UNIVERSITY OF TECHNOLOGY SYDNEY

Patient experience and safety culture: exploring the intersections and implications for improving patient safety

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Certificate of Original Authorship

I, Adel Alabdaly, declare that this thesis, is submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Health at the University of Technology Sydney. This thesis is wholly my own work unless otherwise reference or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis. This document has not been submitted for qualifications at any other academic institution.

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Peer-reviewed journal publications arising from this research

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List of Abbreviations

IOM	Institute of Medicine
GCC	Gulf Cooperation Council
NTP	National Transformation Plan
WHO	World Health Organisation
UBHT	The United Bristol Healthcare NHS Trust
UK	The United Kingdom
USA	United States of America
MOH	Ministry of Health
IAEA	International Atomic Energy Agency
NRC	Nuclear Regulatory Commission
SCORE	Safety, Communication, Operational Reliability and Engagement survey
SAQ	Safety Attitudes Questionnaire
VSCS	Victorian Safety Climate Survey
SCSu	Safety Climate Survey
SCSc	Safety Climate Scale
PSCHO	Patient Safety Climate in Healthcare Organisations survey
MSI	Modified Stanford Instrument
HSOPSC	Hospital Survey on Patient Safety Culture survey
MaPSaF	Manchester Patient Safety Framework
C-NHSPSC	Chinese Nursing Home Survey on patient safety culture
MOSPSC	Medical Office Survey on Patient Safety Culture
PROMs	Patient-reported outcome measures
PREMs	Patient-reported experience measures
RBC	The relationship-based care model
HCAHPS	Hospital Consumer Assessment of Healthcare Providers and Systems
AHRQ	Agency for Healthcare Research and Quality
SPSS	Scientific Package for Social Sciences
COVID-19	Coronavirus disease of 2019
TA	Thematic Analysis
PRISMA-ScR	The Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews
PCC	Population, Concept and Context
ACSQHC	The Australian Commission for Safety and Quality in Healthcare
ACI	Agency for Clinical Innovation
NIH	National Institutes of Health
PMOS	The Patient Measure of Safety
PSQ	The Patient Satisfaction Questionnaire Short Form
FFT	The Friends and Family Test
FS-ICU-24	Family Satisfaction in the Intensive Care Unit questionnaire
YCFF	The Yorkshire Contributory Factors Framework

Abstract

Background: Over recent decades, there has been much effort made to improve the quality and safety of nursing and healthcare delivery. However, evidence continues to accumulate of unsafe care resulting in iatrogenic harm in hospitals. This thesis explores the intersections of patient safety culture and patient experience, to understand their implications on patient safety in the Saudi hospital context.

Methods: This research was conducted using a convergent parallel mixed-methods design, including a cross-sectional survey and an interview study.

Results: The research reinforces the importance of communication, a culture of learning, and feeling safe for both staff and patients. The research also highlighted aspects that impacted patient safety and quality of care, including cultural competence, cultural safety, open communication for patient empowerment, and the issue of staffing and turnover as issues not as often discussed in the safety culture or patient experience literature, yet clearly seen as important to both staff and patients, in their impacts on safety.

Conclusion: Future research and Saudi safety initiatives should incorporate cultural competence and cultural safety, shifting from reactive, error-based approaches (Safety I) to proactive strategies (Safety II) that focus on building system resilience, and understanding how things often go right in clinical practice.

Chapter 1: Introduction

1.1 Introduction

Lucian Leape's' striking comparison of medical harm to three jumbo-jet crashes every two days (Leape, 1994) is a sobering reminder of the importance of comprehensive patient safety improvement. The thesis research project addresses the implications of safety culture and patient experience on patient safety improvement by using mixed-methods research consisting of surveys and interviews to explore the intersections between staff-reported safety culture and patient-reported experiences of hospital care and the impacts of this intersection on patient safety.

This chapter introduces the study background and context in which the research was conducted. It provides an overview of the literature on patient safety, safety culture and patient involvement in safety, research aims and questions, and the structure of the thesis.

1.2 Research context: The Kingdom of Saudi Arabia

Saudi Arabia is geographically the largest of the Middle Eastern countries; it has a land area of approximately two million square kilometres (Al-Sodany, Issa, Kahil, & Ali, 2018; Khaliq, 2012), and is the most populated of the Gulf Cooperation Council (GCC) states. The total estimated population of the Kingdom is 33,413,660, with most of the inhabitants living in urban areas (Saudi Ministry of Health, 2018). Approximately 12.6 million people are considered foreign nationals, 24.2% of the population is under the age of 15 years, and only 3.2% of the population is over the age of 65 years (Saudi Ministry of Health, 2018). The Saudi economy was mainly reliant on the demand for oil and pricing; it is the world's largest oil exporter and the country with the largest amount of petroleum in the world (Walston, Al-Harbi, & Al-Omar, 2008). Saudi Arabia, however, has announced a strategic program, known as the National Transformation Plan (NTP), within its Vision 2030 strategic framework,

which is a long-term plan to reduce reliance on oil resources and reinforce economic diversity, the country's financial position, and the effectiveness of services in the government and private sectors, including the increase of local and foreign investments in the kingdom (Jaziri & Alanazi, 2019; M. Khan, 2016; Nurunnabi, 2017). Regardless of challenges related to the coronavirus disease of 2019 (COVID-19) pandemic and the accompanying international inflationary wave, the Saudi economy exceeded G20 nations in 2022 for the first time in history, surpassing $1 trillion in value (Ministry of Economy and Planning, 2022). Although Saudi Arabia is a relatively young country, its people have cultures that have endured for many years and been refined over multiple centuries, before the country was unified. The traditional cultures were shared by members of a particular tribe or province (Gallagher & Maureen Searle, 1985). Saudi Arabia geography is diverse; this has contributed to wide differences between its peoples. The religion has supported the building of strong commonalities that unify the national culture, along with the different tribal cultures that are part of the general Arabic culture.

The Islamic religion has played an important role in shaping the Saudi culture (Gallagher & Maureen Searle, 1985). The cultural setting of Saudi Arabia is a unique combination of Arabic and Islamic influences (Almutairi & McCarthy, 2012).Thus, the beliefs and attitudes of Saudis are characterised by the Arabic tribal traditions and customs and the Islamic worldview (Almutairi & McCarthy, 2012; Littlewood & Yousuf, 2000).

1.3 Healthcare services in Saudi Arabia

The origins of the Saudi healthcare system can be traced back to 1925, with the establishment of the first public health department in Mecca, by a royal decree, and, later, in 1950, with the establishment of the Ministry of Health (MOH) (M. Al-Hanawi, Khan, & Al-Borie, 2019). Prior to these developments, there was no official structured healthcare system in the Kingdom. Currently, the governance structure of the Saudi healthcare system is mainly

divided into three areas: 1) the MOH, 2) other governmental health sectors, such as universities and military hospitals, and 3) private healthcare providers.

The Saudi government runs most hospitals in the country: there is a total number of 399 hospitals in Saudi Arabia, with 290 governed by MOH (Saudi Ministry of Health, 2023). The total number of beds in all hospitals in Saudi Arabia is 80,072 beds, while the total number of beds in MOH hospitals is 47,305 beds, which corresponds to 59% of the total hospital beds in the country (Saudi Ministry of Health, 2023). The hospitals and the beds available in the Saudi health sectors are presented in Table 1. Saudi health practitioners were comprised of physicians (44.8%), nurses (43.7%), and pharmacists (41.6%) (Saudi Ministry of Health, 2023). The budget of the Saudi health sector follows education and military spending; this reflects the government's commitment to developing healthcare services to improve the population's health.

Table 1

Hospitals and beds in Saudi health sectors

Saudi Ministry of Health (2023)		
Sectors	Beds	Hospitals
Ministry of Health	47305	290
Other governmental Sector	14570	59
Private sector	18197	150
Total	80072	399

The Saudi healthcare system was ranked 26th out of 191 countries on overall performance by the World Health Organisation (WHO), higher than several other healthcare systems in developed countries, such as Australia and the United States of America (USA) (M. Al-Hanawi et al., 2019; AlNemer, 2018). Several hospitals in Saudi Arabia were accredited by different international accreditation bodies, such as the Joint Commission International, the Canadian Council on Health Services Accreditation, and the Australian

Council for Health Care Standards (Almasabi, 2013).

The Saudi government faced new challenges that required initiatives and actions to limit the COVID-19 pandemic in the country. In March 2021, the Saudi government announced the first COVID-19 pandemic in the country (Algaissi, Alharbi, Hassanain, & Hashem, 2020). In response to the pandemic outbreak, the country went on lockdown, and all educational, social and sports activities were suspended. Furthermore, local and international travel restrictions were implemented. The Saudi National Emergency Response Committee (managed by the Minister of Health) was established to develop measures across all sectors (World Health Organization, 2020). The National Command and Control Centre within the MOH was initiated to continuously monitor local and international updates on the pandemic and take action (Saudi Ministry of Health, 2020).

Saudi Arabia is one of the developing countries that provide universal access to healthcare (Ebaid, 2022). While health services in the Kingdom are currently offered free for Saudi citizens and expatriates serving in the government sectors, mainly at the MOH facilities, health insurance services are also provided by private institutions for locals and foreigners working in the private sectors (AlNemer, 2018; Walston et al., 2008). During the COVID-19 pandemic, the Saudi health authority declared that COVID-19 treatment is free for everyone regardless the residency status (Saudis and non-Saudis), including residency violators, without legal consequences (Algaissi et al., 2020; F. Alsharif, 2021; A. Khan et al., 2021). Additionally, the MOH provided all essential health services and adapted vaccination programs and treatment protocols for COVID-19 (A. Khan et al., 2021).

Notwithstanding these developments, the delivery of effective health services to the rapidly growing population still poses major challenges for the Saudi healthcare system (M. K. Al-Hanawi, 2017; M. K. Al-Hanawi, Vaidya, Alsharqi, & Onwujekwe, 2018). Most people living in Saudi Arabia are Saudis, while the majority of health practitioners, such as nurses

and physicians, are foreigners with different cultural backgrounds. Nursing staff implement physician orders in relation to patient care, thus, it's important to consider nursing perceptions in addition to physicians when it comes to patient safety. Nurses and physicians are the key stakeholders in creating a safe workplace, and directly involved in the patient experience journey through the processes of care delivery. According to Hansen, Williams, and Singer (2011) frontline staff perceptions of patient safety climate were highly correlated with readmission rates. This emphasises the importance of frontline workers and their critical role in patient safety.

1.4 The problem of patient safety

Patient safety has drawn the attention of healthcare systems internationally, particularly after the seminal report 'To Err is Human', which highlighted that medical errors are responsible for approximately 98,000 deaths in the United States annually (Kohn, Corrigan, & Donaldson, 2000). In 2004, the World Alliance for Patient Safety was established and considered a significant action to enhance safety in healthcare organisations (World Health Organization, 2004). Millions of patients globally are predicted to be injured or die each year due to unsafe medical services (World Health Organization, 2019). Since 'To Err is Human' was published, there has been considerable knowledge gained about patient safety including patient involvement in safety, but patient safety is still one of the main challenges facing healthcare systems globally (Ayorinde & Alabi, 2019).

Hospitals often face multifaceted challenges when implementing patient safety measures, including resistance to change, limited resources, and inadequate staff engagement (Carayon, Xie, & Kianfar, 2014; Pronovost et al., 2006; S. J. Weaver et al., 2013). Addressing these barriers is essential to understanding the feasibility and sustainability of safety initiatives. A continuous evaluation of hospital safety is thus important, which can be guided by validated tools such as the AHRQ's Hospital Survey on Patient Safety Culture (HSOPSC),

allowing for an assessment of organisational attitudes and behaviours toward safety (J. Sorra et al., 2016). Furthermore, the use of specific indicators, such as rates of adverse events and incident reporting frequency tools can offer measurable insights into the effectiveness and impact of safety programs (C. Vincent, Burnett, & Carthey, 2014). Including additional evaluative dimensions from patient perspectives can provide a comprehensive framework for the research and strengthen its practical and policy relevance.

Patent safety literature increasingly focused on safety culture and patient experience as areas needing attention, with instruments being developed to measure and track progress in each area (Alabdaly, Hinchcliff, Debono, & Hor, 2024). Despite the growing acknowledgment of the importance of including patients' own experiences of safety and harm in efforts to improve safety, safety culture and patient experience domains are often seen as separate fields of endeavour in research and practice (Alabdaly et al., 2024).

In Saudi Arabia, patient experience has increasingly become a focal point of healthcare transformation, especially under the Saudi Vision 2030, which emphasises patient-centred care and quality of care. National initiatives such as the "Patient Experience Measurement Program" by the Ministry of Health have highlighted patients' perceptions of care (Saudi Ministry of Health, 2024). Meanwhile, patient safety culture has been promoted through institutional accreditation requirements and national patient safety goals, leading to growing awareness and measurement via tools such as the Hospital Survey on Patient Safety Culture (HSOPSC) (Saudi Patient Safety Center, 2023). While both quality domains have gained individual attention in the Saudi context, the integration between patient experience and staff perception of safety culture and its impact on safety remains unexplored, particularly in a comprehensive mixed-methods approach that considers both staff and patient perspectives in the Eastern region of Saudi Arabia. There is a limited understanding of how

these concepts intersect and impact patient safety, creating a gap in both practice and research.

Considering patient feedback into safety culture can enhance understanding and foster improvements in care delivery, incorporating patients' experiences of safety and harm is crucial for enhancing patient safety initiatives. Research indicates that patient-reported safety incidents provide unique insights that are often overlooked in traditional reporting systems, enrichening the data collected, leading to more effective safety improvements (O'Hara et al., 2018; Pozzobon, Rotter, & Sears, 2024). Including patient feedback in safety protocols, healthcare providers can better address the root causes of safety issues and enhance patient safety (Panggalih & Susanti, 2023).

1.5 The Safety I approach to safety improvement

Safety in healthcare was initially inspired by standard practices designed for safety in critical industries such as nuclear power, aviation, railways, etc (Braithwaite, Wears, & Hollnagel, 2015). Due to the high risk of failure in these industries (e.g. accidents and loss of lives), systematic safety procedures and risk management approaches were early adopted by the critical industries. Likewise, safety in healthcare typically focuses on concepts, models and methods designed to meet the industrial sector's safety needs (during the 1960s–1980s), such as root cause analysis, accident reporting, failure assessment and clinical risk management (Braithwaite et al., 2015). Further, the World Health Organization (WHO) defines patient safety as the absence of preventable harm to a patient and decreased risk of unnecessary harm associated with health care to a lower acceptable level (World Health Organization, 2023b).

This traditional way of conceptualising and approaching safety considers that adverse outcomes can be described by linear cause-effect chains (Braithwaite et al., 2015), as initially

proposed by the Domino metaphor (Heinrich, 1941), and later by Reason's Swiss Cheese model (Reason, 1990). Further, this safety approach accepts that all adverse outcomes (mild or severe outcomes) have reasons that can be detected and corrected and that these vary from the causes of ordinary, successful care (Braithwaite et al., 2015). This traditional safety approach (known as Safety I) mainly aims to reduce failures and prevent adverse events by analysing errors, incidents, and system failures (Braithwaite et al., 2015).

Safety I is primarily focus on what goes wrong by considering safety as the absence or lower acceptable level of incidents, errors and harm events (Braithwaite et al., 2015). The Safety I approach is characterised as a reactive approach (focus on failures, risk management and cause-and-effect thinking) that tends to implement rules/barriers to correct performance and adherence to policies and decreasing failures, malfunctions and risks (Braithwaite et al., 2015). Grant and Collier (2018) assert that traditional industrially derived safety models may overlook the nuanced, relational aspects essential for effective patient care and safety, highlighting the need for a more comprehensive understanding of safety that transcends traditional thinking of safety and quality in healthcare.

Focusing on the traditional assumption of safety alone in healthcare is not enough, and does not fit the modern world. People are living longer than ever, and life expectancy keeps increasing globally. In Australia, people live longer than before, and to an older age (AIHW, 2023). In 2021, Australian life expectancy (83.2 years) was the highest in the world (AIHW, 2023). With the increase in population size and ageing, many people are getting older, for which cancer rates are higher and increased around 93% over the last 24 years (AIHW, 2024). In 2022, the highest overall rate of skin cancer was in Australia (World Cancer Research Fund, 2022). Internationally, people's health remains at risk, with 41 million deaths annually because of non-communicable diseases (NCDs), known as chronic diseases, which are often associated with older age groups (World Health Organization, 2023a). However, 17 million

NCD deaths occur before the age of 70 years (World Health Organization, 2023a). This suggests that all age groups remain at risk of the factors that lead to NCDs, whether from air pollution, tobacco smoke, excessive use of alcohol, unhealthy lifestyles (such as poor diets and less physical activity) etc (World Health Organization, 2023a).

Considering the increasing population, ageing demographics, and rising health issues or diseases, significant pressure is placed on healthcare systems and overworked healthcare staff, all of which increase the risk during patient care and compromise the safety and quality of care (Clark et al., 2020; Nguyen-Van-Tam et al., 2022; ÖZDEMİR & Yanli, 2019; Türe, Dursun, Çelik, & İnanıcı, 2018). Thus, maintaining consistent and effective safety standards/approaches to improve safety and quality outcomes remains challenging.

Enhancing quality and patient safety remain an issue that hamper healthcare providers (Azyabi, Karwowski, & Davahli, 2021). A report found that 25% of hospitalised patients in October 2018 experienced patient harm, including adverse events and temporary harm events (Grimm, 2022). In fact, understanding patient safety demands goes beyond compliance, prevention and elimination. Managing patient safety should also focus on learning from the more frequent cases where things go right (known as Safety II) and develop ways to support, augment and encourage such approaches (Braithwaite et al., 2015). The Safety I approach to preventing patient harm by capturing clinical risks and errors and the Safety II approach about promoting patient safety by focusing more on exploring safe practices are crucial in creating a safe culture.

1.6 From Safety I to Safety II

Safety II is a more contemporary approach that concentrates on what goes right by viewing safety as the ability to succeed under various conditions, emphasising resilience and adaptability to ensure systems can adjust to changing circumstances and perform safely and effectively (Braithwaite et al., 2015; Patterson & Deutsch, 2015; Woodward, 2019). Safety II

suggests an approach that expands on Safety I to consider the existence of capacities and complexities and the adaptation of the healthcare system (Braithwaite et al., 2015; Patterson & Deutsch, 2015; Woodward, 2019). Safety II also encourages the exploration of daily work routines, not just adverse outcomes (Braithwaite et al., 2015; Patterson & Deutsch, 2015; Woodward, 2019). This suggests that rules, policies, and actual practice are often not the same, particularly in different cultural contexts, where differences need to be explored from different perspectives, including both staff and patients.

Both the Safety I (preventing patient harm by capturing clinical risks and errors) and Safety II (promoting patient safety by focusing more on exploring safe practices) approaches are crucial safety approaches in creating a safe culture as highlighted above. Safety culture impacts on both approaches, but is foregrounded in the safety II perspective. For example, communication through the safety II lens reflects a culture that is more proactive and supportive of adaptability, emphasising how staff reach successful outcomes by managing variability in complex circumstances. Unlike Safety I, which focuses more on preventing specific safety errors, Safety II fosters open communication that supports resilience and flexible responses (Hollnagel, 2018). Thus, safety II takes a wider perspective than safety I approaches, encouraging openness and transparency (including communication, reporting errors, incidents and concerns), promoting a positive patient safety culture.

Safety I and Safety II approaches help the researcher interpret staff responses and perceptions of safety. The Safety I approach provides a lens to understand traditional views that focus on errors and adverse events (Braithwaite et al., 2015), while the Safety II approach offers a broader perspective that values everyday clinical work and what goes right in practice (Braithwaite et al., 2015; Patterson & Deutsch, 2015; Woodward, 2019). Understanding the Safety I and Safety II approaches is important in safety culture research, as

they offer complementary perspectives on how safety is understood, managed, and improved in healthcare settings.

1.7 Safety culture

The concept of 'safety culture' was first formally introduced by the International Atomic Energy Agency (IAEA) in the aftermath of the Chernobyl accident, after investigations revealed that the incident could be attributed to a lack of safety culture (International Nuclear Safety Advisory Group, 1986). Several definitions of safety culture have since emerged and, as a result, safety culture is defined in multiple ways. On a broad level, safety culture can be viewed as the collective attitudes toward safety that result in it being viewed and treated as an overriding priority and, subsequently, safety issues obtain the consideration justified by their implications (IAEA, 1991). Furthermore, the safety culture of an organisation can be viewed as collective outcome of the perceptions, attitudes, norms, patterns of behaviour, competencies, norms, and values that influence the extent to which employees commit to ongoing safety management (Health and Safety Commission, 1993). According to Pidgeon (1998), it can also represent a system of shared meaning that serves as a lens through which hazards are evaluated.

The IAEA examined the notion of safety culture within the context of the Nuclear Regulatory Commission (NRC), and examined how good safety culture in a nuclear installation reflects the values that are shared throughout an organisation (IAEA, 1991). Specifically, the collective belief that safety is of paramount importance and is a shared responsibility. Safety culture is commonly viewed as a subclass or aspect of organisation culture, as well as studied, interpreted and defined in multiple ways. Although safety culture was introduced first in the industrial sector, it's also applied in the healthcare sector.

The idea of safety culture originally came from the high-hazard industries like the nuclear power and aviation, then the concept was applied to healthcare organisations (Berland, Holm, Gundersen, & Bentsen, 2012). During the last few decades, the concept of patient safety culture has become a significant interest of health research studies. Desmedt et al. (2018) offered an examination of the most current empirical studies that focused on using self-reported methods to measure patient safety culture. Also, the researchers were able to retrieve about 1229 articles up to November 2016 that focused on patient safety culture in general.

1.8 Safety culture in healthcare

Regarding the definition of patient safety culture, different suggestions have been offered. For example, safety culture was defined as "the product of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that determine the commitment to and the style and proficiency of, an organisation's health and safety management" (Health and Safety Commission, 1993, p. 23). This definition has been widely discussed in early studies, and it is still recognised in recent research (Brock Hewitt, Goldstein, A Isenberg, R Phillips, & Cowan, 2017). Wolf (2005) stated that patient safety culture concerns how people are behaving and interacting inside the organisation, this may indicate that patient safety culture could also involve looking at different aspects and dimensions such as leadership, management, teamworking, communication and staff satisfaction.

