safety goal priming via safety culture communication

increasing the perceived value of actions nurses can take to achieve that goal. *Primes* are the stimuli, or environmental cues, that non-consciously activate goals, making the goal more psychologically accessible; this makes it more likely that one will act to achieve that goal when given the opportunity (Biegler, 2015; Loersch & Payne, 2011). Past learning related to a particular goal results in a mental web of associations among the goal conceptualization, the related situation, and the behavior needed for goal attainment (Cameron, Brown-Iannuzzi, & Payne, 2012; Gollwitzer, Sheeran, Trötschel, & Webb, 2011). A prime activates that web of associations, making the learned information more accessible and preparing the person to perceive and react to the environment in ways that lead to goal achievement (Cameron et al., 2012; Gollwitzer et al., 2011; Loersch & Payne, 2016). Likewise, one views the actions and resources perceived as facilitating goal attainment as more valuable when the goal is primed (Förster, Liberman, & Friedman, 2007).

Primes can be supraliminal or subliminal. An individual consciously perceives *supraliminal* primes, such as written or verbal words, as opposed to *subliminal* primes, which one does not consciously perceive. Research has shown both types of primes motivate pursuit of goals without the person being aware of the prime's influence (Aarts et al., 2007; Bargh, 2016). Primes are also ubiquitous; we are constantly exposed to potential primes in an ever-changing environment (Locke, 2015).

A safety culture is comprised of both communicated rules and resources supporting safety values and the actions undertaken by organizational members to keep patients safe (Groves et al., 2011). In a robust safety culture, one would expect patient safety primes to be both supraliminal and subliminal, frequent, and pervasive. As a result, safety priming would often be present but perhaps unnoticed as part of routine communication. Examples include references to patient safety in shift-to-shift reports, posting of patient safety outcome data, and discussion of patient safety incidents in staff meetings.

4.1.4 | Goal representations

Safety primes activate a nurse's previously held goal of patient safety. A *goal representation* is a mental representation of the

goal, an abstract memory structure of the desired end state. This mental representation of the goal is linked within a cognitive goal system to actions and skills needed to attain that desired state, related situational features, and the expected rewards for achieving the goal (Aarts et al., 2007, 2008, 2009; Demarree et al., 2012). Custers and Aarts explain that goal representations 'function as beacons for behavior, motivating action and guiding its course' (2010, p. 47). Being able to build and hold a mental representation of a goal as a desired *end state* allows people greater flexibility in *how* they achieve that goal, despite no two situations being exactly the same (Custers & Aarts, 2010). However, goals can only be primed in an individual if they already exist as part of that individual's goal system (Aarts et al., 2007). Without an existing goal, there is no cognitive reference point to guide behavior nonconsciously and no stored repertoire of actions to choose from to achieve that goal.

As noted, patient safety is a widely recognized goal of nurses (American Association of Colleges of Nursing, 2008), and as such, nurses should be responsive to patient safety primes in their environment. A safety prime should cue nurses to pursue the goal of patient safety in goal-relevant situations, using the actions and skills associated with that goal in their goal system. For example, this theory suggests exposure to patient safety primes during shift-to-shift report would activate a goal of patient safety to be pursued in the nurse's subsequent interaction with a patient, even though the nurse may not enter the room consciously thinking their goal was to make the patient safe.

4.1.5 | Preparing action and detecting positive reward signals

After the prime activates a patient safety goal, the nurse nonconsciously prioritizes nursing tasks and risk assessment related to the desirable goal of patient safety. The two simultaneous steps of preparing for action and detecting positive reward signals complete the priming phase prior to goal pursuit (Custers & Aarts, 2010). People automatically prepare to initiate action when they have a goal in mind, because the relevant actions are associated with the goal in their cognitive goal system. As a result, individuals automatically

select and prepare behaviors available in their repertoire once the goal is primed (Custers & Aarts, 2010).

At the same time, the perception of value, or *positive affect*, attached to the goal increases motivation to pursue the goal. Aarts and colleagues describe this as the 'affective-motivational feature' of the process, which is the detection of a signal that the goal is desirable and worth the pursuit (Aarts et al., 2007; p. 166). If goals are rewarding to achieve, one is more motivated to expend the effort and resources to pursue it, even in the face of obstacles or change of routine (Custers & Aarts, 2010; Förster et al., 2007). Förster et al. (2007) also argue that priming a particular goal will inhibit conflicting goals until the primed goal is achieved, leading to prioritization of the primed goal.