In the healthcare context, patient safety culture also represents a subclass of organisational culture that relates to the beliefs and values associated with patient safety (Feng, Bobay, & Weiss, 2008; Morello et al., 2013). In fact, patient safety improvements are attained when healthcare delivery organisations embrace safety culture (Aspden, Corrigan, Wolcott, & Erickson, 2004). Patient safety culture can be viewed as shared beliefs, attitudes, values, norms and behavioural employee qualities (Morello et al., 2013), and these traits directly

influence the behaviours and attitudes staff members exhibit with regards to ongoing patient safety performance (Zohar, Livne, Tenne-Gazit, Admi, & Donchin, 2007). According to Mustard (2002), patient safety culture is a direct outcome of ways of thinking, social learning, and accepted behaviours.

It is noticeable that the main concern is to keep any individual (e.g. staff and patient) involved in healthcare processes free of harm. This concern addressed that the healthcare organisations need to develop a healthcare system that is culturally safe and competent to meet the patient needs and support patient safety culture, a culture of learning but not blaming should be embedded (Bonner, Castle, Perera, & Handler, 2008; Nieva & Sorra, 2003; Wolf, 2005). S. Dekker (2018) highlighted the importance to move from a retributive to a restorative just culture. While retribution asks which rule has been broken, who did it, how serious was the infraction, and what does the person deserve; a restorative just culture would ask who has been injured or potentially hurt? What are their needs? Whose obligation is it to meet those needs? Notably, this concerns the protection of both patients and staff from harm, by creating a culture of learning rather than blame. The standard disciplinary malpractice systems in place are believed to hold back progress in this area because they discourage people reporting errors, which contributes to a blame and silence culture within healthcare organisations that is detrimental to learning and militates against improvements in systems (The Washington State Medical Commission, 2016). Although numerous healthcare organisations have made significant efforts to introduce initiatives for improvements in patient safety, patient harm remains common and research in this field still lacks well-established approaches (Reis, Martins, & Laguardia, 2013). The beginning of improvement is to recognise and focus on the system that allows harm to occur. This can only happen in an open and transparent workplace where a safety culture prevails (World Health Organization, 2019). This should also include the patients who received the healthcare services.

According to West, Dawson, Admasachew, and Topakas (2011), when employees work under extreme pressure, this may result in poor job satisfaction and staff turnover. In their report, they also found that employee engagement was significantly correlated with patient satisfaction. Much of the research in this area has been undertaken in hospital contexts with a focus on the ways in which staff perceive and approach safety, with measurements being taken at a specific time point employing structured tools. Researchers in this field have chiefly examined the relationship between safety climate and hospital readmissions, length of stay, mortality rates, medication errors, overall composite and desired outcomes, and the rates of complications such as falls or pressure ulcers (The Health Foundation, 2011). One example of this was an American study that looked into the correlation between patient safety climate within a hospital and the number of patients who were re-hospitalised. Data related to the 36,375 staff from 67 healthcare organisations were compared with risk-standardised rates for hospital readmissions. There was a correlation between lower hospital safety climate and higher readmission rates. It was found that frontline staff perceptions of patient safety climate were highly correlated with readmission rates, but senior leaders perceptions were not (Hansen et al., 2011). This emphasises the importance of frontline workers, and their impact involves more than communication; they can play a critical role in patient health, shaping the patient experience and creating a safe culture. Involving staff safety culture and patient experience can provide a better understanding of patient safety, which is discussed further in the following chapter.

1.9 Patient safety culture

Focusing on patient safety culture as an essential element that influences the safety and quality of healthcare services is critical for improving the efficiency of a health system (Khoshakhlagh, Khatooni, Akbarzadeh, Yazdanirad, & Sheidaei, 2019; Sallie J Weaver et al., 2013). There is evidence that the quality and safety of health services can be improved

through embedding a safe and reliable climate/culture (Bell, Reeves, Marsden, & Avery, 2016; Bonner et al., 2008). In the United Kingdom (UK), the Bristol heart scandal occurred between 1984 – 1995 at the Bristol Royal Infirmary, where infants with cardiac issues died at high rates after cardiac surgery (I. Kennedy, 2001). The following Bristol Inquiry highlighted failures and harmful events at the United Bristol Healthcare Trust (UBHT), resulting in an extensive review of patient safety procedures and the provision of health services. In the UBHT, the culture served to undermine open discussion and complicate reviews. It failed to empower patients and employees to share their concerns and speak freely. Those who did raise issues found it difficult to get their voice heard. The basic system failed to exploit the fact that developing an understanding of problems can provide valuable learning opportunities (I. Kennedy, 2001).

The Healthcare Infection Control Practices Advisory Committee of the US Centers for Disease Control and Prevention have shown that there are correlations between a robust safety culture and employees adhering to recommended safe practice, with resultant reductions in exposure to bodily fluids and blood (Siegel, Rhinehart, Jackson, & Chiarello, 2007). It was recognised that the characteristics of hospitals, including safety culture, are influential in persuading healthcare providers to adhere to standard infection control practices, and so these characteristics have an important influence in terms of stopping infection transmission. In fact, it is important to generate a safe culture in hospitals that builds on, and reinforces, the values of the healthcare system while ensuring that the actions taken in the name of those values truly reflect the interests of patients (I. Kennedy, 2001).

The IOM committee stated that if the environment could be made safer for patients then it would also become safer for health workers, due to the fact that both the safety of staff and patient safety are linked through numerous foundational systemic and cultural matters (Kohn et al., 2000). Likewise, Dixon-Woods et al. (2014) highlight the importance of putting the

patient at the centre of healthcare services, and nurturing caring cultures by ensuring that staff feel valued, respected, engaged and support. Kirk (2024) emphasised that healthcare workers' psychological and emotional well-being is crucial for ensuring patient safety. The author highlighted that stress, burnout, and mental health issues within the healthcare staff, worsened by the COVID-19 pandemic, negatively impacted the safety and quality of patient care. Further, the author advocates for systemic measures to support the mental health of healthcare staff, considering staff well-being as a foundation for improving overall patient safety and healthcare delivery.

A strong safety culture creates an environment where staff feel safe, valued, engaged and empowered, which encourages staff to report adverse events, speak up, and contribute to continuous improvement efforts toward promoting patient safety as well as promotes a sense of belonging and support among staff, resulting in a better productivity/performance, mental and emotional outcomes (Abeje & Luo, 2023; Halliday, Van der Laan, & Raineri, 2024)

In addition to the importance of staff safety culture in promoting safety, there is an increasing recognition of patient involvement in safety, which is another field of growing importance in patient safety research (Davis, Sevdalis, & Vincent, 2012; Haslinda, Rachmawaty, & Saleh, 2021; Sutton, Eborall, & Martin, 2015). Incorporating patient views of safety can lead to better patient engagement and a robust patient safety culture that identifies more safety issues (Lawton et al., 2015). The following section discusses the patient involvement in safety, including safety culture.

1.10 Patient involvement in safety

Patient involvement in safety is generally approached through the lens of reducing clinical harm and learning from errors (Safety I). Different reasons and approaches for involving patients in safety were broadly addressed in the literature. For example, patients were

involved in safety-oriented activities and engaged in the safety of their own care to ensure the correct medication for the right patient, monitoring and self-administration of medications, confirming the right site surgery, alerting care teams to concerning symptoms, and reporting adverse events (Entwistle, 2007; Peat, Entwistle, Hall, Birks, & Golder, 2010). Several researchers indicate that patient involvement reduces clinical errors, in-hospital infection, safety adverse events and enhances patient outcomes (Asmamaw, 2023; Duhn, Godfrey, & Medves, 2020; Hassmiller & Bilazarian, 2018; Lee et al., 2021).

Further, the patient can be involved in a higher or deeper level of participation in safety activities, such as being involved in strategies that cross numerous contributing factors to safety, including providing feedback and involvement in interventions concerning healthcare professionals' skills, competence and approaches to care, equipment design and function, measurement systems, healthcare environment, culture and services management, policies and procedures at different levels of care, and patient-related factors (Longtin et al., 2010). Several strategies and measures were developed to capture patient perception and feedback about safety, mainly through patient-reported outcomes or experience measures.

In the last few years, there has been increasing interest in patient-reported measures in general, which usually include some aspects of safety such as adverse events. Patient-reported measures were developed and used in the healthcare context, particularly the hospital context, such as patient-reported outcome measures (PROM) that measure the patient's perception of health status in order to evaluate the effectiveness of treatment, as well as patient-reported experience measures (PREMs) that measure the patient's perception of their experience in order to identify areas for improvement in healthcare services and facilities (Kingsley & Patel, 2017). The PROMs and PREMs are helpful instruments that are frequently being used to capture patients' perceptions of their health and experiences during receiving healthcare services, to promote quality of care. Other more related tools to patient

safety were developed as well, such as patient-reported incident measures (PRIMs) (Slawomirski, Auraaen, & Klazinga, 2017) and other tools.

Common patient safety tools often focus on minimising clinical risk by relying on patient incident reporting and feedback. The information/data obtained from these tools is usually gathered through structured dialogue following harm. Reporting systems often include patient and carer complaints as well as structured reports of adverse events, such as PRIMs. While patients can provide a unique perspective on adverse events and identify deficiencies that can be missed in health staff safety reports, it is essential to consider both staff and patient 'perceptions' of safety in the practice to foster a culture conducive to patient safety. Capturing both staff and patient perceptions of critical quality and safety indicators such as safety culture and safe patient experience can be a powerful lever for reflection, learning and improvement. Although valuable tools and solutions for safety concerns have been developed, their implementation has been inconsistent (Bates & Singh, 2018), and the incidence of preventable adverse events remains high (Bates & Singh, 2018). Further, the care-associated infections continue to be one of the main causes of death globally (Haque, Sartelli, McKimm, & Abu Bakar, 2018). Out of every hundred hospitalised patients, seven in developed and ten in developing countries obtain an infection during the course of receiving treatment (Danasekaran, Mani, & Annadurai, 2014), and patient quality and safety problems still occur.

Despite the evidence presented earlier that patient inclusion in safety reduces infection and errors and improves overall quality, patient's role in safety is usually passive, and most patient safety approaches emphasise provider-oriented strategies and system risk reduction (Dubrovsky et al., 2016). This indicates that there are still limitations or resistance to the effective involvement of patients in patient safety development, despite the evidence patients can participate in patient safety and are willing to be included in patient safety. Thus, it is

important to explore the readiness of the health staff and patients to work together to improve the quality and safety of healthcare services, more specifically, at the conceptual level, to capture shared (or non-shared) beliefs and values that continuously seek to promote patient safety, known as 'safety culture'. Instead of starting by demanding health staff to facilitate patient involvement in safety or patients to be included in safety, it's important to maintain a culture that ensures the staff's compliance with safety standards, including the movement toward Safety II culture that consider patient involvement in safety. Considering that the common measures of safety culture (Table 2) are often developed based on staff perspectives, excluded patient perspectives, and focused more on risk management (Safety I), exploring staff and patient perceptions of safety culture in a different and more open approach is necessary. The following section discusses the influence and importance of safety culture in enhancing the quality and safety of health services and patient care.

Table 2

Common safety patient safety culture tools.

Safety patient safety culture tools (Hogden, Ellis, Churruca, & Bierbaum, 2017).
Safety, Communication, Operational Reliability and Engagement survey (SCORE)
Safety Attitudes Questionnaire (SAQ)
Victorian Safety Climate Survey (VSCS)
Safety Climate Survey (SCSu)
Safety Climate Scale (SCSc)
Patient Safety Climate in Healthcare Organisations survey (PSCHO)
Modified Stanford Instrument (MSI)
Manchester Patient Safety Framework (MaPSaF)
Hospital Survey on Patient Safety Culture survey (HSOPSC)

1.11 Influence of safety culture

There is evidence in the literature that improving the safety culture have positive impact on patient safety and clinical outcomes (DiCuccio, 2015). For instance, Huang et al. (2010) investigated safety culture and outcomes in intensive care units and found that if safety

climate improved, the length of the stay decreased. Other research conducted by Haynes et al. (2011) measured the association between variation in clinician safety attitudes and the difference in post-surgery outcomes, where improvements in clinical outcomes were associated with improved perception of teamwork and safety climate among the participants. Likewise, another study emphasised the patient safety culture's influence on the improvement of patient outcomes (Watts, Percarpio, West, & Mills, 2010). While a correlation between safety climate, drugs errors and staff injuries was identified, the nature of the relationship was impacted by the complexity of the patient conditions on the unit (Hofmann & Mark, 2006). The impact of the overall safety climate of the unit was emphasised when dealing with more complex patient conditions.

Yoo and Kim (2017) have examined the influence of work environment and patient safety culture on nurses' attitudes toward incident reporting. The authors assert that nurses' perception of the work environment and patient safety culture were positively correlated with attitudes toward incident reporting. Despite numerous advantages of safety culture on safety and quality outcomes, which helps create an environment where patients and staff feel comfortable reporting issues, leading to preventative actions and timely suitable solutions, common patient safety culture definitions, models and measurement tools (stated above) often tend to consider measurable factors, parameters, structures and processes contributing to safety from staff perspective alone. Hence, patient safety from staff perspectives tends to be focused on failure at points, quantifiable events and analysable issues or processes (Charles Vincent, 2010).

It is necessary to obtain a bigger and more comprehensive picture of patient safety culture that in safety I and move beyond the limited or traditional approach of patient involvement in safety, including patient measures of safety that are often developed based on health team input, by exploring the patient’s perception/perspective of the overall experience, which

include factors related to quality and safety factors as well, that may not usually be classified as safety factors from the health staff's perspective (and safety I) or not necessary included in patient safety instruments or even identified as safety issues such as in things reported in patient complaint. In fact, patient complaints are not closely linked to staff reporting. Likewise, how patients experience and conceptualise safety is not closely linked to incident reporting or safety management/development. Patient complaints can capture systemic problems and numerous events during a patient's care journey, whereas staff patient incident reports are often based on interactions with patients or what happened to patients (Van Dael et al., 2022). Thus, patient complaints may provide insights into safety concerns that staff may not recognise or report.

Healthcare systems often do not effectively integrate patient experience and feedback into their safety protocols. For example, while patient complaints can serve as a valuable source of information for identifying safety issues, patient complaints are usually not systematically liked/used to inform improvements in practice (Gyberg, Brezicka, Wijk, & Ulin, 2024; K. M. Kennedy, Payne-James, Payne-James, & Green, 2022). This oversight may derive from staff perception that complaints are mainly reflections of individual patient dissatisfaction rather than indicators of safety, quality and systemic problems. Thus, staff safety culture plays an initial and critical role in this issue. This issue/gap can lead to a situation where patient experience and feedback do not reach an appropriate approach for safety reporting, thereby limiting the potential for organisational quality and safety learning and improvement. There is a need to adopt a more holistic approach to understanding and learning about patient experience and staff safety culture (where patient experienced healthcare services), considering the broader quality and safety context of care delivery rather than focusing solely on individual incidents or safety I perspectives to develop safety. This requires fostering a culture of safety that values patient experience and feedback as a critical component of safety

and quality improvement initiatives. Patient experience as a concept, field and measure is important to be included or considered as an important component of how we understand safety culture, particularly with a Safety II perspective/approach. Exploring the intersections and implications between patient experience and safety culture is crucial to improving quality and patient safety. According to O'Hara et al. (2018), patients can provide insight into safety that complements current patient safety measurements and can offer a unique perspective on hospital safety.

Patient Safety culture and patient experience have developed almost separately and overlap in some places but remain not clearly integrated in practice or policy, and the implication of the intersection of these concepts on safety remains unexplored, particularly in a culturally homogenous community such as Saudi Arabia.

Hospitals require an effective approach whereby patient experience is considered in order to develop patient safety and health services, specifically, by improving patient safety culture. In other words, this thesis argues that hospital care and patient safety could be improved through consideration of *both* patient safety culture and patient experience, to understand how these domains overlap, and how they might be integrated in practice to support improvements in patient safety.

1.12 Research aims and questions

The Saudi healthcare system needs to better understand the safety culture in its hospitals, to ensure that the multicultural health workforce supports safe and reliable patient care and positive patient experiences. Currently, there is a lack of research into the intersections of patient safety culture and patient experience, and a lack of understanding of their implications on patient safety in the Eastern Region of Saudi Arabia, particularly hospitals. This thesis aimed to explore the intersections of patient safety culture and patient experience, and

understand their implications on patient safety in the Eastern Region of Saudi Arabia. This aim is divided into the following aims:

1) explore and synthesise published literature regarding the relationships between these topics in hospital setting,
2) describe the staff-reported safety culture and patient-reported experiences of hospital care in the Eastern Region of Saudi Arabia, and
3) explore the staff and patients' perceptions of patient safety culture and patient experience in the hospital context and how these perspectives and concepts intersect in their impacts on patient safety.

These aims are addressed through the following research questions.

1.13 Research questions

The main research question is: what are the intersections between patient experience and safety culture, in their impacts on patient safety?

This question is further divided into the following questions:

- RQ1 – What is known regarding the relationship between patient safety culture and patient experience of safety and quality in hospital settings?
- RQ2 – How do staff perceive safety culture in hospital medical wards in the Eastern Region of Saudi Arabia?
- RQ3 – How do patients perceive their experiences in hospital medical wards in the Eastern Region of Saudi Arabia?
- RQ4 – How do staff and patients conceptualise safety culture and patient experience, and how these perspectives and concepts intersect, in their impacts on patient safety?

In this study, a scoping review was conducted to explore and synthesise existing research literature (Aim 1, RQ1), followed by a survey study (Aim 2, RQ2 and RQ3) and an interview

study (Aim 3, RQ4).

1.14 Thesis structure

This thesis is presented in seven chapters. This first chapter (Introduction) outlines the study background and context, a review of the literature on patient safety, safety culture, and patient involvement in safety. The introduction chapter also outlines the research aims and questions. Chapter 2 (scoping review) outlines the link between patient safety culture and patient experience and identifies gaps in the literature. The study highlighted the importance of learning from both patients and staff to enhance patient safety in a hospital context. Chapter 3 (Methodology) discusses the methodology applied in the research, including the philosophical research paradigm, and rationale for utilising mixed-methods research and adopting a convergent parallel mixed-methods design. The chapter also describes the research design, including quantitative and qualitative studies. Chapter 4 (survey study results and discussion) outlines the survey findings through the use of descriptive statistical analysis, and discusses the survey findings. Chapter 5 (interview study results and discussion) outlines the interview study findings analysed through the use of the thematic analysis approach, and discusses the survey findings. Chapter 6 (integration and discussion of qualitative and quantitative findings) integrates the findings from both the qualitative and quantitative data. The chapter also discusses the study's integrated findings and presents implications for policy, practice and research. Chapter 7 (conclusions) provides a summary of the research, key findings, and significance of findings, and presents research limitations.

Chapter 2: Scoping review

The scoping review presented below has been published as both protocol (Appendix 1) and findings in the following publications:

Alabdaly, A., Debono, D., Hinchcliff, R., & Hor, S. Y. (2021). Relationship between patient safety culture and patient experience in hospital settings: a scoping review protocol. *BMJ Open*, 11(5), e049873.

Alabdaly, A., Hinchcliff, R., Debono, D., & Hor, S. Y. (2024). Relationship between patient safety culture and patient experience in hospital settings: a scoping review. *BMC Health Services Research*, *24*(1), 906.

Alabdaly *et al. BMC Health Services Research* (2024) 24:906
https://doi.org/10.1186/s12913-024-11329-w

BMC Health Services Research

RESEARCH Open Access

Relationship between patient safety culture and patient experience in hospital settings: a scoping review

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Abstract

Background Measures of patient safety culture and patient experience are both commonly utilised to evaluate the quality of healthcare services, including hospitals, but the relationship between these two domains remains uncertain. In this study, we aimed to explore and synthesise published literature regarding the relationships between these topics in hospital settings.

Methods This study was performed using the five stages of Arksey and O'Malley's Framework, refined by the Joanna Briggs Institute. Searches were conducted in the CINAHL, Cochrane Library, ProQuest, MEDLINE, PsycINFO, SciELO and Scopus databases. Further online search on the websites of pertinent organisations in Australia and globally was conducted. Data were extracted against predetermined criteria.

Results 4512 studies were initially identified; 15 studies met the inclusion criteria. Several positive statistical relationships between patient safety culture and patient experience domains were identified. Communication and teamwork were the most influential factors in the relationship between patient safety culture and patient experience. Managers and clinicians had a positive view of safety and a positive relationship with patient experience, but this was not the case when managers alone held such views. Qualitative methods offered further insights into patient safety culture from patients' and families' perspectives.

Conclusion The findings indicate that the patient can recognise safety-related issues that the hospital team may miss. However, studies mostly measured staff perspectives on patient safety culture and did not always include patient experiences of patient safety culture. Further, the relationship between patient safety culture and patient experience is generally identified as a statistical relationship, using quantitative methods. Further research assessing patient safety culture alongside patient experience is essential for providing a more comprehensive picture of safety. This will help to uncover issues and other factors that may have an indirect effect on patient safety culture and patient experience.

Keywords Safety culture, Safety climate, Patient experience, Patient satisfaction, Customer satisfaction, Healthcare quality, Health services, Quality indicators, Patient safety, Hospital

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Introduction

Patient safety is a pressing challenge for health systems, globally. The importance of promoting and sustaining a robust safety culture is widely recognised [1]. The importance of the patient's role in supporting patient safety is also increasingly recognised [2]. Despite the prominence of the concepts of patient safety culture and patient experience in academia and industry, the relationship between them remains underexplored and diffuse.

The concept of patient safety culture was defined as a collective of beliefs, attitudes, values, and norms that influence behaviours and attitudes, concerning patient safety [3]. Patient perspectives are often neglected when measuring safety culture [4]. Patient experience has been defined as patients' perspectives of services, recognising that patients are the most valuable sources of information about their experiences [5].

It is essential to put the patient at the centre of healthcare services [6], and to do this requires nurturing caring cultures through the assurance that health professionals feel esteemed, involved and supported [7]. Patients pay attention to staff performance and other issues and can identify safety problems that hospital staff may miss, such as problems entering and exiting the healthcare system, systemic (multiple and distributed) problems that are cumulative, and errors of omission, especially the failure to attend to patients' concerns [2, 8–10]. A cultural change from the conventional approach that considered patients as care recipients, to seeing patients as partners in their care, is essential to provide patient-centred care that is informed by patient experience.

There has been considerable knowledge gained about patient safety, but it persists as a worldwide challenge in healthcare [11], with serious incidents and iatrogenic harm continuing to occur across health care settings, including within hospital settings. There has been a focus on reducing iatrogenic harm by enhancing safety culture in hospitals.

Understanding patient safety from the staff perspective alone is not enough. It is essential to also understand what factors might link safety culture and patient experience, as concepts often measured separately, but both important indicators of safety and quality. In examining this link, we hope to better understand what facets of care might contribute to both safety culture, as experienced by staff, and the safety and quality of care, as experienced by patients. The aim of this review is to explore and synthesise existing research literature to find out what is known regarding the relationship between patient safety culture and patient experience (of safety and quality) in hospital settings. We sought to achieve this aim through the following objectives: (a) to identify how these concepts have been defined or described in the literature; (b) to identify how these concepts are measured; and (c) to identify the links between the concepts.

Table 1 The PCC framework used in the scoping review

PCC	Inclusion Criteria
Population	• Healthcare providers in hospital contexts, including management, clinical and non-clinical staff. • Patients who have received healthcare services in hospital settings, irrespective of demographic characteristics.
Concept	Any article that focuses on patient safety culture, safety climate or organisational culture, in addition to patient experience or patient satisfaction.
Context	Hospital setting.

Methods

This study followed a published protocol [12]. The methodology of this scoping review was developed using the Arksey and O'Malley [13] framework for a scoping review (Arksey & O'Malley, 2005), refined by the Joanna Briggs Institute [14]. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMAScR) [15] guidelines were followed. The study does not critically appraise the included papers' quality and risk of bias. The aim in our scoping review is not to evaluate the quality of the evidence found, but rather to explore what research has been done in this field, and what approaches were undertaken.

The processes of searching, applying inclusion and exclusion criteria, screening, data extraction, and reporting of the findings followed a published protocol for this study [12]. The search terms and strategies appear in the protocol, and searches were completed on 18 June 2022.

The inclusion and exclusion criteria

This review followed the Population, Concept and Context (PCC) framework for the inclusion criteria recommended by the Joanna Briggs Institute for scoping reviews [14]. In addition to the PCC criteria noted in Table 1, included studies must have been conducted in the hospital context and reported in English or Arabic languages.

Search

We searched journals from seven electronic databases relevant to the scope of the study (CINAHL, Cochrane Library, ProQuest, MEDLINE, PsycINFO, SciELO and Scopus); web search engine Google Scholar (first 30 results); and four organisations in Australia and globally: the Agency for Healthcare Research and Quality (AHRQ), the Australian Commission for Safety and Quality in Healthcare (ACSQHC), the Agency for Clinical Innovation (ACI), and National Institutes of Health (NIH). We supplemented these searches with handsearching the reference lists of the final included papers for additional studies of relevance.

Study selection

As indicated in the protocol for this study [12], retrieved papers were screened and selected in two phases. In the first phase, one reviewer (AA) evaluated all titles and abstracts to determine whether each paper met the eligibility criteria, including categorising screened studies as 'included', 'excluded' or 'not sure'. All papers screened as 'included' and 'not sure' in the first phase were considered for full-text review by the reviewer (AA). In the second phase, three reviewers (RH, DD, SH) screened ten per cent of titles and abstracts of studies screened as 'included', 'excluded' or 'not sure' against selection criteria. All authors (AA, RH, DD, SH) independently reviewed the full text of the included studies. The authors discussed the included papers in a meeting and reached a consensus on the included papers, with no disagreement between the authors.

Charting the data

One reviewer (AA) extracted relevant data from the included studies to address the scoping review question using the template provided in the published protocol [12]. Three reviewers (RH, DD and SH) verified the accuracy of the data extraction exercise. The data extracted included the following:

- Author/s.
- Country.
- Aims/objective(s).
- Methodology/methods.
- Inclusion/exclusion criteria (e.g., PCC).
- Types of intervention (if applicable).
- Measurement of outcomes (if applicable).
- Key results that relate to the review question.

Reporting the findings

Other concepts related to patient safety culture and patient experience, such as safety climate and patient satisfaction, were used in literature that measured safety culture or patient experience. The nuances of these terms were illustrated in the published protocol. The decision was taken to incorporate findings about safety climate alongside those about patient safety culture, and to incorporate findings about both patient satisfaction and patient experience. We noticed that the 'patient experience' and 'patient satisfaction' terms are often used interchangeably. For example, a study conducted by Mazurenko et al. [16] used the term 'patient satisfaction' in the paper title but measured patient satisfaction using the HCAHPS tool, which is a well-known tool for measuring 'patient experience'. In fact, the terms, as operationalised in the instruments, overlap more than they should.

According to Bull [17], 'patient satisfaction' involves an evaluation and hence is subjective, suggesting that 'patient experience' is the more objective measure. However, considering the questions in the HCAHPS tool (commonly used for measuring 'patient experience' as mentioned above), we see that several questions involve an element of subjectivity and evaluation from the patient's perspective. For instance, questions like: "During this hospital stay, how often did nurses treat you with courtesy and respect?" or "How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?". The point made by Bull [17] reflects a tension between the recognised importance of finding out what care is like, from patients' perspectives (which is subjective and evaluative), and the desire for objective measurements of care delivery for the purposes of comparison and evaluation of health services [18]. Due to these concepts being so intertwined in how they are understood and measured, and not wanting to limit the understanding of the patient experience only to objective measures devoid of patients' subjective judgements, papers on patient satisfaction from the review were included, based on the inclusion criteria.

The study sought to review a wide range of literature in relation to the study aim and inclusion criteria. Rather than being a systematic review or meta-analysis, the study aims to offer the reader an overview of the research carried out regarding the relationship between safety culture and patient experience. The characteristics and findings of the included papers were analysed initially by (AA), performing a content analysis, using a framework of categories aligned with the research questions. Within these categories, study features and findings were discussed among all the authors (AA, RH, DD, SH), and descriptively summarised. All authors agreed upon the findings and categories. This descriptive content analysis was found to be sufficient to address the study objectives. Thus, deviating from the published protocol [12], no further thematic analysis was conducted. The results are presented according to the categories as follows:

a. Conceptualisations of patient safety culture and patient experience.
b. Measurement of patient safety culture and patient experience.
c. Relationship between patient safety culture and patient experience.

Results

As depicted in Fig. 1, the initial search yielded 4512 articles. After removing duplicates, 3833 articles remained, and 3793 were excluded at the first stage of screening (title and abstract). Following full-text screening, 15

articles remained that met the inclusion criteria. The included studies were conducted in different countries, including Australia (one study) [19], Canada (two studies) [8, 20], Germany (one study) [4], Indonesia (one study) [21], Iran (one study) [22], Israel (two studies) [10, 23], Nigeria (one study) [24], United Kingdom (one study) [2] and United States (five studies) [16, 25–28]. A summary of the characteristics of the included studies is presented in Table 2.

Conceptualisations of patient safety culture and patient experience

Patient safety culture

In the studies reviewed, patient safety culture was commonly conceptualised as relating to the attitudes, beliefs, perceptions, norms and values that workers share about safety [8, 10, 24, 27]. These shared characteristics shape healthcare professionals' understandings of what is essential in a healthcare institution, how they should act, what attitudes or actions are acceptable, and what approaches are rewarded or punished concerning patient safety [8, 10, 27]. Patient safety culture has been identified within the included studies as being central to the behaviour of the individuals, and influences staff proficiency, attitudes and behaviours concerning their safety performance [8, 10, 27].

The reviewed literature also identified patient safety culture as one element of a broader organisational culture, related to preventing and detecting shortfalls in patient safety, and managing patient safety in healthcare settings [16, 20, 21]. The concept of 'safety climate' was also prevalent in the literature, and was often used in studies that also described 'safety culture' [10, 16, 19, 26, 27] without distinguishing between the two concepts.

Patient experience

From our review of the studies, the concept of patient satisfaction was more commonly used than patient experience, and defined as a subjective assessment of the ways those receiving healthcare react to particular

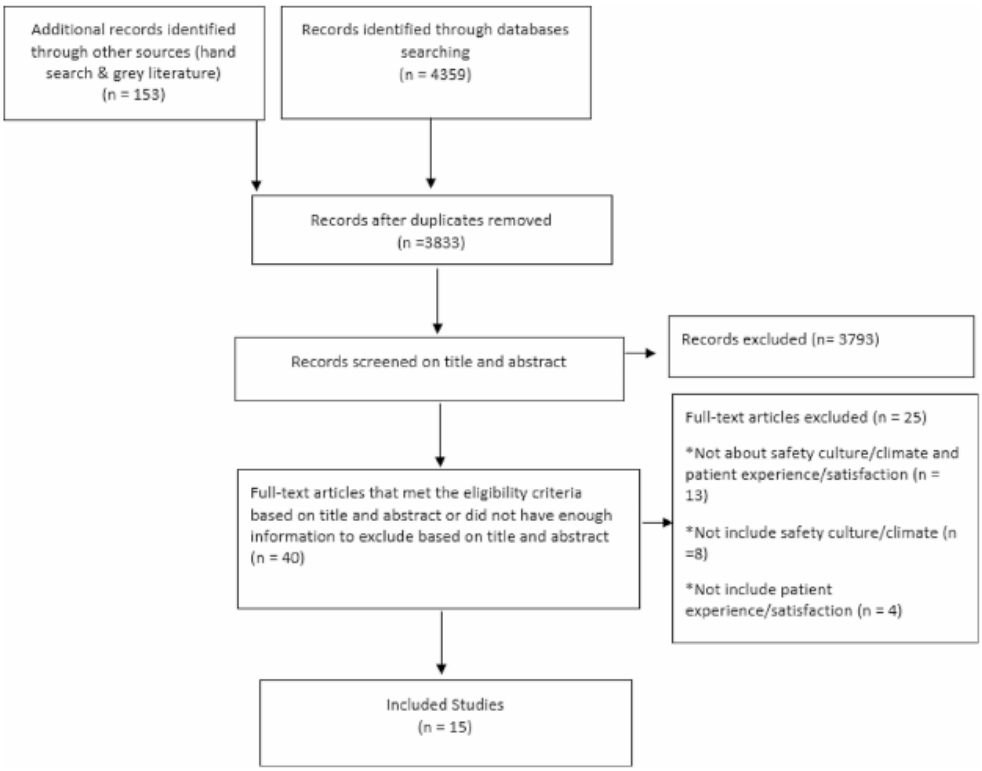

Fig. 1 PRISMA flowchart of search process and results

Table 2 Characteristics of included studies

Author(s)	Year	Country	Methods	Concepts noted in the included paper
Lawton R, O'Hara JK, Sheard L, Reynolds C, Cocks K, Armitage G, et al. [2]	2015	UK	Quantitative surveys	Safety culture, patient experience, patient perceptions of safety
Monaca C, Bestmann B, Kattein M, Langner D, Müller H, Manser T. [4]	2020	Germany	Quantitative surveys	Safety culture, safety climate, patient satisfaction, patient experience of safety culture
Bishop AC, Cregan BR. [8]	2015	Canada	Qualitative interviews	Safety culture, patients experience, family experience, patient satisfaction
Kagan I, Porat N, Barnoy S. [10]	2019	Israel	Quantitative surveys	Safety culture, organizational culture, patient satisfaction, patient experience
Mazurenko O, Richter J, Kazley AS, Ford E. [16]	2019	US	Quantitative surveys	Safety culture, safety climate, organizational culture/culture, patient satisfaction, patient experience
Do VQ, Mitchell R, Clay-Williams R, Taylor N, Ting HP, Arnolda G, Braithwaite J. [19]	2021	Australia	Quantitative surveys	Safety culture, safety climate, patient experiences, patient perceptions of safety
Dodek PM, Wong H, Heyland DK, Cook DJ, Rocker GM, Kutsogiannis DJ, et al. [20]	2012	Canada	Quantitative surveys	Safety culture, organizational culture, family satisfaction, consumer satisfaction, patient experience
Sembodo T, Hadi C, Purnomo W. [21]	2019	Indonesia	Quantitative surveys	Safety culture, organizational culture, patient satisfaction, customer satisfaction
Afshar PJ, Karbasi BJ, Moghadam MN. [22]	2021	Iran	Quantitative surveys	Safety culture, patient satisfaction
Burlakov N, Rozani V, Bluvstein I, Kagan I. [23]	2021	Israel	Quantitative surveys	Safety climate, patient satisfaction, family satisfaction, patient experience
Okafor CH, Ugwu AC, Okon IE. [24]	2018	Nigeria	Quantitative surveys	Safety culture, patient satisfaction, patient experience
Abrahamson K, Hass Z, Morgan K, Fulton B, Ramanujam R. [25]	2016	US	Quantitative surveys	Safety culture, organizational culture, patient experience, patient satisfaction
Lyu H, Wick EC, Housman M, Freischlag JA, Makary MA. [26]	2013	US	Quantitative surveys	Safety culture, safety climate, safety attitudes, patient satisfaction, patient's experience
Smith SA, Yount N, Sorra J. [27]	2017	US	Quantitative surveys	Safety culture, organizational climate, safety climate, patient experience
Sorra J, Khanna K, Dyer N, Mardon R, Famolaro T. [28]	2012	US	Quantitative surveys	Safety culture, patient experience, patient satisfaction

relevant elements of treatment, including the process, environment, and outcomes, and this was quantified as representing the degree to which patients believe that their requirements and aspirations were fulfilled by their experiences [24, 26]. Although the research that examined patient experience, did not offer specific definitions of the concept, patient experience was conceptualised as a resource for understanding patients' perceptions, which helps promote the quality and safety of healthcare services [2, 8, 25, 27, 28].

The reviewed research frequently refered to the concept of patient satisfaction and ways of measuring it, regarding patient satisfaction as indicative of the effectiveness of organisational performance with regard to patient safety [2, 8, 25–27]. Review of the included studies identified another related concept, customer satisfaction, which is defined as how the individual feels when making a comparison between what they expected and how they regarded what they received; this is regarded as a high-performance target for the delivery of public services [21]. The variation in the concepts also reflected variation in the measurement tools currently used.

Measuring patient safety culture and patient experience

In the research reviewed, patient safety culture was most commonly measured by the deployment of questionnaires. Included studies also presented assessments of the validity of deployed instruments. The most common patient safety culture tool used in the reviewed studies was the Hospital Survey on Patient Safety Culture (HSOPS) [2, 16, 20, 22, 24, 25, 27, 28]. The next most common tool used was the Safety Attitudes Questionnaire (SAQ) [19, 26]. The SAQ was also combined with the Leadership Effectiveness Survey (LES) to construct a new tool named the Safety Culture and Leadership Questionnaire to assess clinician perceptions of safety, teamwork and leadership [19].

The HSOPS tool developed by the Agency of Healthcare Research and Quality was employed in included studies to assess clinician and staff perceptions of the culture of safety at the hospital's macro level [16, 22, 27, 28]. HSOPS is also used in individual departments within a hospital [2, 20, 24, 25], and regarded as a reliable and valid tool. The SAQ is another reliable and valid tool employed for the evaluation of patient safety culture [26]. The safety culture domains in HSOPS and SAQ tools are different but overlapping (Table 3).

Table 3 Patient safety culture dimensions in the SAQ and the HSOPS

HSOPS	SAQ
1. Communication openness	1. Teamwork climate
2. Feedback & communication about error	2. Job satisfaction
3. Frequency of events reported	3. Perceptions of management
4. Handoffs & transitions of patient information	4. Safety climate
5. Management support for patient safety	5. Working conditions
6. Non-punitive response to error	6. Stress recognition
7. Organisational learning and continuous improvement	
8. Overall perceptions of patient safety	
9. Staffing	
10. Supervisor/manager expectations and actions promoting safety	
11. Teamwork across units	
12. Teamwork within units	

Table 4 Associated aspects of safety culture and patient experience

Factors that relate to staff	Factors that relate to patient
1. Communication openness	1. Responsiveness of hospital staff
2. Feedback & communication about error	2. Patient and family engagement & empowerment
3. Frequency of events reported	3. Discharge information
4. Handoffs & transitions of patient information	4. Communication about medications
5. Organisational learning and continuous improvement	5. Nurse communication
6. Staffing	6. Doctor communication
7. Teamwork across units	7. Likelihood to recommend hospital.
8. Teamwork within units	8. Hospital environment
9. Overall perceptions of patient safety	9. Transition of care
	10. Overall experience

The use of HSOPS and SAQ tools reflected the overlap in use of the concepts of safety culture and safety climate. For example, HSOPS includes more dimensions of patient safety culture than the SAQ, and both tools were employed to measure 'patient safety culture' [2, 16, 20, 21, 24–28], although the HSOPS was also employed for the measurement of 'safety climate' [16]. In addition, the SAQ includes two dimensions referring to climate: teamwork climate and safety climate [29]. Importantly however, both the HSOPS and SAQ offer a quantitative measure of patient safety culture from the point of view of staff alone [2, 16, 20, 24–28].

Patient-reported measures of safety were limited and mentioned more frequently in more recent literature. The Patient Measure of Safety (PMOS), Patients' Perceptions of Safety Culture (PaPSC) and narratives were used in the research reviewed to identify safety concerns from the patient's perspective and provide data regarding safety matters, including patient safety culture [2, 4, 8, 19]. Lawton et al. [2] noted that the PMOS has undergone considerable testing and is generally recognised as having both validity and reliability; it is also popular with patients and allows researchers to assess how patients perceive the ways in which organisational elements influence patient safety within a hospital by collecting patient feedback about contributing factors to safety incidents [2].

With regard to measuring patient experience, the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) was the most frequently used tool in studies reviewed, and is regarded as a valid and reliable instrument for measuring the ways in which patients perceive their interactions with the hospital, and can be used by government as a tool for assessing hospital funding [16, 25, 26, 28]. HCAHPS (also referred to as Hospital CAHPS) asks the patient to report on their recent experiences with inpatient care [16, 25, 26, 28]. The HCAHPS tool measures the following domains: nurse communication, doctor communication, pain management, staff responsiveness, hospital environment, communication about medicine, discharge information, and overall patient perception [16, 25, 26, 28]. Similarly to the overlapping concepts described with the safety culture surveys earlier, the HCAHPS has been employed for the measurement of both patient satisfaction [16, 26] and patient experience [25, 28]. Other feedback tools such as the Patient Satisfaction Questionnaire Short Form (PSQ) [24], the Friends and Family Test (FFT) [2] and Family Satisfaction in the Intensive Care Unit questionnaire (FS-ICU-24) [20] were used for measuring patient feedback and perception of care in our reviewed studies.

Finally, only one study in our review used a qualitative method to examine patient experience; drawing on pre-recorded video narratives published on the Canadian Patient Safety Institute website [2].

Relationship between patient safety culture and patient experience

In the research reviewed, the relationship between patient safety culture and patient experience was generally identified and presented as a statistical correlation [2, 16, 24–28]. Positive correlations were found between some domains of patient safety culture and patient experience (Table 4) [2, 8, 20, 21, 23, 25, 28]. The teamwork and communication domains seem to be central to positive correlations between patient safety culture and patient experience [8, 16, 25–27]. Other studies reviewed demonstrated no correlation between patient safety culture and patient experience overall scores [2, 24, 26].

Staff responsibilities, including direct contact with patients, may affect the relationship between patient safety culture and patient experience. For instance, no significant correlation was found between patient satisfaction and safety climate when management alone had a highly positive view of the safety climate [16]. However, when management and clinicians both had a positive view of the safety climate, there was a positive correlation.

The FFT tool that measured patient experience was correlated with the ways patients perceived safety issues but was not correlated with either the staff safety culture or publicly available safety data [2]. From the sole qualitative study, we find that structuring safety and quality based on teamwork among healthcare professionals, patients, and family members is a more effective approach than relying on the individual healthcare practitioner alone [8]. Also, patients' and families' involvement is essential for creating a trusting relationship, which helps create an inviting environment that facilitates and encourages open communication and coordination among staff and patients [8]. Finally, conversation between staff, patients and families is crucial to capture different views of safety and better understand safety culture, particularly from the patient's perspective.

The research under review also frequently examined how patient safety culture and patient experience, either individually or in combination, were related to other quality measures such as hospital performance, however this is outside of the scope of our review.

Discussion

Patient safety culture and patient experience overlapped with other concepts

The concepts "safety culture" and "safety climate" were used interchangeably in the reviewed literature, which reflects their overlap in the broader literature, although these concepts are also sometimes differentiated. Patient safety culture tends to refer more broadly to the complex set of shared perceptions about safety that form over time in an organisation, while safety climate is considered 'a snapshot' of these shared perceptions, that can be measured at a specific time point using survey studies [29, 30].

In the reviewed studies, the use of the terms patient experience and patient satisfaction also significantly overlapped. The two terms are recognised quality indicators for assessing healthcare quality, and while both concepts are related, they have also been differentiated [31]. Although the reviewed studies did not offer specific definitions, patient experience has been described elsewhere as patient "perceptions of phenomena for which they are the best or only sources of information, such as personal comfort or effectiveness of discharge planning" [5 p1]. While patient experience is viewed as the sum of all interactions that influence patient perceptions over the entire experience [32], as noted earlier, patient satisfaction is more about whether patients' expectations are met [33]. In this regard, patient satisfaction is viewed as evaluating the patient experience of health services. Therefore, patients' perception of what they actually experienced in healthcare organisations (patient experience) has an influential impact on how they evaluate healthcare services (patient satisfaction).

Measuring the relationship between patient safety culture and patient experience

The relationship identified between patient safety culture and patient experience in the reviewed literature is mostly measured by quantitative approaches/surveys, and thus little is known about causality or the underlying reasons (or mechanisms) for any relationship identified between these concepts. The availability, validity and reliability of the surveys such as HSOPS and HCAHPS may facilitate and encourage the use of questionnaires in busy working environments such as hospitals. However, the significant differences and variations in methodologies/tools (including dimensions captured by the instruments) employed to measure safety culture and patient experience, makes it difficult to compare the different items of research, and results in variations in the findings.

Patient involvement in the measurement of patient safety culture

Our review findings support research arguing that patients can provide useful feedback on safety [34]. Patient voice is increasingly included in other aspects of patient safety, but we need to include it more in the measurement of safety culture. In fact, some measures of patient experience pay attention to safety, for instance, in terms of physical comfort and a safe environment, which are also domains of patient safety culture. It was recognised in the included studies that instruments for assessing patient perceptions could be adapted to incorporate questions regarding patient safety, such as PMOS and PaPSC. This would enable patient perceptions and experience of safety to be assessed and the findings employed to effect enhancements in safety culture.