Nurses frequently provide care in environments of limited resources, not the least of which is time. Nurses therefore must prioritize their care, deciding what to do first and for whom. These decisions are based upon the value and feasibility of addressing a given risk, determinations based heavily upon the rules and resources communicated in the safety culture (Groves, Fingfeld-Connett, & Wakefield, 2014). This theory suggests that the safety culture of an organization associates a positive affect with the goal of patient safety, motivating the nurse to prioritize and prepare actions needed to achieve patient safety. For example, a nurse might check patient identification to prevent wrong-patient errors prior to completing any other actions.

4.1.6 | Action

Once priming has occurred and the nurse is motivated to pursue the goal of patient safety, the nurse begins goal pursuit by performing the safety tasks and risk appraisal needed to achieve patient safety. A goal representation acts as a reference point, linked to the actions and skills required to achieve the goal (Aarts et al., 2008, 2009; Dijksterhuis & Aarts, 2010). Custers and Aarts suggest that actions are thus linked to goals on a 'perceptual, sensory, and motor level', which allows one to automatically choose behavior appropriate to the situation, and adjust as needed depending on one's perceptions of the situation (2010, p. 49). One also attends more to information in the environment that is relevant to goal achievement (Dijksterhuis & Aarts, 2010), illuminating the goal-relevant challenges and opportunities of the situation. Therefore, goal-directed behavior is flexible due to the complex linkages between actions and goals, even without conscious consideration of the safety goal. Because the goal is also motivated, the goal is kept active, and the goal-directed action is also persistent (Aarts et al., 2009; Custers & Aarts, 2010).

The presented theory suggests that when primed for a goal of patient safety, nurses persistently pursue the goal of safety for their patient, adapting their actions to the unique needs of their patient and situation. Actions taken by nurses include both safety tasks and risk appraisal. If the nurse views the absence of falls as essential to achieving a patient safety goal, then the nurse is likely to perform safety tasks such lowering the bed, raising the side rail, moving key personal items to within reach, and reminding the patient to use the

call light. The nurse might also appraise the risk of the patient falling by performing a neurological assessment and checking for evidence of fall precautions. If the nurse views a pulmonary embolism as a safety risk for the patient population, a risk appraisal might include a thorough cardiopulmonary assessment while the safety tasks might include specific instructions to the patient regarding reporting of certain symptoms.

4.1.7 | Goal achievement

Goal pursuit continues until the nurse mitigates or ameliorates the identified risks and hazards during the patient encounter. Motivation keeps the desirable goal active until it is achieved or until failure is determined (Aarts et al., 2009; Biegler, 2015; Custers & Aarts, 2010; Förster et al., 2007). Because patient safety is a 'dynamic non-event' (Weick & Sutcliffe, 2015, p. 17), and thus an ongoing goal most easily measured through failure, goal achievement in this model is operationalized within a bounded patient encounter.

5 | IMPLICATIONS FOR NURSING

Nurses must maintain and achieve a goal of patient safety while practicing within complex organizations and during repeated, unique patient encounters. We have theorized that patient safety goal priming via safety culture communication may support nurses in this endeavor. Table 1 provides examples of this theory in action. The presented theory suggests that hospital safety culture communication activates a previously held patient safety goal and increases the perceived value of actions nurses can take to achieve that goal. The nurse subsequently prioritizes nursing tasks and risk assessment related to achieving patient safety and is motivated to perform these safety tasks and appraisal. These efforts continue until the nurse mitigates or ameliorates the identified risks and hazards during the patient care encounter. However, this theoretical process requires activation of a previously held safety goal associated with a repertoire of appropriate actions that can be used to achieve that goal. These theoretical requirements have several implications for nursing education and practice.

5.1 | Safety goal activation

According to this theory, activation of a safety goal requires both exposure to safety primes and a previously held goal of patient safety. A strong safety culture may be saturated in formal communication about safety that acts as primes, ranging from posting of nursing unit safety outcome data to reminders about The Joint Commission's National Patient Safety Goals on name badges in U.S. hospitals. Informally, a safety goal may also be primed when nurses discuss concerns about patient safety at the nurse's desk or during meetings. However, when purposefully trying to influence nursing safety-oriented behavior, hospital administration may first be inclined to devise additional communication of task instructions related to

TABLE 1 Examples of patient safety goal priming via safety culture communication

Patient safety risk	Theoretical process in practice
Fall	A patient care unit has a group report prior to shift report. In this group report, a brief summary of each patient's status is provided, including safety concerns. This element of report serves to activate the unit nurses' individual goals of patient safety and emphasizes that the unit values patient safety as a worthwhile goal. Nurse Smith enters Patient Johnson's room following report and immediately does an environmental survey, noting that the bedside table is not adjacent to the bed. During her assessment of the Mr. Johnson, she notes that he has some impulse control issues as a result of his medical condition. Despite her heavy patient load, she takes the time to move the table to the bedside, place the call light in his hand, and remind him to call for assistance before getting out of bed, thus mitigating the risk of a patient fall.
Medication Error	An organization in the United States utilizes the screen saver of documentation computers to remind staff of The Joint Commission's National Patient Safety Goals. These frequent and repeated communications activate the individual patient safety goals of the nurses, and send a message about the safety rules valued by the organization. Nurse Smith sees this screen saver before every documentation session and whenever he passes through the medical intensive care unit's nursing station. Nurse Smith is anxiously waiting for report prior to receiving a new admission. Nurse Jones asks him to double-check a medication dose per protocol. Despite Nurse Smith's sense of time pressure, he agrees to help and focuses his attention on the double check, and then realizes that the other nurse has inadvertently prepared an inaccurate dose, placing the patient at risk. He assists Nurse Jones to properly prepare the medication dose, thus ameliorating the risk of medication error.
Medical Complication	Display boards in a surgical unit's hallways and breakroom show the unit's progress toward a number of quality metrics, including both process and outcome measures relating to patient safety. Nurse Jones does not study the details of the metrics every day, but she knows that the unit is transparent about their progress because patient safety is important. She is frequently reminded of this as she passes the monitors, which activates her personal goal of patient safety on a daily basis. During bedside shift report for Patient Davis, the off-going nurse remarks to Nurse Jones that Mrs. Davis's central line insertion site has been 'fine' and moves on to the next part of report instead of inspecting the site as per protocol. Even though Nurse Jones knows that the off-going nurse is in a rush and tends to respond negatively when challenged, Nurse Jones gently insists on examining the insertion site, revealing an insecure dressing. With the assistance of the off-going nurse, Nurse Jones changes the dressing per protocol, mitigating the risk of a central-line-associated bloodstream infection.

specific risks or untoward safety outcomes. These well-intentioned efforts may inadvertently result in a barrage of initiatives that are individually appropriate, but collectively seem haphazard and overwhelming to nurses (Brooks, Gorbenco, van de Ruit, & Bosk, 2014), whereas strategically structuring patient safety into frequent communicative activities such as nursing shift reports and patient rounds may be broadly effective across several potential risks to safety.

Another concern is that despite patient safety being a widely held goal of nurses, nurses may not fully appreciate their contribution to patient safety, thus limiting the scope of nurses' patient safety goal representations. Nurses may not consider that they are creating patient safety through their constant, sometimes seemingly routine actions to manage risk. A safety goal representation with a narrowly defined definition of patient safety or a limited array of actions and skills relevant to the goal decreases the chances of a safety prime activating a safety goal representation. Past qualitative work by the first author has revealed that nurses often have difficulty articulating what they do to keep patients safe (Groves et al., 2014, 2016), suggesting that nurses may not always appreciate how much of their everyday, routine practice contributes to a goal of keeping patients safe. In a recent simulation-based study examining priming patient safety through nursing shift handoff, nurse participants sometimes offered unexpected goals as reasons for performing tasks that contributed to patient safety (Groves et al., 2017). For example, some nurse participants explained that a goal of working in a clean room motivated actions such as wiping up spills, when those actions also decreased the risk of infection or falls, supporting a goal

of patient safety (Groves et al., 2017). One way to address this concern and thus capitalize on safety priming inherent in safety cultures is to avoid creating a pure task mind-set in undergraduate education, and fostering an outcomes focus that emphasizes the connections between nursing interventions and safety outcomes. Situating task training within high-fidelity simulation scenarios, followed by debriefing, is one evidence-based approach for helping prelicensure students make those connections (Neill & Wotton, 2011).