The PMOS and PaPSC scales were developed specifically to capture patients' feedback on the safety of their care. The PMOS is based on the Yorkshire Contributory Factors Framework (YCFF) to capture patient feedback regarding the contributing factors to patient safety incidents [35]. However, the YCFF was developed based on input from healthcare professionals alone [36]. Likewise, the PaPSC scale was also initially developed based on staff perceptions. Although these scales are administered to patients, they may not fully reflect the patients' perceptions of safety culture, if patients identify other aspects. In addition, the PMOS data was collected from one hospital in northern England; as such, the outcomes of the survey are not reflective of the perceptions of the general global population.

Another measurement approach for capturing patient perceptions of safety culture is to consider patients' and families' pre-recorded narratives as a qualitative

assessment method [8]. This approach was limited in terms of inability to ask questions or follow-up with the participants, and the analysis was based on a revised or edited perspective that could carry certain biases. However, this study demonstrated the value of patient narratives and interviews in understanding the interrelationships between different aspects of patient safety culture. In contrast to surveys, qualitative interviews aim to understand participants' attitudes, behaviours, experiences and perceptions. Qualitative research methods are common in healthcare research, but are largely missing in research into the association between safety culture and patient perceptions of safety culture.

No consensus exists as to the best method to be employed for the measurement of the concepts in question. Different measurements have been employed for each concept for various purposes, resulting in variations in data sources, and variations in results. Consequently, to create useful and usable data, there is a need to adopt measurement methods that are reliable, comparable and valid, for examining the relationship between patient safety culture and patient experience, such as the HSOPS and HCAHPS. It is also useful to consider qualitative investigation when exploring the relationship between these concepts.

Relationship between patient safety culture and patient experience

Several relationships between patient experience and safety culture subdomains were identified in the included studies (Table 4). This suggests that staff and patient views on aspects of safety can be usefully incorporated and examined together. For example, the communication between staff and patients, and the coordination within and across hospital departments. According to Doyle, Lennox, and Bell [37], the smooth coordination (integration) of care is a key and valued aspect of the patient experience.

In this review, we found that the conceptual relationship between patient safety culture and the patient experience was not clearly described. The differences and overlaps between concepts, results, or measurement tools makes it difficult to understand the relationship between patient safety culture (among health professionals and managers) and patient experience. Future investigations may benefit from the development of a conceptual framework that allows researchers to test and develop their understandings of how patients' experiences intersect with safety culture. We know that patient experience and safety culture are both valuable quality indicators. Better understanding how they are associated will enable healthcare staff to comprehend patient needs and create an effective strategy for enhancing patient safety culture that aligns with patients' needs.

This scoping review has offered an overview of extant research regarding the association between patient experience and patient safety culture within the hospital context, and identified potential associations between the two concepts. However, the included studies have been conducted in limited countries, and generally assessed the relationship between these two concepts using quantitative methods. It may be the case that in other countries or cultures, the type of relationship could vary. Differences in ethnicity and national cultures could play an important role in patient experience. For instance, it was recognised in the reviewed literature, that Arab patients reported lower patient satisfaction levels compared with other ethnic groups within the same setting [10]. Therefore, it is important to consider other elements that may have an indirect effect on patient safety culture and patient experience, particularly in ethnic or national cultures where this relationship has not yet been investigated. Likewise, other factors related to the organisation could impact the relationship between the concepts. For example, the accreditation status of a facility has been shown to have a significant positive relationship with patient satisfaction [21].

Conclusion

It has been demonstrated that the terms "safety culture" and "safety climate," as well as "patient experience" and "patient satisfaction" are not always consistently applied across research, with the concepts not often being clearly defined, lacking a theoretical basis for the relationship, not being widely investigated with qualitative methodologies and with considerable diversity in terms of the tools and methodologies employed. The outcomes of this review suggest that research into the association between patient safety culture and patient experience needs to be investigated by using a suitable theoretical framework, in combination with validated methods, and supported by qualitative inquiry, in order to investigate this relationship more comprehensively, particularly in contexts where such investigations have not taken place.

Limitations

While the literature search was conducted in major electronic databases without restrictions on date of publication or country of origin, additional relevant resources not in English or Arabic languages are likely to have been missed. This may lead to a language bias and limit the chance of capturing different perspectives from diverse communities to obtain a comprehensive understanding of the research phenomena, impacting the findings' generalisability. Further, in accordance with the scoping review methodology of Arksey and O'Malley, a quality assessment was not conducted. Thus, it would be challenging to determine the validity of the reported findings

due to the lack of quality assessment. These limitations are common in scoping reviews.

Abbreviations

PRISMA-ScR	The Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews
PCC	Population, Concept and Context
AHRQ	The Agency for Healthcare Research and Quality
ACSQHC	The Australian Commission for Safety and Quality in Healthcare
ACI	The Agency for Clinical Innovation
NIH	National Institutes of Health
HSOPS	The Hospital Survey on Patient Safety Culture
SAQ	The Safety Attitudes Questionnaire
PMOS	The Patient Measure of Safety
HCAHPS	The Hospital Consumer Assessment of Healthcare Providers and Systems
PSQ	The Patient Satisfaction Questionnaire Short Form
FFT	The Friends and Family Test
FS-ICU-24	Family Satisfaction in the Intensive Care Unit questionnaire
YCFF	The Yorkshire Contributory Factors Framework

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Author contributions
A.A conceived and wrote the original manuscript. R.H, D.D and S.H reviewed and edited the manuscript. All authors read and approved the final manuscript.

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In summary, the scoping review findings suggest patients' abilities to recognise safety issues that the hospital staff may not recognise, but studies mostly measured staff perspectives on patient safety culture and did not always include patient perceptions. Further, the link between patient safety culture and patient experience is generally identified as a statistical relationship, using quantitative methods. There is a missed opportunity to learn from patients, along with staff to enhance patient safety in a hospital context, particularly mixed-methods research to provide a more comprehensive picture of patient safety. The thesis addressed this research gap by conducting mixed-methods research to explore how both staff and patients perceive safety and patient care and its implication on enhancing safety within the multicultural/multinational health workforce in the Saudi Arabian hospitals, in the Eastern region there. The methodology is presented in the next chapter (Methodology).

Chapter 3: Methodology

3.1 Introduction

This chapter describes the research design and methods used in this study. It is divided into two main sections; the first section provides an overview and justification of the research design and methodology. The second section of the chapter describes the mixed-methods approach, beginning with a scoping review, followed by a convergent parallel design, including a cross-sectional survey study (using safety culture and patient experience surveys), and a semi-structured interview study. The aims, objectives, methods, study setting, research population, study sample, data collection and analysis for each of these studies are described in this chapter.

Ethical approval for these studies was obtained from the University of Technology Human Ethics Committee (UTS HREC REF NO. ETH19-4550) and the Saudi MOH (KFHH RCA NO: 02-E-2021).

3.2 The philosophical underpinnings of the research

The concept ‘research methodology’ refers to the philosophical foundation on which the research is based (Taylor & Bogdan, 1998). The methodology is the approach or planning process that guides the selection and application of specific methods (Crotty, 1998). The methods are known as the specific techniques and procedures utilised to collect and analyse data (Crotty, 1998). Research methodology reflects researchers’ assumptions regarding the methods. The assumptions begin as a knowledge claim that leads to new knowledge and reasonable conclusion (Creswell & Plano Clark, 2018), but may offer or end at a different understanding than the initial assumptions (Morse & Niehaus, 2009).

Before specifying the methodology proposed, it is important to determine the philosophy underpinning the research methodology. The researcher's views of the nature of reality or

'what there is to know' (ontology) influence their beliefs about how knowledge can be understood (epistemology) and how researchers go about obtaining the knowledge (methodology) (Hay, 2002). In other words, ontological and epistemological assumptions steer this transition and determine the methodological approach. Figure 1 illustrates the link between ontology, epistemology and methodology. According to Scotland (2012), ontology, epistemology and methodology are the elements that form a research paradigm.

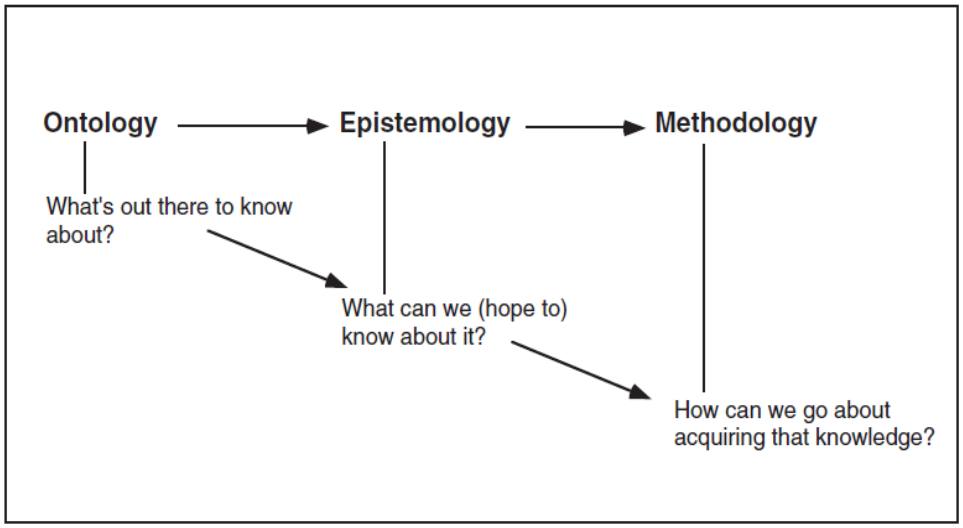

Figure 1. Directional dependence of ontology, epistemology and methodology (Hay, 2002, p. 64).

A paradigm is a philosophy or set of fundamental beliefs that support actions and the perception of the researcher (Denzin & Lincoln, 2011). The term 'worldview' is used as a synonym for paradigm and considered as a method of thinking that attempts to rationalise the natural worlds' complexities (Patton, 2002). The paradigm expresses a researcher's worldview of ontological and epistemological assumptions underpinning methodology and overall research approach (Patton, 2002; Scotland, 2012). In this study, the researcher's ontological and epistemological position is that of pragmatism, whereby reality and knowledge is constantly debated, interpreted and negotiated, thus, the best methods to use,

are the most appropriate methods that address the issue (Hay, 2002; Patton, 2002; Scotland, 2012).

Pragmatism is referred to as a philosophical assumption for beliefs and actions and their resulting consequences (D. Morgan, 2014). The term ‘pragmatism’ is originated from the United States (US) back in the 19th century (Maxcy, 2003), and it was derived from ‘pragma’, a Greek word for action (Pansiri, 2005).

Pragmatists believe that there are no two individuals who have precisely the same experiences, therefore, their worldviews will be different, in other words, knowledge is based on experiences (Biesta, 2010; Maxcy, 2003; D. Morgan, 2014; Pansiri, 2005). The notion behind pragmatism is that research can avoid metaphysical disputes about the nature of truth and reality by focusing on 'practical understandings' of tangible, real-world problems (Patton, 2002). Pragmatic researchers are inspired by the idea that individuals can experience actions and change differently (as highlighted above), thus, they are more flexible in their investigation (Onwuegbuzie & Leech, 2005). Further, pragmatism does not support the traditional logic of subjectivity or objectivity alone (Biesta, 2010), it gives a researcher the freedom to relinquish the traditional separation between constructivism and post-positivism (Creswell & Plano Clark, 2018). D. L. Morgan (2007) highlighted that pragmatism is based on 'abductive reasoning' (connection of theory and data), which move backward and forward between 'induction' and 'deduction' to connect theory and data. In fact, pragmatism is recognised as a common supportive paradigm for guiding mixed methods research (Teddlie & Tashakkori, 2012). Data obtained from mixed methods research guided by a pragmatism paradigm provide a chance to identify valuable insights from both qualitative and quantitative data.

In mixed methods research, pragmatism is centred around the significance of research questions, which direct the choice of the best method of resolving the research problem instead of relying on a particular philosophical underpinning (Teddlie & Tashakkori, 2012). As such, using pragmatism as a 'paradigm' informs the study aim, research problem, methodology (Creswell, 2009) and the researcher's assumptions for this study to know 'facts' to improve healthcare, but the researcher accepts that these are often subjective, so people's experiences or perceptions need to be accounted for as well.

Pragmatism is regarded as a philosophy that promotes mixed methods research (Denscombe, 2008; Johnson, Onwuegbuzie, & Turner, 2007) because of the focus on interrogating the value and meaning of research data by examining its practical consequences (D. Morgan, 2014). In that connection, pragmatists use the meaning of data to carry out research and interpret outcomes (Pansiri, 2005). To obtain reliable data outcomes, the researcher has to accept the external realities and be more interested in people's interpretations or explanations that reflect the reality (Pansiri, 2005). In that regard, pragmatist researchers dismiss that inquiry can approach reality by solely relying on one method alone (Maxcy, 2003). Therefore, pragmatism offers a practical approach to assumptions and inquiry that supports mixed methods research (Johnson & Onwuegbuzie, 2004). In this study, the research question and conceptual framework suggested in the scoping review study guided the research design. The adopted research approach (mixed methods research design) is the most viable method to provide a useful insight into the research problem and best answer the research question.

3.3 Mixed methods research

Mixed-methods research is becoming increasingly popular and widely recognised as a suitable approach of comprehensively understanding and examining research problems (McBride, MacMillan, George, & Steiner, 2019), particularly in the fields of healthcare and

social sciences (W. Zhang & Watanabe-Galloway, 2014). According to Plano Clark and Ivankova (2016), the term 'mixed methods research' is used when investigators combine both data collection and analysis of quantitative and qualitative methods. The mixed methods approach is defined as "research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry" (Tashakkori & Creswell, 2007, p. 4).

Greene (2007) views mixed-methods as multiple ways of seeing and hearing. In the hospital context, patient safety culture is often measured by surveys that commonly cover several aspects associated with patient safety culture (Gambashidze, Hammer, & Manser, 2019). These aspects of patient safety culture are most commonly defined and assessed by clinicians and researchers and not by patients, hence, the patient perspective is missing from the methods and tools that measure safety culture (Alabdaly, Debono, Hinchcliff, & Hor, 2021). Moreover, quantitative surveys are not able to capture the extent to which more in-depth assumptions emerge and impact cultural work behaviours in specific conditions and contexts (Finn & Waring, 2005). Thus, the qualitative method is critical to obtain information that cannot be captured by quantitative surveys. Consequently, assessing patient safety culture alongside patient experience, via mixed-methods research designs that are capable of capturing multiple perspectives, provides a more complete picture of safety, and aligns with the research paradigm of pragmatism that was summarised earlier in this chapter. A mixed-methods design can better examine the phenomena from multiple perspectives and uncover issues that cannot be identified by health workers or quantitative study alone. Furthermore, this approach is useful in identifying the intersections of safety culture and patient experience and its impact on patient safety.

3.4 Study design

The design of this PhD project included several methods. The first method was a scoping review to assess the evidence base for the research phenomena and identify gaps in the literature (as reported in Chapter 2). The second method involved collection and analysis of quantitative data by using well-known validated surveys such the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) (J Sorra, Khanna, Dyer, Mardon, & Famolaro, 2014) and the Hospital Survey on Patient Safety Culture (HSOPSC) (J Sorra et al., 2014). These tools are explained further in the survey method section below. The third method involved collection and analysis of semi-structured (qualitative) interview data, discussed in more detail in the interview study section below.

This study has a convergent parallel mixed-methods design (Figure 2), which uses both quantitative and qualitative methods (Creswell & Plano Clark, 2018). This approach enables the researcher to converge quantitative and qualitative data (Creswell & Plano Clark, 2018) (McBride et al., 2019). Typically, in this type of research design, the results of quantitative and qualitative methods are separated for analyses and are thereafter integrated in the interpretation (Creswell & Plano Clark, 2018).

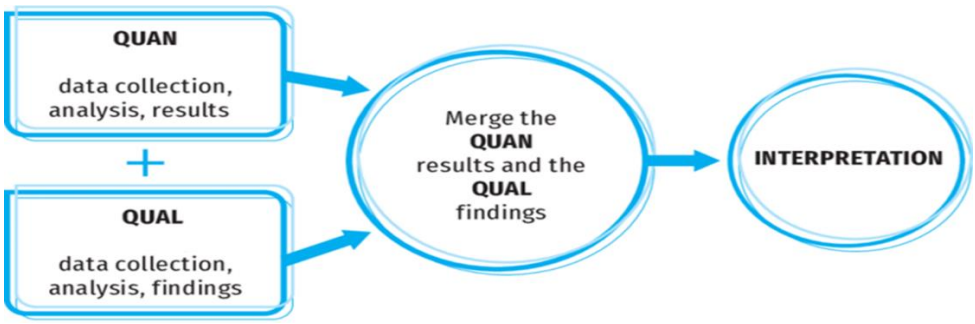

Figure 2. Convergent parallel mixed-methods design, adapted from (Creswell & Plano Clark, 2018).

Following the tradition of convergent parallel mixed-methods research, qualitative and quantitative data were collected concurrently, analysed separately, and then integrated

and discussed. This integration section was first presented via a joint display to understand the extent of convergence among the surveys and interview findings, and in what ways they diverge, if any. After that, the mixed method findings were discussed to provide a greater and complementary fuller picture of the findings.

The convergent parallel design is the most suitable mixed-methods approach for this PhD research project because it allows for a comprehensive and well-rounded understanding of patient safety culture and patient experiences. By collecting quantitative data using HSOPSC and HCAHPS and qualitative interview data simultaneously, this approach allows for comparison and integration, which enhances the study's credibility, and provides both breadth and depth to the findings. Further, this approach strengthens the study's validity, as qualitative insights help explain the intersections and such high or low survey results. For example, if HSOPSC and HCAHPS surveys reveal low or high scores, the interviews exposed important related aspects as well as such concerns in real practice. Also, the selected approach provided a chance to capture any possible contradictions between staff and patient perspectives, making the research practically insightful for quality and safety improvement.

For this study, the survey (quantitative) data were integrated with the qualitative research (interview study) to provide a bigger sample within the same population and provide measurable and comparable insights such as scores of safety culture and patient experiences, to support the interpretation of findings.

3.5 The cross-sectional survey methods

Aim

This quantitative study aims to capture the staff-reported safety culture and patient-reported experiences of hospital care in the Eastern Region of Saudi Arabia. This study draws on surveys to answer the following research questions:

Safety culture survey - RQ1: How do staff perceive safety culture in hospital medical wards in the Eastern Region of Saudi Arabia?

Patients experience survey - RQ2: How do patients perceive their experiences in hospital medical wards in the Eastern Region of Saudi Arabia?

Design

A descriptive analysis of reliable and validated popular surveys (HSOPSC and HCAHPS) was conducted, focusing on the variables of interest of patient experiences and safety culture.

Sampling approach

The Saudi government runs most hospitals in the country. The total number of hospitals in Saudi Arabia is 399, with 290 managed by the Ministry of Health (MOH) and 21 of these located in the Eastern Region of the country (Saudi Ministry of Health, 2023). The Eastern Region is the second largest region in terms of number of hospitals (Saudi Ministry of Health, 2023). The research sample was recruited from medical departments in hospitals. A survey study conducted by Li et al. (2019) among hospitalised patients in general hospitals found that patients in the medical department are mostly treated conservatively. Further, patient activities in the medical department (usually the largest unit in hospitals with diverse patients) are less restricted than patients in other departments who might require absolute bed rest (Li et al., 2019), which is helpful in terms of recruiting more participants and enrich the results.

Seven of the MOH hospitals in the Eastern province comprised the sample of this study. All the selected hospitals are general hospitals and located in the Eastern region of Saudi Arabia, giving the possibility of generalising the findings among the Eastern region general hospitals. General hospitals in Saudi Arabia provide a range of health services, while central or specialised hospitals deliver health services for specific conditions or to a particular group of patients (Alatawi, Niessen, & Khan, 2020). The general hospitals are affiliated, organised

and funded by the MOH, and have no autonomy in term of funding or organising structure by themselves or other agents (Alatawi et al., 2020). An overview of the Saudi health system is discussed earlier in the introduction chapter.

Data collection, study population, recruitment and sampling criteria

Sample size calculation

Based on previous research measured the hospital staff perceptions of patient safety culture and the patient experience scores (J Sorra et al., 2014), the significant coefficients range from moderate to large. To be more conservative of the effect to ensure having sufficient n for a 80% power to detect a significant relationship when there is one, a medium-size effect 0.15 was anticipated. Using alpha level of 0.05, at least 103 participants per group is required (103 patients and 103 staff) (Cohen, Cohen, West, & Aiken, 2003). 286 participants (172 staff and 114 patients) in total were recruited for recruitment from seven hospitals. Participants were recruited from each hospital, including male and female from medical departments.

Participant recruitment

The usual practice in the Saudi hospital context is for the Patient Relations Department to screen patients for the purposes of research recruitment. Patients discharged in six weeks from the medical clinics were approached for recruitment for the study using the census sample technique through the following steps:

1 - The Patient Relations Department sent an invitation to all patients discharged from medical departments in the previous six weeks.

2 - The invitation contained a brief of the study and a link to the online survey. A second reminder was sent to patients (three weeks after the survey was distributed), asking them to complete the voluntary survey.

Healthcare workers were recruited using a census sampling technique. Given the research's aim to explore how patient safety culture and patient experience intersect and impact patient safety, it was essential to invite all eligible participants in a busy working setting such as a hospital. This approach values everyday experiences and safety perspectives rather than relying on selective or limited samples, thereby enhancing the credibility of the findings and supporting contextual relevance. The Employees' Affairs Department sent a general email (non-personal email to avoid the perception that completion is required) to doctors and nurses working in the medical department and a link to the online survey. Three weeks after the survey was distributed, a second non-personal email was sent to promote a higher response, thanking those who have already responded and asking others to please complete the voluntary survey. Patients and hospital staff participated voluntarily in the study. All responses remained anonymous and confidential.

Inclusion Criteria

Patients

Patients who are aged 18 years or over and not suffering from cognitive impairment, intellectual disability, or severe psychiatric disease.

Health workers

Physicians and nurses (including physicians and nurses with managerial tasks), working in the medical departments.

Exclusion Criteria

Patients

Patients who are aged less than 18 years, or diagnosed with cognitive impairment, intellectual disability or severe psychiatric disease, were excluded because the current HCAHPS instrument is not designed to address the unique situation of paediatric patients and their families, or the behavioural health issues pertinent to psychiatric patients.