5.2 | Repertoire of action

The concept of a goal representation further suggests that for successful priming of nonconscious safety goal pursuit, nurses need to have a diverse menu of actions responsive to situation-specific opportunities for achieving a patient safety goal. Desiring to achieve a goal of patient safety, consciously or not, is insufficient if you do not know the actions to take to achieve the goal. This suggests a couple considerations for nursing education and training. First, as noted above, nurses should be educated to understand how nursing practice contributes to a goal of patient safety so that there is a firm foundation on which to build their safety goal representations through experience. Second, for effective achievement of a patient safety goal, nurses need to constantly update their repertoire of action. Organizations can strategically build the actions and skills associated with safety goal representations through professional development that includes both learning of new skills and the latest evidence supporting nursing practice for patient safety, as well as

through guided opportunities to learn through experience, such as graduate nurse residencies and orientation.

6 | SCOPE AND FUTURE DIRECTIONS

This theory is limited in scope; as a middle-range theory, it is narrower than that of the structuration theory of safety culture and focuses on one area of concern within the topic of safety culture. There are certainly other factors involved in patient safety. Even experienced nurses with rich safety goal representations available for priming will face limitations of time, materials, equipment, and conflicting goals. Clearly, priming patient safety is not sufficient in and of itself to keep patients safe. This theory of priming a patient safety goal via safety culture communication does not explain every way in which safety culture may impact nursing behavior to keep patients safe. There are also likely to be more directive, or conscious, influences on nursing behavior that can be leveraged, including the actions of nurse leaders to build a work environment that supports patient safety. Safety culture should support the goal of patient safety not only through strategic written and verbal communication priming and supporting that value, but also through investment in other organizational structures and resources that also communicate and support the value of patient safety. Likewise, nurses are not the only healthcare workers key to keeping patients safe. While this theory focuses on nursing behavior in particular due to nurse proximity to the bedside, an expansion of this theory might explain how safety priming works as a mechanism to influence the behavior of other healthcare workers.

However, this theory does offer a testable explanation of how safety communication actually impacts nursing behavior, as well as suggesting ways that hospitals can communicate strategically to impact nursing safety practice. Interventions using safety priming communication can be experimentally tested for efficacy against a broad range of potential safety risks using simulation (e.g., through nursing shift-to-shift handoff; Groves et al., 2017), or against specific targets in more traditional quality improvement research. Additional extensions of this theory would include priming of other goals central to nursing's emphasis on quality care.

7 | CONCLUSIONS

Given the complex healthcare environment, continual staffing challenges, and limited fiscal resources of healthcare organizations, hospitals must be open to new methods of promoting patient safety and increasing the quality of healthcare encounters. Previous strategies have had limited and potentially waning success in improving patient safety outcomes. This paper has introduced a middle-range theory that provides both directions for further research and an actionable approach to assist bedside nurses in achieving safety goals through leveraging safety culture.

Nurses already hold a goal of patient safety as a result of their education, work experience, and professional training; however, routine competing demands for nursing time and attention can shift patient safety to a secondary focus. Safety goal priming provides a clear link between the hospital's safety culture rules and resources and the actions of the bedside nurse, resulting in prioritization of patient safety goals. Hospitals must guard against viewing safety goal priming as a singular or one-time intervention. Hospital staff and providers constantly create patient safety through management of risk in pursuit of a patient safety goal. Rather than simply creating a single priming event to address an individual safety concern, hospitals should routinely incorporate key priming messages into their current safety culture processes.

Finally, hospitals and nursing educators should undertake strategies to ensure that bedside nurses understand their contribution to patient safety and have the opportunity to develop a wide repertoire of actions to achieve patient safety goals. Appreciating the enormous impact of nursing actions on patient safety outcomes is the first step toward supporting nurses to prioritize patient safety goals.

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