Health workers

Nurses and doctors were included. It is possible that non- medical staff could be pulled to assist due to staff shortage. Therefore, temporary staff were excluded. Non-medical staff who were called upon to assist due to staff shortages were not included, because the safety culture in the department may differ from that of the department from which the assisting staff came.

Survey instruments

Data on safety culture was collected from professionals using the HSOPSC (version 1.0), which has been tested and released by the Agency for Healthcare Research and Quality (AHRQ). The HSOPSC version 1.0 has been used in Saudi Arabian hospitals to measure patient safety culture (Alahmadi, 2010) and is considered a valid tool (J Sorra et al., 2014). The data on patient experience was collected from patients using the adult version of HCAHPS instrument. A study by J Sorra et al. (2014) confirmed the reliability and validity of the HCAHPS tool. The researcher has obtained permission from the AHRQ to use the HCAHPS and the HSOPSC instruments in this study.

Variables

The research aim and questions focused on analysing and reporting HCAHPS and HSOPSC scores, separately. The variables of interest in this study were the composite scores for each of the HCAHPS and HSOPSC domains, described below, which were descriptively analysed.

HCAHPS variables

The HCAHPS variables were the eight HCAHPS survey composite topics (nurse communication, doctor communication, responsiveness of hospital staff, communication about medication, discharge information, hospital environment, care transition and overall hospital experience). Most of the survey items use a four-point frequency scale (never,

sometimes, usually, and always). For these items, percent positive scores were calculated as percentages of respondents who answered “always”. Two survey items in the discharge information composite use a yes/no response format. A response of “yes” for these items was coded as a positive response. Each percent positive score is a percentage between 0% and 100%. Scores for each of the HCAHPS composites were formed by averaging the percent positive scores for the items comprising the composite (J. Sorra, Khanna, Dyer, Mardon, & Famolaro, 2012).

HSOPSC variables

The HSOPSC variables were the twelve HSOPSC composite measures (teamwork within units, organisational learning- continuous improvement, feedback and communication about errors, communication openness, frequency of error reporting, staffing, supervisor/manager expectations and actions promoting patient safety, management support for patient safety, overall patient safety, teamwork across units, handoffs and transitions, and nonpunitive response to error). The HSOPSC items use a five-point Likert scale of agreement (strongly disagree to strongly agree) or frequency (never to always). The positive score for each item consists of the percentage of positive responses (agree or strongly agree, most of the time or always) to positively worded items. Negatively worded items were reverse coded so that higher scores represent positive responses. Percent positive scores were calculated for composites by taking the average of the percent positive scores for the 3 or 4 items that make up the composite, and each percent positive score is a number between 0% and 100% (J. Sorra et al., 2012).

Data Analysis

The survey data were analysed and reported separately, using Statistical Package for Social Sciences (SPSS) version 28. In this study, descriptive analyses of the study variables and the sample demographic characteristic were conducted.

3.6 The semi-structured interview study methods

This interview study was designed to meet research aim 3: to explore the staff and patients' perceptions of patient safety culture and patient experience in the hospital context and how these perspectives and concepts intersect in their impacts on patient safety. As such, this study sought to answer the following research question:

> RQ4: How do staff and patients conceptualise safety culture and patient experience, and how these perspectives and concepts intersect, in their impacts on patient safety?

Design

Culture is a holistic and pervasive phenomenon that influences social behaviours in a range of different contexts. It is distinct from the individual attitudes or beliefs toward safety that were expressed in the statements shared in the survey instruments (Finn & Waring, 2005). As such, survey tools are not capable of capturing the extent to which more in-depth assumptions emerge and impact cultural work behaviours in specific conditions and contexts (Finn & Waring, 2005). To gain insights into cultural perspectives of safety, one must examine the healthcare professionals' perceptions of patient safety culture practised in the actual hospital setting. One means by which this can be achieved is through an interview study. Likewise, patient experience requires patient involvement in reporting their own experiences, including their perspectives of safety, quality and quantity of staff-patient interactions and health services. A foundational premise of the thesis is patient-centredness. Thus, it is important to enable patient participants (particularly in the interviews) to define and share whatever experiences they prioritise, particularly in relation to patient safety.

Qualitative interviews are commonly conducted as structured, semi-structured or unstructured interviews. Structured interviews have a predetermined set of questions that every participant is asked in the same order, with a limited number of response categories and strict schedule (Cassell, 2015; Stuckey, 2013). In unstructured interviews, although the

interviewer may have a topic or few questions on which to base the discussion, the researcher's or interviewee's interpretation of the topic may take the interview in any direction (Cassell, 2015). In semi-structured interviews, the interviewer follows a set of questions or outlines for the topics covered, but the participant's responses determine how the interview is guided (Cassell, 2015; Stuckey, 2013). Therefore, there is a chance to follow up on interesting points that the participant raises that may not have previously been recognised by the researcher (Cassell, 2015). In general, the main distinction between these types of interviews is the level of the interviewer control over the interview.

A semi-structured interview approach is an effective and feasible research method for health services researchers to understand the thoughts, beliefs and experiences of participants (DeJonckheere & Vaughn, 2019). The interview strategy was guided initially by the aspects of patient safety culture, as outlined in HSOPSC, and domains of patient experience, as outlined in HCAHPS to find out how these different domains are interrelated. Furthermore, the interviews explored what matters to patients and healthcare professionals that are not included in the survey domains. This enabled a more comprehensive exploration of how patient safety culture might be associated with patient experience in Saudi hospitals. The interview guide can be found in Appendix 2. The questions were initially developed from both safety culture and patient experience domains of survey instruments.

Study population, setting, recruitments and sampling criteria

There is no specific number of interviews considered correct in qualitative research; it depends on factors such as epistemological, methodological and practical issues (Spencer, Ritchie, Lewis, & Dillon, 2004). The interviews in this study are a part of mixed-methods research, where participants completed the patient safety culture and patient experience surveys and participating in the interview. Twenty-two participants (Thirteen males and nine females) including ten patients and twelve staff formed the sample for the qualitative study of

the research project. Across the interview sample, respondents' views/perceptions were explored in depth, using a set of guiding questions.

In this study, participants were recruited from the medical departments of the MOH hospitals in the Eastern region of Saudi Arabia using purposive sampling technique. The interviews were undertaken to achieve a representative sampling of the stakeholders (including health staff and patients) within a three-month period.

The participants were recruited for interviews alongside recruitment for the surveys, via an online registration form. The online interview registration was form is a separate form to separate identifiable information from the anonymous responses to the surveys. Participants who completed the surveys were invited to participate in the interview study, using the following message: 'Thank you for submitting the survey, if you would like to participate in the interviews, please complete the online registration form'. This message tells the participants that their answers have been sent successfully, and serves to recruit for the interviews.

All participants were provided with the information sheet in the online interview registration form and they were aware that their participation was completely voluntary, and that they could withdraw participation at any time. At the beginning of every interview, the researcher clearly stated the purpose of the research and re-established consent to ensure that they were participating with full knowledge of what the study involves, and their rights in the matter.

Inclusion Criteria

Patients who are aged 18 years and above were included. Nurses and doctors were included.

Exclusion Criteria

Patients who are aged less than 18 years were excluded. Temporary staff were excluded.

Data Collection

This study involves semi-structured interviews with nurses, physicians, and patients, to obtain information about the interpretation of the association between patient safety culture and patient experience.

The interviews were conducted online by the principal researcher due to COVID-19 restrictions using web-based video conferencing software (Zoom version 5.4.9). Each participant was interviewed alone so that the responses were not affected by the presence of others, as well as confidentiality was ensured. The researcher allowed a free flow of conversation, but directed the conversation so that the discussed remained broadly focused on the research topic. When the answers were not clear, probing questions were used to encourage clarification. At the end of the interview, the researcher thanked the participants for their participation and closed the interview.

The language of the interview was Arabic, unless a participant preferred to speak in English. No translator was required, as the researcher is an Arabic native speaker. In a hospital setting, health workers are busy with patients, and their time is usually limited. Several studies in a hospital setting and healthcare field used semi-structured interviews on average between 30-45 minutes (Fenwick et al., 2020; Jackson, Lowton, & Griffiths, 2014; Jenkins et al., 2014; Koucheckyazdi, Maleki, Aryan Khesal, & Goharinezhad, 2020). In this study, each interview lasted for approximately 30 to 45 minutes. With participants' consent, the interviews were audio recorded digitally and transcribed verbatim.

Data Analysis

Thematic Analysis (TA) is an extensively used, qualitative analytic method (Harper & Thompson, 2011). Braun, Clarke, Hayfield, and Terry (2019, p. 3) view themes as "reflecting a pattern of shared meaning, organized around a core concept or idea, a central organizing concept". TA can be performed via distinct approaches or 'schools' of TA such as 'coding

reliability', 'codebook' and 'reflexive TA' to identify, analyse and report patterns or 'themes' in qualitative data (Braun et al., 2019).

According to Younas, Masih, and Sundus (2025), researchers should also consider alternatives to saturation to enhance transparency and clarity when explaining how sample size adequacy is determined. While data saturation is a commonly used method in qualitative research, it is not the only approach. Qualitative research can be guided by different models of sufficiency, such as Information Power (Malterud, Siersma, & Guassora, 2016), which suggests that the more relevant information each participant contributes, the fewer participants are needed. Furthermore, Braun and Clarke (2021) do not recommend the use of data saturation in reflexive thematic analysis, which is the approach adopted in this thesis.

This interview study followed Braun and Clarke (2014) TA approach through the 'six-phases' approach of coding the data which comprise: familiarisation with data; generating the initial codes; searching for themes among the codes; reviewing the themes; defining and naming the themes; and, producing the final report. According to Braun et al. (2019, p. 11), there are "two broad orientations to coding: an inductive orientation, where the researcher starts the analytic process from the data and a deductive orientation, where the researcher approaches the data with various ideas, concepts, and theories, or even potential codes". TA usually includes identifying new themes which generally occurs after data collection, hence, analysis is essential to decide whether the information generated by participants contributes something new or not (Braun et al., 2019). An inductive coding process was used to capture themes in the data obtained from interviews. The principal researcher (AA) coded the data individually. Microsoft Word and a Microsoft Excel spreadsheet were used for coding themes. The final categories/themes and subthemes were discussed with supervisors, reported in the results chapter, and discussed further in the discussion chapter.

Chapter 4: Survey study results and discussion

4.1 Introduction

This chapter describes the survey study findings and includes a discussion of the results with reference to Saudi safety culture and patient experience data, and the research literature.

4.2 Survey results

Survey participants

286 staff completed the HSOPSC (safety culture survey). Most staff were Saudi (59%), with 41% from a non-Saudi background. Most staff were women (56%), followed by 44% men. About 84% of the staff were married, and nearly 65% were above 31 years.

114 patients completed the HCAHPS (patient experience survey). The majority were men (62%) and 38% were women. Almost 67% of patients were married, and the majority were educated with a high school education (23%), bachelor's degree (21%) or diploma (19%). All patients were Saudi; most reported that they had excellent (44%) or very good (39%) mental health. Most (65%) of the patients were above 41 years. The participants demographic variables were summarised and presented in Table 3.

Table 3

Descriptive statistics of demographic variables

Variable	Patients (%)	Staff (%)
Gender		
Male	62.4	44.2
Female	37.6	55.8
Marital status		
Single	20.3	10.5
Married	67.2	84.2
Widowed	2.3	0
Divorced	7.8	3.8
Separated	2.3	1.5

Age		
18-30	18.8	13.5
31-40	16.4	45.9
41-50	31.3	29.3
51-60	28.1	10.5
Above 60	5.5	0.8
Nationality		
Saudi	100	59.4
Non-Saudi	0	40.6
Education level		
Never went to school	3.1	
Primary education	7	
Middle school	17.2	
Secondary school	23.4	
Diploma or equivalent	19.5	
Bachelor's degree	21.1	
Higher education	8.6	
Mental health		
Excellent	43.8	
Very good	39.1	
Good	15.6	
Fair	1.6	

Safety culture (HSOPSC) domain composite scores

The percentages of positive composite scores for each safety culture domain above 75% are considered as developed/strong areas and below 50% are areas that need to be improved, while neutral areas are those in which the percentages of positive composite scores are below 75% and above 50% (Chegini, Kakemam, Asghari Jafarabadi, & Janati, 2020). The HSOPSC composite scores ranged from 34.4% (staffing) to 80.5% (organizational learning-

continuous improvement). Figure 3 presents the patient safety culture domains and scores or percentages of positive responses obtained for each domain.

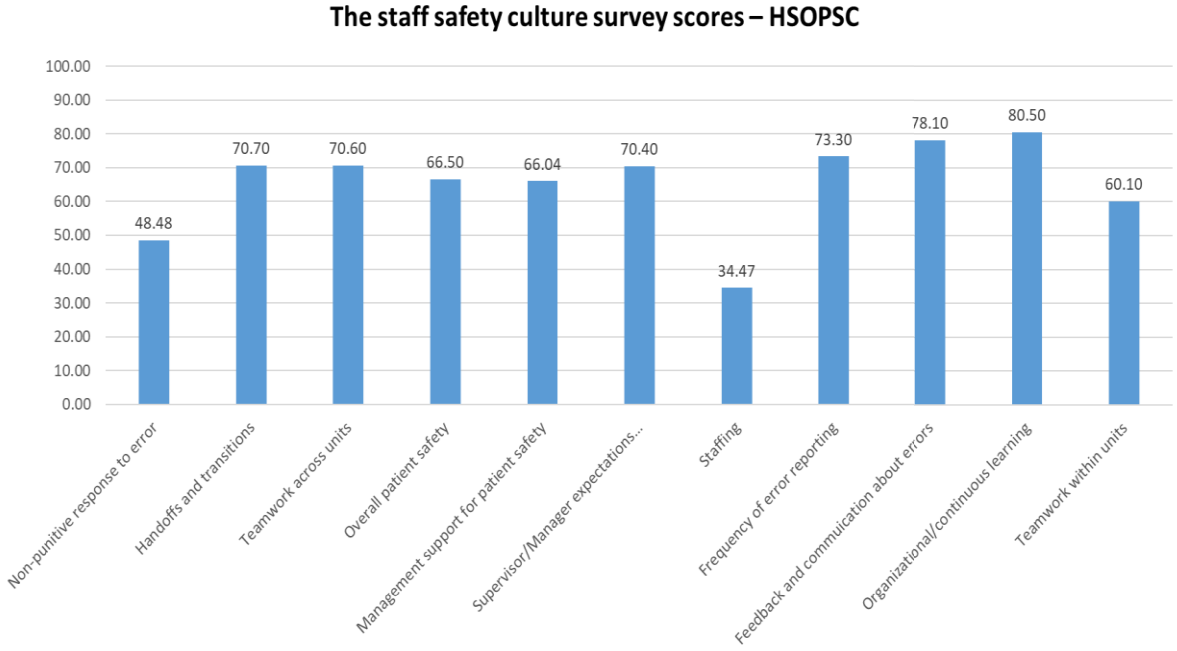

Figure 3. Patient safety culture composite scores.

The 'Organizational Learning - Continuous Improvement' domain had the highest composite score at 80.5%, followed by 'Feedback and communication about errors'. These two domains are considered strong or developed areas of safety culture. This means that staff feel that errors often lead to positive safety changes, and staff are informed about errors and necessary changes to prevent harm. The majority of the safety culture domains ('Teamwork within units', 'Frequency of events reported', 'Supervisor/Manager expectations and actions promoting patient safety', 'Teamwork across units', 'Communication openness', 'Management support for patient safety', 'Handoffs and transitions', and 'Overall perceptions of patient safety') had composite scores ranging between 60% and 73.33%. These domains refer to staff communicating and working as a team in a supportive environment where patient safety is a priority for the management, which helps staff feel free to discuss possible issues that may negatively affect patient care. However, these approaches/aspects of safety

culture (representing most safety culture domains) are considered neutral areas (above 50% and less than 75%) and have not yet reached the developed level.

In contrast, 'Staffing' had the lowest composite score of 34.47%, implying that staff believe there are insufficient staff members to handle the workload and deliver the best patient care. Likewise, 'Nonpunitive response to error' has a relatively low composite score (48.48%), indicating that staff may preferred not to report errors due to the fear of stigmatisation, blame and punishment. The scores for these two variables ('Staffing' and 'Nonpunitive response to error') are lower than the other safety culture domains and below 50% as well, marking these domains as priority areas for improvement.

Despite the high composite scores for 'Organizational Learning - Continuous Improvement' and 'Feedback and communication about errors', the findings suggest that staff also anticipate a punitive response to error. This means there is a possibility of missing non-reported safety issues that staff are scared to report to avoid a punitive response, excluding these issues from the learning and development process. In addition, having sufficient staff members to safely manage the workload of providing safe patient care could further enhance the safety culture in these hospitals, including other safety aspects needing further development (neutral areas).

Patient experience (HCAHPS) composite scores

Figure 4 represents the HCAHPS composite positive scores, which ranged from 51.7% (care transition) to 87% (discharge information), based on participants' hospital experiences (Tevis, Kennedy, & Kent, 2015). The percentage of positive composite scores reflect various aspects of patient experience. 'Discharge information' received the highest composite score (87%), suggesting that patients felt well-informed and supported during their transition out of the hospital. Likewise, the 'hospital environment' had a composite score of 79.6%, reflecting

a generally favourable view of the hospital environment by patients. 'Nurse communication' received a composite score of 71.2%, followed by 'doctor communication' (65.4%) and 'communication about medication' (63%). 'Care transition' had the lowest composite score (51.7%), pointing to potential difficulties in managing patient transfers and continuity of care, while the composite score for 'responsiveness of hospital staff' was also low, at 57.1%.

In general, discharge processes and the hospital environment were positively viewed by patients in the study context, but more is needed to promote care transitions and the responsiveness of hospital staff. Enhancing important areas such as communication could further enhance the patient experience of care and help staff to overcome possible challenges.

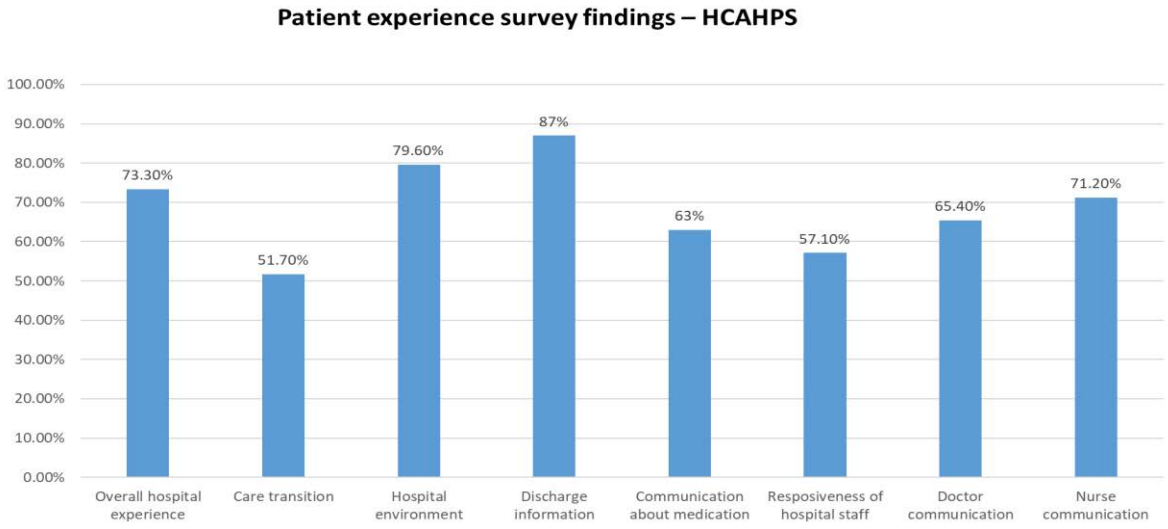

Figure 4. Patients experience composite scores

4.3 Discussion of the survey results

Safety culture surveys in Saudi Arabia

The Saudi Patient Safety Centre has been collecting data on hospital safety culture and reporting the data annually, since 2021. The centre used the AHRQ's hospital survey on patient safety culture HSOPSC, which is the same measure used in this thesis. This provides an opportunity to compare the results of the survey from medical wards in the Eastern region with the national data.

Most of the safety culture domains had composite scores for the Eastern region that were consistent with the national results (see Table 4) (Saudi Patient Safety Center, 2023). This suggests that the study findings are reflected in other regions of Saudi Arabia. For example, 'staffing and response to error were areas that require improvement in the Eastern region and at the national level as well. Likewise, strong areas such as 'organizational learning - continuous improvement' and feedback and communication about errors domains were strong/developed at both the Eastern region and national levels. However, there were some minor differences such as teamwork, which was measured as an area of strength at the national level, but considered an area of improvement in the Eastern region.

Table 4

Comparison with the Saudi national safety culture data.

	Eastern region	**National patient safety culture 2023**
Areas of strength (>75%)	• Organizational learning-continuous improvement. • Feedback and communication about errors.	• Teamwork • Organizational learning- continuous improvement. • communication about errors.
Areas for improvement (>50%, <75%)	• Teamwork • Frequency of events reported. • Supervisor/Manager expectations and actions promoting patient safety. • Communication openness. • Management support for patient safety. • Handoffs and transitions. •	• Reporting patient safety events. • Supervisor/Manager/Clinical Leader support for patient safety. • Communication openness. • Management support for patient safety. • Handoffs and information exchange. •
Priority areas for development (<50%)	• Staffing • Nonpunitive response to error.	• Staffing • Nonpunitive response to error.

These findings reflect the research conducted on safety culture in the Saudi hospital context, which has found that teamwork is often identified as a strong aspect of safety culture (Alaska & Alkutbe, 2023; Algethami et al., 2024; Alquwez et al., 2018; Alshammari et al., 2024). Likewise, 'organisational learning—continuous improvement', and 'feedback and communication about errors', are also considered top areas of Saudi safety culture (Alaska &

Alkutbe, 2023). Not all of these top areas necessarily always reach the developed level however (Alaska & Alkutbe, 2023). The areas for potential improvement reported as the having the lowest scores were non-punitive responses to errors, staffing, and communication openness(Alquwez et al., 2018; Alshammari et al., 2024). These findings of the Saudi literature on safety culture, are broadly aligned with the survey findings and the national safety culture highlighted earlier.

Patient experience surveys in Saudi Arabia

The Saudi Ministry of Health (MoH) measures patient experiences in the MoH facilities using the Press Ganey company (Saudi Ministry of Health, 2024). Insights into patient experience metrics in the MoH Saudi hospitals can be gleaned from the Press Ganey measure, which is similar to, but not the same as the HCAPHS survey used in this study. Both surveys evaluate aspects such as staff communication with patients, staff responsiveness, hospital cleanliness, quietness, and discharge information to identify areas for improvement and enhance patient experience. However, Press Ganey allows health organisations to add additional questions tailored to their needs and is a more customisable survey tool used in different healthcare settings, including hospitals, outpatient clinics, and specialty care facilities.

In contrast, the HCAHPS is a more standardised tool, designed specifically for inpatient hospital stays only. It consists of a fixed set of questions and aims to increase the transparency of the quality of hospital care provided and compare data nationwide. The Press Ganey patient experience surveys may combine the required HCAHPS questions, often focused on how often certain services were provided, with additional questions on how well the service was provided, to better capture the overall patient experience.

In 2024, the following aspects of the MoH patient experience domains were considered the most important areas for improvement (Saudi Ministry of Health, 2024):

- Response to concerns and complaints.
- Patient assistance/support.
- Likelihood of recommending the hospital.
- Introducing nursing staff themselves to the patient.
- Introducing other staff themselves and their roles to the patient.
- Response to patient emotional needs.
- Accommodation and comfort.
- Staff eagerness to involve patient in decisions about care.
- The extent to which nurses provide information to patient about the health condition.
- Explanation of the test/examinations and treatment procedures.

These aspects of patient experience are also reflected in the findings from the HCAHPS survey in the Eastern region. For patients in the study population at the Eastern region of Saudi Arabia, discharge information was the highest composite score, followed by hospital environment. S. Alsharif et al. (2023) investigated patients' perceptions regarding the discharge information from hospitals in the Saudi Western region and showed that 78.4% of participants were given discharge instructions. Likewise, there is evidence that a clean and well-maintained environment decrease patient dissatisfaction (Bouzid, Cumming, & Hunter, 2018).

The importance of sharing information in a safe, clean and comfortable hospital environment requires suitable communication, particularly from the front-line care provider. Sharkiya (2023) indicated that effective communication is linked to the quality of healthcare provider interactions with patients, emphasising the critical role of effective communication in care delivery. Nurse and doctor communication with patients as well as communication about medication were the next most positively reported aspects of patient experience in the Saudi Eastern region. However, care transition and responsiveness of hospital staff were quite low compared to other aspects, and may impact or reflect other issues.

Chapter 5: Interview study results and discussion

The interview study set out to explore hospital staff and patients' perspectives on patient safety culture, patient experience, how the concepts intersect, and how they impact on safety. This chapter presents and discusses the findings of the interview study with reference to the research literature.

5.1 Interview study results

Twenty-one participants took part in an interview, including ten patients, six nurses, and five doctors. In the presentation of results below, the term 'staff' encompasses both doctors and nurses. Thematic analysis (Braun et al., 2019) was conducted on the interview transcripts to identify several themes and sub-themes, reflecting participants' perspectives on the research question. This section presents the findings from the thematic analysis.

The identified themes and sub-themes are listed in Table 5, and described in more detail below, with illustrative quotes from participants. These themes represent the patterns identified in the perspectives and observations from all participants (staff and patients), regarding the intersections between safety culture and patient experience. Below, I explain how participants viewed the impact of these intersections on patient safety. In other words, here I not only describe where staff experiences and perspectives on the safety culture of their workplace overlapped with patients' experiences of their care, but also how these overlapping experiences can impact on patient safety.

Table 5

Summary of the generated themes and sub-themes

No	Theme	Sub-themes
1	Continuous learning culture	
2	Cultural competence and responsiveness	
3	Feeling safe	
4	Open-communication channels	4a. Maintaining transparency for patient empowerment
5	Sufficient competent staffing	5a. Teamwork and adaptability

Theme 1: Continuous learning culture

The first theme identified is the idea of a 'continuous learning culture'. This theme describes a workplace that supports the preparedness of hospital staff to respond to safety risks, through continuous learning and awareness. Hospital staff emphasised the importance of a learning culture in enhancing patient safety by creating an environment where staff feel safe and comfortable to report issues, without fear of punishment.

> *"The aim is not to punish but to learn, study the case and take corrective actions. That is why we ask anyone to report errors, even the person who makes that error. The report goes to the quality department to study the issue and take improvement actions to avoid the issues." (Doctor)*

Staff described how having a culture of learning enhances a responsive approach to errors, and helps staff to identify issues affecting patient safety, implement safety measures, facilitate patient involvement, and eventually contribute to a safe patient experience.

> *"When an error occurs, all parties involved in the error must be included so that we can identify all the reasons that led to the error, correct and learn from the errors and be able to avoid them in the future. We include patients if the patient is part of the problem and there is a risk to him. Errors rarely occur and most of them are problems related to misunderstanding, but they still happen from time to time." (Doctor).*

Staff perceived continuous learning as essential to patient safety because it allows hospital staff to stay updated, obtain relevant skills, and effectively manage patient safety. Patients also noted the learning approach.

"We discuss the incident report to understand what happened and learn from this issue. In this way, we can prevent errors like that in the future". (Nurse).

Theme 2: Cultural competence and responsiveness

Cultural competence was described by participants as the capacity of staff to be aware of and sensitive to cultural variations, in order to deliver care in a way that is effective and equitable for patients. Participants noted that staff cultural competence was critical in promoting and linking safe patient experiences and safety culture, especially in a multicultural workforce. For instance, when hospital staff acknowledged patient backgrounds and perspectives, they were better able to safely meet the patient needs, particularly cultural needs. The participants believe that cultural competence enhances communication and collaboration, not just between staff and patients but also among staff. This helps create a culture where both staff and patients feel safe and respected.

"In my experience, I also noticed that sometimes the foreign staff care for foreign patients, and the local staff care for local patients. I think this helps to better understand the patients." (Patient)

In particular, the 'cultural responsiveness' of staff was felt by participants to be an important aspect of patient safety and care. This entails being aware of, and accommodating for, various cultural factors that individuals contribute to such interaction in the hospital. In other words, cultural responsiveness refer to a responsive and adaptive workforce, capable to deliver healthcare services that are respectful of, and relevant to, diverse patients' health, beliefs, cultural needs, and practices. It describes the capacity to respond to the healthcare issues of different patients. Cultural responsiveness is made possible by staff cultural competence.

"Considering patient's culture, sometimes it's more appropriate to explain the severity of the disease to the patient's relatives before the patient, as the patient may be negatively impacted." (Doctor)

The cultural competence and cultural responsiveness were important aspects of safety culture that overlap with patient experience. Participants exclaimed that when they appropriately respond to such situations to maintain and sustain a culture of safety in the workplace, this provides a favourable experience for the patients.

Theme 3: Feeling safe

There was a common perception among interviewees that safety culture promotes a hospital experience where both staff and patients feel safe and respected, and this is a core aspect of the 'patience experience'.

> *"Patient safety culture is a part of patient experience... I think that safety culture is something that patients can feel it" (Patient).*

> *"[There is a] strong relationship between patient safety culture and patient experience. If the first [safety culture]is good, the second [patient experience] will also be good. I mean, if the first is bad, the second will be bad as well" (Patient).*

Both staff and patients viewed the concept of 'patient experience' as representing the patient's journey from admission to discharge, including patient safety in the way that it promotes the staff response to patients' requests, complaints and ensuring that patients receive safe healthcare services on time and when needed. From the participants' perspective, patient experience was more than just receiving and experiencing healthcare services, it was also about providing comfortable and acceptable healthcare services that prioritised patient safety. In fact, patients perceive hospital 'safety culture' (or aspects of safety culture) via the

lens of their experiences as the ‘sense of safety’ or ‘feeling safe’ that plays a critical role in shaping the patient perception of the safety of their care.

> *“Patient safety culture means ensuring that there is no medical error and the patient is safe and comfortable” (Patient).*
>
> *"When staff clearly explained things in a respectful way, I felt much more comfortable" (Patient).*

Staff believe that they are responsible for making patients feel safe by creating a safe culture in the workplace. The staff also emphasised that safety culture is all about a ‘safe patient experience’ and believe that positive patient experiences can only be effective in the presence of a robust patient safety culture. For example, participants considered communication, sharing information and coordinating patient care as critical determinants of a positive safety culture, and also necessary for delivering safe patient experiences.

> *“When I saw that they [staff] communicate well, with humility, in a good mood, and support each other, I was psychologically relieved....I felt safe and comfortable”(Patient).*
>
> *“There is a strong connection between them [patient safety culture and patient experience], and I see it clearly… communication with patients, providing information and creating a safe culture” (Doctor).*

Bringing together themes 1, 2 and 3, participants described how these aspects of safety culture and patient experience were intertwined – for instance, a continuous learning culture helps staff develop cultural competence and awareness that influences patients’ sense of safety. Staff who feel more competent about culture reported that ongoing training improves their ability to understand diverse patients, reducing miscommunication and increasing trust. Patients expressed feeling safer when staff respected their cultural and

religious backgrounds. Both staff and patients emphasised that learning about culture is an ongoing process, essential for creating a safe culture where safety is practised and perceived. Differences in perception between staff and patient's perception and experiences are mainly reflected in and affect the feeling of safety. Staff prioritise medical treatment, relying on their expertise to make medical decisions in relation to patient care.

> *"Often the hospital explains the culture to new foreign staff when they come to work here first time. I help from time to time even with local doctors as some of them came from different state with different accent and traditions (Nurse)."*
>
> *"When staff clearly explained things in a respectful way, I felt much more comfortable" (Patient).*

Theme 4: Open-communication channels

The idea of open communication was also commonly found in the comments made by participants. This included descriptions of staff and patients encouraged to voice their concerns, and being involved in transparent discussion of safety practices in place, leading to better safety outcomes. This theme describes the communication styles or approaches in which staff and patient freely and openly (without fear of punishment) exchange knowledge, ideas, concerns, and issues. One sub-theme was generated in this main theme: ‘maintaining transparency for patient empowerment’.

Both staff and patients commonly emphasised the critical role of communication in enhancing and complementing patient safety culture with patient experience. Staff described communication as the most important aspect that affects quality and patient safety by building a better understanding of how things are going in the hospital which helps in uncovering errors and possible adverse events. This in turn helps in building a strong safety culture to deliver safe and acceptable health services. Effective communication also had

consequences for positive patient experiences by creating a positive impression about the health staff and facilitating trust between patients and staff. Patients described feeling more valued and safer when they observe clear communication among the staff, staff listening to each other and to patients' needs, explaining medical procedures and treatments clearly, and providing timely and accurate information when needed.

> *"They [staff] usually come to me and ask few questions, while other members ask the consultant doctor there directly, who keep explains things to me and the staff as well... there was a good environment there" (Patient)*

Open communication with patients helps patients to express and clarify their needs, obtain necessary information for their care, and build clearer perceptions of their health condition and care needs. This approach supported staff to facilitates building relationships and creates trust between staff and patients, which further enables the flow and sharing of additional necessary information about quality and patient safety that may not have been previously known or clear. Therefore, communication is clearly intersected the culture of safety and the patient experience by creating and facilitating critical aspects of safety and quality of healthcare services. However, patients still perceived gaps in clarity, timing, or understanding of information and expressed feeling overwhelmed by medical experience or experiencing information overload, especially if they lack time or knowledge to process details or ask questions. Further, patients feel safer and more comfortable if staff understand and respect their cultural and emotional needs, not just the health needs that health team is primarily focused on.

Sub-theme 4a: Maintaining transparency for patient empowerment

Being open to comments, communicating clearly and honestly, and effortlessly sharing information are numerous instances of transparent practices. Transparency in the hospital was found to be essential for open communication, in creating a culture where

patients are respected, informed, and clearly engaged in their health and well-being, leading to enhancing accountability, trust, and patient safe engagement towards improving patient safety. For example, patients who felt in control of their treatment, were involved in their care, educated by health staff, got a chance to ask questions, and received clear information, opinions and feedback, seemed to feel empowered, reported positive and safe experiences and believed that their safety was being prioritised.

> *“We often tell patients that they can speak up if they need something or things doesn't feel right, but I think that works in our culture.” (Nurse).*

> *“They [staff] know the patient's condition. I also think that every patient has a particular measure of inclusion... Medical staff is more knowledgeable, and they are the first line of defence” (Patient).*

> *"I have had a health problem for a while, and I read about the disease and treatment options and consulted many doctors. I like to know everything before I do anything, I mean especially when it comes to my health. That's why I asked the doctors about everything and side effects and they were clear and patient with me. It was a great experience and I was aware of almost all things" (Patient).*

Patients value participating in their care to ensure better health and safety outcomes, and appreciate open and transparent conservations about health conditions and risks, especially when staff are keen to take responsibility for actions and plans, which builds trust and respect among staff and patients. A lack of transparency and empowerment leads to distrust and makes patients feel unsafe and left alone, even with positive clinical outcomes.

"I did not like the way they treated me. I felt alone and scared there, and the doctor did the medical procedure as he wanted, not exactly as I wanted, he said that this was safer

for my health. But I didn't understand what was happening afterwards, and they did not think of my concerns that much, and I just had to accept the situation as it was" (Patient).

Patients felt unstable degrees of empowerment, and felt that safety was mainly influenced or controlled by staff, who determined the level of transparency and encouragement to patients to ask questions or participate in decisions or care plans. Although patients valued feeling heard and having control over decisions, as highlighted above, they also reported feeling hesitant to speak up, especially if the culture felt unwelcoming, ignored their concerns, or did not consider the limitations of patient medical knowledge.

> *"I asked the nurse to call the doctor as I had some questions about my condition, but the doctor was late and did not come and I felt scared and kind of lost. They always repeated the same answer that everything is fine and there is no need to worry, but I was very worried and my concerns were not taken seriously. "(Patient)*

> *"We usually respond and help patients, but some patients want to be more reassured and see the doctors. But if the patient's condition is stable and there is no issue, the doctors may not come to see the patient directly, and we can do nothing rather than waiting and trying to calm the patient. Doctors maybe upset if I just keep asking many times them without urgency. "(Nurse)*

From staff perspectives, they felt that patient involvement contributes to better safety outcomes and trust-building among staff and patients. However, staff also expressed concerns over how much information to share with patients to avoid any possible negative reactions. Staff prefer to manage the extent to which the patients can be safely informed and included in the care where their preferences and needs are safely met. In other words, staff still maintain oversight and control of patient involvement and safety measures to ensure that patient involvement does not compromise hospital safety protocols or lead to patient harm and

adverse events. Patient empowerment and transparency are therefore still limited and determined by hospital staff's perception of safety. Staff expressed a need for a comprehensive approach in facilitating and encouraging patient safe involvement, especially when they faced limitations that restricted their ability to effectively response and involve patients, such as during the COVID-19 pandemic.

> *"Some patients do not understand and follow our advice and that could lead to issues... We need ongoing training to make sure that we understand each other but you know that I cannot do anything the patient wants if it's not safe" (Doctor).*

> *"We organise sharing information with patients in a safe approach according to the patient's education level and culture. I mean, we are the ones who control and balance it" (Doctor).*

Theme 5: Sufficient competent staffing

This theme pertains to the number of staff assigned to care for patients. The idea of sufficient staffing is about having a suitable number of competent staff and allocating them to fulfill workload and operational demands. Staff consistently described the staffing level as an important aspect influencing patient safety and quality of patient care. Staff reported that sufficient staffing reduces workload and stress, allows for meaningful communication and interaction, and a more responsive approach to patients' needs.

> *"Having a sufficient staff number helps in improving health service, significantly" (Doctor).*

Staff often raised concerns about the impact of inadequate staffing levels, as they believed it could compromise patient safety and lead to a negative effect on patient experience via increases in workload and pressure that could lead to safety issues and medical errors. The impact of staffing is further complicated by the need for staff to be highly skilled

and experienced, suggesting that staffing is more than just numbers. Staff highlighted the contribution of highly skilled hospital staff with more knowledge and specialised expertise. For instance, staff shortages were strongly influenced by the high staff turnover rate, particularly the turnover of experienced staff.

> *"Patients may get very sick, and this makes it difficult for nurses to work and control all cases and may require more staff members there" (Nurse).*

Unlike staff, patients did not describe any concern with staffing levels, but they did believe that it is important to have adequate staff for the safety of patients and positive patient experience.

> *"When I press the call button, the nurse comes straight away, and there are many employees there. I mean, even if they are busy with other patients. It's good to have a sufficient staff number to provide service in a good and safe manner" (Patient).*

Sub-theme 5a: Teamwork and adaptability

The participants believed that staff teamwork is essential for providing high quality and safe patient care, particularly when there is a staff shortage. When staff collaborate effectively and work together cohesively to improve patient clinical and non-clinical outcomes, they are more likely to encourage, support, and learn from each other leading to safer care. Further, collaboration and teamwork among the staff seems to provide patients with a sense of comfort, confidence, safety and trust. Patients considered teamwork as a positive aspect enhanced their experiences make them felt more satisfied when they recognised staff supporting each other to provide more coordinated and safe patient care and collaborated with patient.

“We are one team here, anyone who needs something will ask the other. Even me, sometimes, I help and advise my team on certain matters, even when I outside of the hospital and my working hours” (Doctor).

“100% there are effective cooperation, support, and mutual respect between patients and us [health staff]. This cooperation, of course, affects patient care” (Nurse).

“Based on what I saw there, they divided the employees into different rooms that were distributed along the department corridor. And I see that employees understand each other, and the workload is distributed well. Patient requests were considered. Nurses were working there to provide treatment, and others were working on patients' documents to ensure that procedures and time were appropriate for the patient. And there were nurses entering data. That is why I think there is a good understanding, collaboration and coordination there, and it was a nice experience for me” (Patient).

Staff adaptability enables and enhances staff ability and capacity to maintain motivation, productivity and wellbeing through challenges. Adaptable persons are quick to learn new skills and talents, take on new roles and responsibilities, and cope with shifting strategies and priorities. Staff described resilience and adaptability in their willingness and ability to adapt to challenges, such as high workloads or unexpected situations during the COVID-19 pandemic while maintaining their routine tasks for patient care.

"Very busy and I feel that it impossible to keep doing all tasks, but patient care is our responsibility and we do whatever we can...well, you know there are restrictions due to the Corona 19 circumstances and we changed some things to deal with that...there is understanding and cooperation between us" (Doctor).

Staff highlighted the importance of adaptability and resilience when needing to adjust routines, to foster a stable and responsive environment where care remains safe, timely,

empathetic and effective, even under pressure and stress. Patients also appreciated staff efforts to accommodate them, such as managing complications or finding solutions during busy times to keep patients comfortable and safer. This approach comforts patients by reassuring them of staff commitment to patient safety.

> *"I asked for a blanket and sometimes I asked for quietness so I could sleep. They responded to me and tried to make me happy and the situation was comfortable and safe and I did not have a problem or complaint" (Patient).*
>
> *"Later the nurse examined my abdomen and checked with another older nurse and my doctor, and they told me that there is nothing to worry about and it would take time to heal" (Patient).*

Generally, the findings in this chapter describe how patient safety culture and patient experience intersect, in terms of patient safety in Saudi Arabian hospital settings. The next chapter (Discussion) integrates and discusses the findings.

Chapter 6: Integration and discussion of qualitative and quantitative findings

6.1 Introduction

This chapter integrates and discusses the findings for each of the studies presented in chapter four and five. This thesis aimed to develop a better understanding of the intersections between safety culture and patient experience, and their impact on patient safety in the Saudi context.

6.2 Integrating survey and interview findings

This section discusses the intersections between safety culture and patient experience, drawing on inferences made across both the survey and the interview findings. A joint display is used to present the interview themes, together with corresponding survey results, and a comment on their integration (see Table 6). The process of data integration in a joint display provides a useful visualisation to support interpretation of the findings (Guetterman, Fetters, & Creswell, 2015). Following that table, I discuss the integrated findings to answer the main research question of the thesis: What are the intersections between patient experience and safety culture, in their impacts on patient safety?

Table 6

Joint display of the integration between the survey and the interview findings.

Interview findings	Survey results	Integration of findings	Data pattern
Theme 1. Continuous learning culture. Staff emphasised maintaining patient safety by learning from errors and suggested ongoing training, as an essential approach for preventing errors and improving safe care.	Staff scores are strong across organisational learning and continuous improvement domains. Also, high scores in feedback and communication about errors indicate that learning from mistakes is encouraged in the hospital setting.	The staff score of safety culture was the highest score, and their strong perceptions in interviews about the idea of learning was captured. Patients also recognised the staff learning approach in practice.	The findings from the quantitative and qualitative findings converged.
Theme 2. Cultural Competence and Responsiveness.	Cultural competence is not directly captured in current instruments.	Interviews highlight insights into the importance of cultural competence that are not fully	The findings from the quantitative

Staff acknowledged that effective cultural competence directly impact patient safety by meeting patient needs while ensuring that cultural barriers do not compromise care. Patients who felt heard and respected reported higher levels of trust in the staff.		captured or explicitly measured in the instruments.	and qualitative findings diverged.
Theme 3. Feeling safe. Patients and staff recognised that patient safety includes making patients feel safe and confident in their care.	Patient scores of overall hospital experience and hospital environment was quite strong. Staff scores of overall patient safety and management support for safety were moderate.	'Feeling safe' is a key aspect of patient experience and safety culture, and closely linked to patient safety by both staff and patients in the Saudi hospital setting.	The findings from the quantitative and qualitative findings converged.
***Theme 4. Open-communication channels*.** Staff describe open communication as vital for patient safety, emphasising the importance of communication in care processes. Patients who experienced clear, honest communication reported higher trust in their care providers and felt more engaged, and vice versa. The theme of "Maintaining transparency for patient empowerment" emerges as a key issue, with patients.	Staff scores for communication openness are moderate, and scores for feedback about errors is relatively high, but the scores for punitive responses to error are low, suggesting that staff feel there are mechanisms for discussing safety issues amongst staff, but there is still improvement needed. However, patients indicates gaps in lower communication about medications and care transitions, implying that patients do not always experience the same level of openness.	Staff acknowledge the importance of open communication, and surveys shows that such aspects of communication (e.g. communication about errors) are strong, but staff also note that hierarchical structures and fear of blame can discourage transparency. Patients express frustration over unclear explanations and inconsistent information, particularly during transitions of care. Patients want more transparency about their treatment and care decisions, stating that unclear explanations and lack of involvement make them feel disempowered.	The findings from the quantitative and qualitative findings diverged.
Theme 5. Sufficient competent staffing. Staff describe high workloads, turnover and limited staff as key barriers to deliver safe and efficient care. Patients also recognise such delays, which reflect on their care and safety. The theme of "Teamwork and adaptability" emerges as a key approach to limit the impact of staffing.	Staff reported staffing as the lowest scores, while teamwork within and across units is rated moderately and higher than staffing. Patients' scores on the responsiveness of hospital staff was quite low.	Staff reported lower staffing in the survey and perceive it (in the interviews) as a critical issue affecting patient safety and care. As a reaction, staff often collaborate to provide patient care. Patients also believe that sufficient staffing is important for their safety.	The findings from the quantitative and qualitative findings converged.

6.3 Discussion of integrated findings

The analysis above shows convergences and divergences between patient experience and safety culture and their impacts on patient safety, when examined using both quantitative and qualitative approaches. The analysis allows for a direct comparison between participant perspectives gleaned through open-ended questions (e.g., a semi-structured interview) and researcher perspectives gleaned via close-ended questioning (e.g., a survey chosen by the researcher). With this method, the researcher can reveal statistical trends while simultaneously giving participants a voice. The next paragraphs discuss, in more detail, the intersections between both qualitative and quantitative findings, and the data patterns, to better understand the phenomena under investigation.

6.3.1 A strong learning culture supports patient safety

The survey findings identified organisational learning, continuous improvement, and communication about errors as strong areas of safety culture in the Saudi context. Likewise, the interview findings indicate the effectiveness of a learning culture in strengthening patient safety. The interview findings explained how Saudi staff perceive the links between learning and safety. For example, staff believed that a culture of learning in the hospital setting enhanced open communication and feedback about errors and safety issues without fear of punishment. Aljaffary, Albaalharith, Alumran, Alrawiai, and Hariri (2022), stated in their cross-sectional study about patient safety culture in the Eastern Province of Saudi Arabia, they were able to identify three crucial elements pertaining to errors: blame, fear, and silence. In a systematic review of the factors contributing to patient safety culture in Saudi Arabia, the authors suggest that Saudi healthcare policymakers should consider the following elements that have the potential to foster a culture of patient safety: practicing a blame-free culture, better leadership and communication skills, the ability to learn from mistakes, and the incorporation of patient viewpoints into safety programs (Albalawi, Kidd, & Cowey, 2020).

These elements must be addressed for healthcare institutions to build a safety culture and a continuous learning environment. This is useful in terms of encouraging staff to work cooperatively and share information and be aware of the importance of maintaining a strong patient safety. Further, the positive impacts of learning culture in hospitals, such as facilitating communication, cooperation, and sharing information, were also described by the staff as contributing to an acceptable and safe patient care.

A culture of learning in the hospital also leads to a sense of safety for patients, as the staff is cohesive, cooperative, and willing to provide safe and appropriate quality service on time. In addition to helping staff learn from their mistakes, reporting errors is an important first step in reducing the likelihood of harm coming to patients. Therefore, instituting a healthy working environment will be fostering confidence and trust among hospital staff and patients, which is essential for encouraging learning culture and collaboration to ensure patients and staff understand how things may have gone right or wrong from different perspectives, where everyone is included, and lessons have been learned. To enhance confidence, trust and patient-staff relationships, patients' cultural backgrounds, such as values, beliefs, and traditions, should be considered to provide safe and personalised care.

The safety culture survey findings are consistent with the literature on patient safety culture in the Saudi hospital context. For example, organisational learning and teamwork improvement were strong in both the Saudi literature and in this current study (Al Muharraq et al., 2024; Alquwez et al., 2018; Alswat et al., 2017). Likewise, the lowest scoring amongst the domains in this study and the literature, are staffing and non-punitive response to error (Al Muharraq et al., 2024; Alquwez et al., 2018; Alswat et al., 2017). This suggests no major changes in the trends over time and suggests the need for improving patient safety with a different approach. For example, not only identifying areas for improvement but also learning from how things work well in the current Saudi safety culture, and valuing both staff and

patient perspectives.

There is an ongoing gap between the strong Saudi learning culture and staff responsiveness that needs to be dealt and planned by healthcare administrators and leaders. Despite staff reporting high scores for positive learning culture and communication about errors in Saudi hospitals, patients perceived staff responsiveness to be low. This pattern of results is consistent with the Saudi safety culture metrics where staff responsiveness has been identified as an area that requires improvement (Saudi Patient Safety Center, 2023). Managerial buy-in to patient safety measures resulting from a blame culture, which in effect reduces organisational learning and continuous improvement, is another obstacle to building a robust patient safety culture in Saudi Arabia (Alaska & Alkutbe, 2023). Therefore, there is a need to shift the blame or current culture to a 'just culture'. A just and learning culture creates a balance between justice, fairness, learning, and accepting responsibility for actions, which is not about blaming individuals, aiming to enhance trust, safety and open reporting system (S. Dekker, 2018; S. W. Dekker & Nyce, 2013; Horstman & Naik, 2015; Kim & Yu, 2021; van Marum, Verhoeven, & de Rooy, 2022; Wiśniewska, Grudowski, & Marjańska, 2020). In other words, encouraging open, blame-free discussion improves staff confidence and patient engagement.

Hospital management should therefore consider a more proactive approach of thinking about safety by focusing on exploration of daily work routines, including communication, responsiveness, and culture (Safety II), not just targeting adverse outcomes (Braithwaite et al., 2015; Patterson & Deutsch, 2015; Woodward, 2019). Current rules, policies and actual practices in the Saudi patient safety context still mainly use the lens of Safety I, which limits the exploration and learning from daily safety practices, from different perspectives, including both staff and patients.

According to published literature, the primary obstacles that serve to impede the

development of a healthy patient safety culture in Saudi Arabia are ineffective leadership, a culture of blame, excessive workloads and inadequate staffing, and poor communication. As an alternative, the ‘strength' elements that contributed to a healthy culture of patient safety included supportive organisational attitudes toward learning and continuous development, effective teamwork within units, and support from hospital management for patient safety (Albalawi et al., 2020). Also, valuing cultural competence in a hospital setting not only values patient cultural diversities but can promote patient involvement and patient-centred care, which is an essential aspect of a positive patient experience (Tang et al., 2019).

6.3.2 Cultural competence influences Saudi patient safety

The mixed-method design of the PhD study provided a chance to identify novel safety and quality aspects that intersect both safety culture and patient experiences in the Saudi context. For instance, the interview findings revealed that patients and staff viewed healthcare services through a cultural lens, which impacts their thinking about safety and patient care. Almutairi, McCarthy, and Gardner (2015) found that nurses from different cultural backgrounds working in culturally diverse settings in Saudi Arabia had difficulty with cultural competence in relation to both their own and the prevailing Saudi cultural norms and expectations. An orientation for cultural competence is critical in the Saudi context, but the staff's diverse cultural backgrounds should also be considered to facilitate the delivery of culturally safe patient care.

Betancourt, Green, Carrillo, and Ananeh-Firempong (2003) defined cultural competence in health care as *“understanding the importance of social and cultural influences on patients’ health beliefs and behaviors; considering how these factors interact at multiple levels of the health care delivery system (e.g., at the level of structural processes of care or clinical decision-making); and, finally, devising interventions that take these issues into account to assure quality health care delivery to diverse patient populations*.” (pp. 118).

Cultural competence thus reflects the ability of healthcare staff to be more proactive in terms of patient safety, and understand and respect different values, beliefs, and attitudes and address these differences safely when planning and delivering health services.

Considering that Saudi Arabia is a common destination for the international health workforce, when there is a lack of orientation for cultural competency (regarding religion and culture, for example), or a language barrier, nurses are less able to give adequate care to their patients (Alosaimi & Ahmad, 2016). The interviewed staff understood the significance of language in terms of cultural competence, particularly when they began working directly with patients. Thus, including cultural competence in Saudi safety measures may help to capture possible underlying reasons or unseen factors influenced by staff cultural orientations that impact on safety and patient care, particularly when staff and patient are from different backgrounds.

The positive impact of cultural competence is interesting because participants talked about it in the interviews, and it was (perhaps indirectly) included in the HCAHPS (patient experience survey), but not clearly included in the HSOPSC (safety culture survey). For example, questions in the patient experience survey like: "During this hospital stay, how often did nurses treat you with courtesy and respect?" or "During this hospital stay, how often did doctors treat you with courtesy and respect?" and "During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left", may indirectly assess the cultural competence required by staff to involve the patient and promote a safe patient experience as well as affecting communication among/between staff and patients. Even though the surveys do not explicitly measure cultural competence, previous research has suggested it is related to the quality of decision-making among staff, alongside cultural awareness and sensitivity especially in the Middle Eastern region, and particularly in Saudi Arabia (Manlangit, Jabonete, & Ridulme,

2022). This suggests that cultural competence may directly influence staff decision making in providing patient care, thus, also potentially affecting their responsiveness attending to the needs of the patient.

There is evidence in the literature that cultural competence in the healthcare context positively enhances patient satisfaction and patient experience of care (Castro & Ruiz, 2009; Tang et al., 2019), as well as improved patient outcomes and decreased disparities in patient experiences (Castro & Ruiz, 2009; Weech-Maldonado et al., 2012). Patients who feel heard and respected report higher levels of trust in the staff, which can support the further development of healthcare providers' cultural competence - e.g. having access to information, support, resources, and opportunities that allow one to attain goals and mobilise resources to accomplish patient goals. Falatah, Al-Harbi, and Alhalal (2022), explored the associations between cultural competency and other variables like structural empowerment and effective communication, among nurses in Saudi Arabia. However, only effective communication was found to have a significant relationship to structural empowerment among staff in terms of patient safety and culture. Taken together, this suggests that cultural competence builds a safe working culture that considers various patients' backgrounds and perspectives, eventually promoting patient safety (Upadhyay, Stephenson, Weech-Maldonado, & Cochran, 2022; Weech-Maldonado et al., 2012).

The interview findings uncovered 'cultural competency' as an underlying factor that intersects both safety culture and patients' experiences of care. However, conceptualisations of 'safety culture' in the current literature do not clearly include 'cultural competence' in their frameworks and measures. As such, studies that only use pre-existing survey tools do not recognise nor measure cultural competency, which may have implications for the interpretation of findings, particularly where there is diversity in the patient population and/or the health workforce. It is important to work more proactively with cultural competence data

from both staff and patients in identifying risks and improving the safety system.

The interview findings suggest that cultural competence among staff in the Saudi context may be fostered by a continuous learning environment that encourages staff to understand and respect diverse patient backgrounds, beliefs, and communication approaches/styles. This inclusivity enhances patient trust, improves compliance with treatment plans, and limits possible errors caused by miscommunication or cultural misunderstandings among staff and patients. In a learning-focused healthcare setting such as in the hospital, staff cultural awareness can drive ongoing education, ensuring that providers adapt to evolving patient demographics and needs. Staff considering cultural competence can facilitate training and culturally-appropriate protocols, and help build capacity to deliver more personalised, safe, and effective patient care, ultimately strengthening patient safety and improving health outcomes across diverse patients. A hospital's ability to learn and adapt, impacts patient care and safety by emphasising resilience and proactive improvements. However, such improvements can also be impacted by hospital staff's views and biases, which could affect staff decision-making and patient health outcomes.

In a nutshell, the data from the qualitative and quantitative studies were not always consistent with one another, and showed some divergence. Even though the surveys indicate that participants reported a culture of communication that is moderately strong, the interviews shed light on more profound insights relating to cultural competency that were not entirely captured or explicitly measured in the quantitative data. The staff noted that cultural competency has a direct influence on patient safety. This is because it allows them to satisfy the needs of patients while also ensuring that cultural barriers do not undermine care. Higher levels of trust in the staff were reported by patients who reported feeling heard and appreciated by the health team.

6.3.3 Feeling Safe

Turning to the patient's perspective, the term 'cultural safety', in the healthcare context, refers to an approach that assures patient care is delivered in an approach that considers cultural identities, values, and patient needs. This goes beyond the concepts of cultural awareness and competence (which often focuses on knowledge and skills) as discussed earlier. Instead, cultural 'safety' is focused on addressing power imbalances, biases, and injustices that may impact a patient's experience of care (Curtis et al., 2019). This leads to an environment where patients feel safe, respected, and empowered to express their cultural needs and preferences (Curtis et al., 2019).

The concept of 'cultural safety' originated in New Zealand within Māori healthcare contexts (Ramsden, 2002), but has since been widely used in other countries, mainly in Indigenous and minority health contexts. It highlights that the patient is the main determinant of whether healthcare interactions are 'culturally safe'. According to Blanchet Garneau, Farrar, Fan, and Kulig (2018) cultural safety can significantly enhance the responsiveness of healthcare services to the unique needs of Indigenous patients, thereby improving health outcomes (Blanchet Garneau et al., 2018). Cultural safety not only empowers patients but can also encourages health staff to engage in critical reflection about their practices and biases (Johnson-Jennings, Walters, & Little, 2018).

In general, the application of 'cultural safety' is not limited to Indigenous communities but can also be applied to various cultural groups (Blanchet Garneau et al., 2018). Thus, it's important to tailor health practices to meet the diverse cultural needs of various patient populations. Establishing cultural safety in the Saudi multinational health workforce requires a commitment to fostering an organisational culture that prioritises safety and inclusivity. This includes creating an environment where open communication is encouraged, and where healthcare professionals are trained to recognise and mitigate their biases (Herak, Neuberg, & Grgurović, 2023). The literature emphasises that a positive safety culture is characterised by

mutual trust, shared values, and a commitment to learning from errors, which are all necessary for enhancing cultural safety (O'Donovan, Ward, De Brún, & McAuliffe, 2019; Silva, Caldas, Silva Fassarella, & de Souza Patricia, 2021). For instant, Pereira, Ribeiro, Fassarella, and Santos (2023) found that nursing practice environments significantly influence patient safety culture, suggesting that supportive organisational structures are critical for effective implementation of cultural safety. The need for a comprehensive safety framework in the Saudi context to guide healthcare professionals in implementing cultural safety is critical. There is a need for more comprehensive approaches to address cultural disparities in healthcare context (Curtis et al., 2019; Darroch et al., 2017).

After conducting both surveys and interviews, I found that safety is a core priority and a worry that is shared by both the staff and the patients. In fact, the HCAHPS evaluates the whole hospital experience as well as the environment of the hospital, whereas the HSOPSC evaluates the effectiveness of management and staff approach in terms of patient safety (as a culture) and overall patient safety. As a result of the patients and staff realising that patient safety encompasses the process of ensuring that patients feel safe and confident in their care, the concept of "feeling safe" emerged as one central focus of this phenomena.

6.3.4 Open communication between patients and staff

Staff and patients perceived communication as a key aspect in promoting patient safety and quality of care. Effective communication among the staff and patients is essential for a transparent open culture in the hospital work environment and directly reflects and affects the patient experience of care. Prior studies highlighted the positive impact of communication on the relationship between safety culture and patient experience (Mazurenko, Richter, Kazley, & Ford, 2019; Smith, Yount, & Sorra, 2017). Healthcare organisations with strong patient safety cultures are often characterised by intense and open

communication based on mutual trust and shared perceptions about the value of safety (J. Sorra et al., 2016).

The interview findings indicated that when patients observed the staff communicating openly with each other in a supportive working environment, openly communicating and discussing patients' needs, sharing information and explaining things clearly to staff and patients, patients felt more valued and safer. This finding broadly supports the work of a prior study (Jang et al., 2022) that found that patients can recognise safety issues, such as poor communication and collaboration between health staff, which impact patients' feeling of safety during hospitalisation. This emphasises the importance of communication in a hospital context to positively influence patient feelings of safety. The interviewed patients with poor experiences of staff communication reported feeling uninformed about their care plans, while staff acknowledged difficulties in ensuring consistent, clear and transparent communication due to workload pressures and staffing shortage.

The interview results also showed that open, clear and transparent communication in the transition and coordination of health services reduces the likelihood of misunderstandings and delays and helps uncover errors or possible adverse events and delays. In other words, patient experiences can be improved when transition and care coordination are clearly communicated among staff and patients, so they can both better understand patients' issues, processes and available options for safe treatments or solutions. Enhancing communication allows patients' care processes to progress more efficiently, safely and comfortably for both patients and health staff (Lang, 2012).

The research findings revealed the importance of patient perspectives and feedback on safety, particularly in aspects of safety culture such as communication, teamwork, and learning culture (and cultural competence/safety - as discussed earlier). The results suggest

that patients can recognise and experience important aspects of safety culture in different ways, such as through capturing perspectives about the level of communication among health workers, care transition, teamwork, support, engagement, speaking up and share concerns, reporting errors or issues, and sharing information comfortably. By comparing the survey and interview findings, the mixed-method research revealed that both staff and patient involvement in safety improvement efforts is necessary to allow safety culture to flourish and improve patient safety. To obtain a positive safety culture that matters to staff and patient, both staff and patient perspectives should be considered to deliver safe and positive patient care supported by staff safe practices.

The patient role in patient safety has long been recognised in the literature (Bishop & Cregan, 2015; Hor, Godbold, Collier, & Iedema, 2013). The patient voice is increasingly included in other aspects of healthcare delivery, but not always included in evaluations of safety culture, mostly conducted using quantitative tools.. In fact, measures of patient experience do pay attention to aspects of safety. For instance, communication, transitions of patient information/care and safe environments are domains of both safety culture and patient experience. Also, the lower level 'responsiveness' of hospital staff (discussed earlier) and staffing can be seen via patient experience of poor staff responsiveness.

It has been recognised recently in the literature that instruments for assessing patient perceptions could be adapted to incorporate questions regarding patient safety, such as the Patient Measure of Safety (PMOS) and Patients' Perceptions of Safety Culture (PaPSC) (Bishop & Cregan, 2015; Do et al., 2021; Lawton et al., 2015; Monaca et al., 2020). This would enable patient perceptions of safety to be assessed, and the findings employed to effect enhancements in safety culture. Although the PMOS and PaPSC scales were developed specifically to capture patients' feedback on the safety of their care, the PMOS was based on the Yorkshire Contributory Factors Framework (YCFF) to capture patient feedback regarding

the contributing factors to patient safety incidents (Giles, Lawton, Din, & McEachan, 2013) which was developed based on input from healthcare professionals alone (Lawton et al., 2012). Likewise, the PaPSC scale was also developed based on staff perceptions. Although these scales are administered to patients, they may not fully reflect the patients' perceptions of safety culture, if there are other aspects of safety culture that are important to patients.

Safety culture (HSOPSC) and patient experience (HCAHPS) surveys as well as interviews emphasise the central role of communication in promoting patient safety and care. HSOPSC data indicate moderate communication openness but also highlight gaps between communication and lower scores of handoffs and transitions. HCAHPS data reinforce these gaps, particularly in lower scores for communication about medication and discharge processes. Likewise, interviews confirm that transparency and open communication empower patients and contribute to cultural safety by ensuring they understand their care.

When considering both the quantitative scores and qualitative perspectives pertaining to communication, there were also diverging results. Staff members acknowledge the value of open communication but note that hierarchy and blame-aversion prevent it from flourishing. Interviewed patients dissatisfied with unclear or conflicting interpretations or information may express their frustration during care transitions. Moreover, several patients felt disempowered due to a lack of understanding and participation in their treatment and care decisions, and they wanted their voices heard more clearly. In terms of communication openness, staff scored this only moderately on the HSOPSC, while in terms of feedback about errors, staff scored this relatively high. Employees seem to believe there are channels for airing worries and hazards. It appears however that patients may not always experience the same degree of openness in communication, as their scores on the HCAHPS show that there are gaps in communication on medications and during care transitions.

6.3.5 Sustaining sufficient competent staff to enhance cultural responsiveness

Another important aspect that appears to play a critical role across both safety culture and patient experience is staffing. In the safety culture (HSOPSC) survey findings, staffing level had the lowest composite score (34.5%). The interview findings showed that staffing was also felt to be integral to safety by both staff and patients.

These findings align with the existing literature on the links between patient safety culture and patient experience or satisfaction, highlighting the impact of staffing (Abrahamson, Hass, Morgan, Fulton, & Ramanujam, 2016; Monaca et al., 2020; Okafor, Ugwu, & Okon, 2018; J. Sorra et al., 2012). A sufficient level of skilled staff ensures a good and safe working environment and creates a reasonable and manageable safe workload. Consequently, this enables staff to deliver high-quality care on time, focus more on patient requirements/needs, patient education, sharing information, and limiting the possibility of errors or adverse events. There is strong evidence in the literature that sufficient staffing levels also enhance the work environment and promote patient satisfaction and experience of health services (Bolton et al., 2003; Kutney-Lee et al., 2009). Griffiths, Simon, Richardson, and Corner (2013) investigated whether a large workforce/staffing level is associated with better patient experience, and found that a higher staffing level improves the patient experience, especially coordination of care and emotional support. Moreover, staffing levels may also affect patients' lives. Several studies have shown that high staffing is associated with low patient mortality rates (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Cho et al., 2015; Griffiths et al., 2019; Needleman et al., 2011).

The quantitative and qualitative findings about the critical role of staffing in the relationship between safety culture and patient experience are interesting, because participants talked about it in the interviews, and it was included (somewhat indirectly) in the HCAHPS (patient experience) survey. For example, questions referring to staff

responsiveness, like: “During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?” or “How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?” may be related to staffing levels. The HSOPSC (safety culture) survey tool more directly evaluates staffing by asking questions like: "We have enough staff to handle the workload" or "Staff in this unit work longer hours than is best for patient care" or "We use more agency/temporary staff than is best for patient care" and "We work in 'crisis mode' trying to do too much, too quickly". In fact, these findings also confirm the Saudi Patent Safety Centre concerns about staffing levels (Saudi Patient Safety Center, 2024).

The Saudi Patent Safety Centre highlighted staffing as the most important area for improvement in Saudi hospitals. In 2023, only 46.86% of the Saudi healthcare workforce felt that there were enough health staff to manage the workload within appropriate hours without feeling rushed (Saudi Patient Safety Center, 2023). In other words, more than half of the Saudi health workforce believes that staffing levels need to be improved to better manage workload pressures. In 2024, the Saudi Patient Safety Centre indicated that staffing remains low, and recommended staffing as an area for improvement in Saudi hospitals (Saudi Patient Safety Center, 2024). These issues have been reported by the MoH for several years and yet continue to occur. It is important to explore the possible reasons that may lead to insufficient staffing level, and the interview findings offer a clue. For example, turnover was mentioned in interviews findings as an important issue that contributes to staff shortages. Furthermore, turnover is seen to result in hiring new or less experienced staff, which, in turn, adversely affects the patient experience (and potentially, safety). Research has shown that low staff turnover levels are associated with better patient experience (Rave et al., 2003) and a strong safety culture (M. Zhang et al., 2022). According to Aiken et al. (2002), increasing staff members can reduce staff turnover.

The current HSOPSC safety culture survey asks questions about 'staffing', but not on related factors such as turnover. In fact, turnover is not always or clearly included in the literature on safety culture frameworks as an aspect of safety culture, because it is mostly viewed as an organisational characteristic. Turnover can also be attributed to geographical location. In fact, hospital location has been identified as a critical factor contributing to the high turnover rate in hospitals (Bae, 2023). Rural or regional hospital locations may limit the available amenities, resources, development opportunities and educational or specialised training courses, which can contribute to a high turnover rate.

This reminds us that safety culture and patient experience are multi-faceted concepts, impacted upon by many external factors that are not always under the control of health services. For hospital management to consider factors that are out of the hospital's control but can impact patient safety and patient care (indirectly, via staffing,), such as the availability of important resources and amenities, requires financial and non-financial resources, including salaries, facilities, and professional development.

The healthcare sector is one of the most important sectors in the Saudi government. According to the US-based International Trade Administration (2024), the Saudi government spent 60% of the Gulf Cooperation Council countries' expenses on healthcare. The interview results indicate that financial resources may be a critical factor in the Saudi health workforce performance and quality of care. In other words, hospital's financial resources are necessary for hiring adequate experienced health staff and reducing the turnover rate, which is reflected in a better and safe working culture for staff that fosters quality patient care and enhances patient experience. These findings suggest that hospitals with sufficient financial resources can maintain a reliable healthcare system and deliver continuous resources required for improving the safety and quality of healthcare and patient experience.

There is strong evidence in the literature that hospitals with stable financial resources have better patient experience, lower readmission rates and adverse events (Akinleye, McNutt, Lazariu, & McLaughlin, 2019; Everhart, Neff, Al-Amin, Nogle, & Weech-Maldonado, 2013). However, despite the fact that financial resources were made available in Saudi hospitals for improving the quality of health services (M. Al-Hanawi et al., 2019), costs are increasing and still there is a demand for experienced health staff to provide better care to the growing Saudi population (Zawawi & Al-Rashed, 2020) without impacting staff workload and quality and safety of healthcare services.

Whilst there is a clear need to attend to what happens between staff who are currently employed; at the same time, having adequate staffing and limiting turnover cannot be neglected, because participants and the literature have identified these as important factors to support a culture of safety and high-quality patient experience. One effective way to limit the negative impacts of staffing and turnover on hospital financial and human resources as well as hospital patient safety and quality of care is to focus on safety culture from the perspectives of staff and patients, and what matters to them in the practice.

6.4 Implications

The findings of this study underscore the intricate connections between patient safety culture and patient care, highlighting key areas that impact on patient safety for both staff and patients. By integrating a Safety II approach and considering cultural safety and competence, healthcare systems can shift from a reactive stance to a proactive, resilience-driven approach that prioritises learning, open communication, and cultural responsiveness. The following sections outline the implications of this research for policy, research, policy, and practice, emphasising strategies to enhance patient safety.

6.4.1 Implications for policy

- Policymakers should prioritise sustainable workforce planning by addressing staffing shortages, ensuring adequate nurse-to-patient and doctor-to-patient ratios, and investing in staff well-being initiatives. Strategies such as recruitment incentives, improved retention policies, and workload management should be implemented to enhance both patient safety and staff performance.
- Establishing clear and transparent communication between healthcare providers, patients, and families is critical, particularly for care transitions, medication safety, and error disclosure. Additionally, fostering staff teamwork and patient-staff partnerships can improve safety outcomes by ensuring that patients are actively and safely involved in decision-making and care planning.
- Encouraging learning cultures and nonpunitive reporting systems will support systemic performance improvements. Policymakers need to mandate nonpunitive reporting systems that encourage staff to report errors and near misses without fear of blame. Investing in feedback loops, open communication, and cultural competence will help shift from a Safety I approach (focusing on preventing failure) to a Safety II approach (learning from everyday clinical work to improve patient safety).
- Policies should support the development of structured and clear discharge planning and follow-up care coordination to enhance patient safety during care transitions. Empowering patients in safety via shared decision-making models, and culturally safe care initiatives would lead to improvement of patient engagement in their safety.

6.4.2 Implications for practice (for hospital management and staff)

- Staff should actively engage in team-based communication strategies and cultural competency training to bridge gaps in patient-provider interactions.
- Hospital management need to promote a Safety II mindset in the Saudi hospital,

where staff focus on proactive learning and adaptation, to enhance both patient safety and patient experience.

- Hospital management should address workforce limitations through collaborative care strategies will help enhance staff response issues and improve patient perception of care.
- Consider other organisational factors that may directly or indirectly impact staffing and reflect on patient experience, such as turnover.
- Evaluate staff turnover and burnout and apply appropriate interventions.
- Maximise the use of non-financial resources and enhance communication, teamwork, information exchange, and collaboration by building a learning culture that respects staff and patients.
- Build a learning and non-punitive culture that enhances transparency in the reporting system to encourage health workers to report safety issues without fear of punishment, and facilitate continuous improvement.
- Encourage safe inclusion of patients and their families in safety protocols and decision-making processes, and provide the necessary information and resources that enable patients to participate in their care safely.
- Implement and participate in training and professional development programs on patient safety II.

6.4.3 Implications for research

- Academics in safety, quality, and patient experience should further explore how cultural competence, the challenge of open communication for patient empowerment, the issue of staffing and turnover impact patient safety in the Saudi context.
- More research is needed on how proactive safety approaches can enhance real practices of healthcare adaptability, and how staffing constraints impact both safety

culture and patient experience.

- Researchers should also adopt a Safety II perspective, and take a strengths-based approach to examine and better understand strong areas in managing patient safety.
- Develop comprehensive patient-centred tools to measure the effect of local patient safety practices on patient experience, ensuring these measures represent patients' perspectives.
- Frameworks on the intersection between patient safety culture and the patient experience were not clearly described in the Saudi patient safety literature. Thus, future investigations may benefit from developing a conceptual framework that allows researchers to test and develop their understanding of the impact of patients' experiences intersection with safety culture on safety improvement in another region of Saudi Arabia. This enables healthcare staff to understand and comprehend patient needs and create an effective strategy for enhancing patient safety culture that aligns with patients' needs.
- Explore factors, barriers, and facilitators for enforcing a strong safety culture and safe patient experience in different healthcare contexts. Further qualitative investigation is required across different hospitals and healthcare systems to assess the impact of safety culture interventions on patient experience outcomes and identify best practices and effective strategies in fostering a positive safety culture to flourish and improve patient experience.

Chapter 7: Conclusions

This chapter presents a summary of the thesis including key findings, answers to the research questions, significance of findings, and research limitations.

7.1 Summary of the thesis

The thesis used a mixed-methods approach to address the aimed of exploring the intersections of patient safety culture and patient experience, and understanding their implications on patient safety in the Eastern Region of Saudi Arabia. A scoping review was conducted to synthesize existing literature on the relationships between patient safety culture and patient experience in hospital settings. This review provided an understanding of current evidence and gaps in the literature. Next, staff-reported safety culture and patient-reported experiences were assessed using validated surveys. Data were collected from hospitals in the Eastern Region of Saudi Arabia to evaluate perceptions of safety culture and patient experiences quantitatively. Next, I explored staff and patients' perceptions of patient safety culture and patient experience via semi-structured interviews. These interviews provided deeper insights into how these concepts intersect and influence patient safety in practice. The thesis findings offer a holistic view of safety culture and patient experience, and their impact on patient safety in the hospital context.

7.2 Key findings

The findings highlight both strengths and areas for improvement in hospital patient safety culture and patient experience. Lower ratings of care transitions and staff responsiveness highlighted gaps in continuity of care and patient-centred communication channels. Staff perceptions at times reflected a Safety I approach, focusing on error prevention and corrective measures. While organisational learning and feedback on errors were considered strong

aspects of safety, concerns about staffing shortages and a lack of a non-punitive response to errors suggest barriers to open reporting and continuous improvement.

The findings also emphasised aspects of a Safety II approach, including the importance of a continuous learning culture, open communication, and cultural competence in ensuring cultural safety in practices that are inclusive, respectful, and free from power imbalances. While teamwork and adaptability were recognised as strengths, concerns about transparency in patient involvement remained. Further, the findings suggest that patients should be more actively involved in safety improvement efforts, particularly through clearer communication, shared decision-making, and greater transparency in care transitions. Overall, while hospitals are committed to patient safety, fostering Safety II principles via creating a more supportive learning culture, and strengthening cultural safety and patient involvement in safety, would be essential for driving meaningful improvements in patient safety. Safety management should not only be reactive, but proactive as well.

7.3 Significance of findings

This research represents the first mixed-method research in Saudi Arabia to use both staff-reported safety culture, patient-reported hospital experiences, and interview data, providing a dual-lens comprehensive approach. Previous research often separated safety culture from patient experience, but this study bridges the gap by exploring the staff and patient perceptions of safety culture and care and their implications on safety, to obtain a more comprehensive understanding of Saudi hospital patient safety in practice.

By utilising survey findings and qualitative interview data, this study moves beyond numerical scores to provide deeper insights into the lived experiences of both patients and staff, shedding light on critical aspects such as integrating cultural competence, patient involvement in safety initiatives, and the shift toward Safety II principles, which consider the

learning from everyday successes to enhance patient safety. The study highlighted important aspects such as cultural competence, cultural safety, the challenge of open communication for patient empowerment, and the issue of staffing and turnover as issues not as often discussed in the safety culture or patient experience literature, yet clearly seen as important to staff and patients, in their impacts on safety in the Saudi context.

This study showed that patient safety in Saudi hospitals predominantly operates within the idea of Safety I, emphasising error prevention and correction. However, both staff and patients also recognise the need for a transition toward Safety II principles. This research therefore provides insights and evidence-based recommendations to policymakers and hospital leaders aiming to foster a more proactive, learning-oriented approach to patient safety. The findings are particularly meaningful in the Saudi context, where rapid healthcare development and reforms are ongoing.

7.4 Research limitations

This research project has been conducted only in the Saudi context, and the majority of patients were locals. Differences in ethnicity and national cultures could play an important role in patient experience. Thus, it may be the case that in other countries or cultures, the perceptions of participants could vary. It is important to consider elements that may have an indirect effect on patient safety culture and patient experience, particularly in ethnic or national cultures where this area of research has not yet been investigated. Moreover, hospital safety culture may be quite localised, and may be difficult to assess across larger organisational units. The research canvassed the opinions of staff and patients across several hospitals, which represent broad findings about general medical wards in the Eastern region; however, each ward may vary in workplace culture in important ways that were not examined in this study.

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Appendices

Appendix 1

Alabdaly, A., Debono, D., Hinchcliff, R., & Hor, S. Y. (2021). Relationship between patient safety culture and patient experience in hospital settings: a scoping review protocol. *BMJ open*, *11*(5), e049873.

Open access Protocol

BMJ Open

Relationship between patient safety culture and patient experience in hospital settings: a scoping review protocol

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ABSTRACT

Introduction Hospitals commonly examine patient safety culture and other quality indicators to evaluate and improve performance in relation to quality and safety. A growing body of research has separately examined relationships between patient safety culture and patient experience on clinical outcomes and other quality indicators. However, there is a knowledge gap regarding the relationship between these two important domains. This article describes the protocol for a scoping review of published literature examining the relationship between patient safety culture and patient experience in hospital settings. The scoping review will provide an overview of research into the relationship between patient safety culture and patient experience in hospital contexts, map key concepts underpinning these domains and identify research gaps for further study.

Methods and analysis The scoping review will be conducted using the five stages of Arksey and O'Malley's framework: identify the research question; identify relevant studies; study selection; chart data; and collate, summarise and report the results. The inclusion criteria will be applied using the Population, Concept and Context Framework. Searches will be conducted in the CINAHL, Cochrane Library, ProQuest, MEDLINE, PsycINFO, Scopus and SciELO databases, without applying date range limits. Hand-searching of grey literature will also be performed to find relevant, non-indexed literature. Data will be extracted using a standardised data extraction form developed by the Joanna Briggs Institute. Both descriptive and thematic analyses will be undertaken to scope key concepts within the body of reviewed literature.

Ethics and dissemination This type of study does not require an ethics review. The results will be submitted for publication in a peer-reviewed journal and presented at conferences.

Strengths and limitations of this study

- The study will examine the relationship between patient experience and patient safety culture in accordance with recent refinements to Arksey and O'Malley's framework for scoping reviews.
- It will explore the ways in which these domains have been conceptualised and methodologically measured or described and will map theoretical links between key concepts.
- A comprehensive search strategy will be applied, involving six bibliographical databases, without limits on study design or publication date.
- Studies not in English or Arabic languages will be excluded; this could result in relevant resources not being captured.

INTRODUCTION

Enhancing the quality of hospital services by improving patient safety culture is an increasing focus of practical action and research interest in health systems.[1 2] The quality of health services can be improved through embedding a safe and reliable culture, supported by managers who understand its influence on organisational performance, including clinical outcomes.[3 4] However, there is limited literature investigating the interaction between patient safety culture and patient experience, unlike the extensive research on these concepts individually.

Patient safety culture has been defined as the shared beliefs, attitudes, values and norms, which influence the behaviours and attitudes of employees, with respect to patient safety.[5] Weaver *et al*[6] assert that the terms 'safety culture' and 'safety climate' are frequently employed in an interchangeable manner despite their different meanings. For instance, patient safety culture represents a component of organisational culture[7] that is related to the consonance of behavioural patterns, beliefs and values related to the safety of patients, which are common among representatives of a particular entity,[8–11] and empowers decision-making.[12] Safety climate, conversely, is considered as the outer layers of safety culture,[13] more often measured at a defined time point.[6] From this perspective, patient safety culture is the deeper/inner shared perceptions and developed over time,

while safety climate refers to a snapshot of the shared perceptions (surface perceptions).

Patient experience has been defined as patient 'perceptions of phenomena for which they are the best or only sources of information, such as personal comfort or effectiveness of discharge planning' (Hagerty*et al*,[14] p1). Patient experience requires patient involvement (especially patients with long-term conditions) in reporting their own experiences, including their perspectives of staff–patient communication, availability of information, their involvement in decision-making[15] and their own safety.[16]

The concept of patient experience usually appears in studies focused on designing and enhancing health services based on patient feedback. In this context, the collection, analysis and application of patient experience data is widely considered a reliable approach for providing patient-centred health services.[17] Providing patient-centred care, informed by patient experience, requires a cultural change from traditional approaches in which patients are viewed as passive recipients of care to more recent approaches that conceive of patients as partners in their care.[18]

In the literature, the terms 'patient satisfaction' and 'patient experience', which can mean quite different things, have sometimes been used interchangeably.[19] While patient experience records, from a patient's perspective, what actually happened to the patient in a healthcare setting, patient satisfaction records whether the patient's experience met his or her expectations. Differences in patient satisfaction ratings for the same patient experience can reflect differences in individual's expectations.[20]

AIM AND OBJECTIVES

There has been much effort internationally to improve patient safety, but serious incidents continue to occur in hospital settings. This makes it important to consider patients' experiences of patient safety culture in hospitals and how safety has been conceptualised by healthcare workers.

The objective of this protocol is to: articulate the design of a scoping review aiming to explore and synthesise existing research literature regarding patients' experiences of patient safety culture in hospital settings; map the multiple perspectives and key concepts underpinning the research area; and identify research gaps. The results of this review will offer information for health organisations, researchers, healthcare professionals, policy and decision-makers, and patient groups.

METHOD

A scoping review is defined as an approach that 'aim[s] to map rapidly the key concepts underpinning a research area and the main sources and types of evidence available, and can be undertaken as stand-alone projects in their own right, especially where an area is complex or has not been reviewed comprehensively before' (Mays *et al*,[21] p194). In 2005, Arksey and O'Malley built on this definition and provided a methodological framework that researchers can apply to their topic.[22] This study will follow the five stage framework of Arksey and O'Malley for a scoping review,[22] which was refined by the Joanna Briggs Institute[23]:

- Stage 1: identify the research question.
- Stage 2: identify relevant studies.
- Stage 3: study selection.
- Stage 4: chart data.
- Stage 5: collate, summarise and report the results.

The study will also follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (online supplemental appendix 1).[24]

PATIENT AND PUBLIC INVOLVEMENT

No patient is involved in this study.

Stage 1: identify the research question

Research questions developed initially for scoping reviews are commonly refined during the process of iterative development prior to finalisation. The research question for this study is: *"What is known regarding the relationship between patient safety culture and patient experience in hospital settings?"*

Stage 2: identify relevant studies

Search terms and eligibility criteria

The inclusion criteria for the scoping review will follow the Population, Concept and Context (PCC) framework recommended by the Joanna Briggs Institute for this type of study.[23] The PCC framework will be used instead of the more traditional Population, Intervention, Comparison and Outcome model, usually used for systematic reviews, because the research question does not focus on aggregating and determining the strength of evidence supporting a specific intervention.

The inclusion and exclusion criteria based on the PCC framework

Inclusion criteria

Population

- Healthcare providers in hospital contexts, including management, clinical and non-clinical staff.
- Patients who have received healthcare services in hospital settings, irrespective of demographic characteristics.

Concept

- Any article that focuses on patient safety culture, safety climate or organisational culture, in addition to patient experience or patient satisfaction.

Context

- Hospital setting.

Exclusion criteria

- Studies not reported in English or Arabic languages.

Search plan

The electronic database search will be guided by the Boolean operators 'AND' and 'OR' to refine search strategies. Each search result gleaned from the included studies will be documented and stored in Endnote V.x9 (Clarivate Analytics), and then duplicates will be deleted. The following keywords will be used to construct the search strategies: ("safety culture" OR "patient safety culture" OR "safety climate" AND "patient experience" OR "patient satisfaction" OR "patient experience measure" OR "patient satisfaction measures" OR "quality indicators" OR "Quality Indicators, Health Care" AND "healthcare" OR "hospital" OR "Hospitals"). Online supplemental appendix 2 presents the developed search strategy in one of the selected databases (the Cochrane Library).

The review will use the three-step search phases proposed by the Joanna Briggs Institute.[23] In the first phase, an initial search in two electronic databases (CINAHL and MEDLINE) appropriate to the research title will be conducted. The first search will be followed by screening the titles and abstracts of identified articles, and of the index terms used to describe the papers.

In the second phase, an additional search using all retrieved search and index terms will be undertaken across all included databases (CINAHL, Cochrane Library, ProQuest, MEDLINE, PsycINFO, Scopus and SciELO). Then, the titles and abstracts of articles for inclusion will be screened, followed by screening of the full text of potentially relevant studies to determine the final inclusion.

In the third phase, the reference lists of the final included studies will be screened for additional studies of relevance. Targeted searches for grey literature will be conducted via online hand-searching in the websites of relevant organisations in Australia and internationally, such the Agency for Healthcare Research and Quality, the Australian Commission for Safety and Quality in Healthcare, the Agency for Clinical Innovation, National Institutes of Health and Google Scholar.

Stage 3: study selection

The study selection stage will be conducted in two phases. The first phase involves the review of titles and abstracts. One reviewer (AA) will evaluate all titles and abstracts to determine whether each paper meets the eligibility criteria. Studies will be categorised as 'included', 'excluded' or 'not sure'.

Any references screened as included and not sure in the first phase will be considered for full-text review. Three reviewers (SH, DD and RH) will each screen a random sample of 10% of titles and abstracts of studies screened as included, excluded or not sure against the selection criteria. If differences arise, all reviewers will consult to reach consensus.

Stage 4: chart data

A data extraction table will be developed to compile the data extracted during the scoping review. Online supplemental appendix 3 (attached as a separate file) contains an example of the extraction form that will be used in the study. One reviewer (AA) will extract the data from the included studies. The accuracy of the data extraction exercise will be verified by three reviewers (SH, DD and RH). Any discrepancies will be discussed during the group meetings until all the reviewers agree as to what data should be included or excluded.

Classification of data extraction:

- Author/s.
- Country.
- Aims/objective(s).
- Methodology/methods.
- Inclusion/exclusion criteria (eg, PCC).
- Types of intervention (if applicable).
- Measurement of outcomes (if applicable).
- Key results that relate to the review question.

Stage 5: collate, summarise and report the results

The methods that will be used during the research process will allow the investigators to synthesise existing literature that address this diverse field of research and develop a summary report that contains the following:

- A descriptive analysis will map the existing data and present the data distribution of studies in accordance with the date of publication and country of origin.
- A content analysis will present an outline of the theoretical and methodological strategies of the studies, and a thematic analysis will identify any prominent themes that emerge in relation to the research question and aims. The content of the included studies will be mapped broadly into three key categories:

A. Theoretical conceptualisations of patient safety culture and patient experience.
B. Measuring patient safety culture and patient experience.
C. Relationship between patient safety culture and patient experience.

ETHICS AND DISSEMINATION

The scoping review results will provide an overview of the relationship between patient safety culture and patient experience in the hospital context, and highlight areas where evidence is controversial or missing to identify priorities for further study. It does not require ethical approval as it will synthesise information that is already available from published research. The review results will be submitted to a peer-reviewed journal for publication and presented at relevant conferences.

Contributors AA is the principal investigator. All authors (AA, SH, DD and RH) were involved in the design of the protocol and contributed to the manuscript. All authors approved the final manuscript.

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Appendix 2

The interview guide.

Interview questions

1 - A. Question for staff: Please tell me about your role in the hospital and what you do in the unit you work in?

B. Question for patients: Can you tell me a little bit about your recent experience in the hospital? What it was like?

2 - What do you think of the concept of 'safety culture'? What does that mean to you?

3 - What do you think of the concept of 'patient experience'? What does that mean to you?

4 - These two concepts are usually talked about separately, but do you think that there is any relationship between the two? How so?

Prompt questions:

- Can you expand on this answer?
- Could you please provide some examples that you can think of?

5 - I'd like to learn more about how people communicate and work together in the unit, and the extent to which they feel supported. Can you tell me about that in your unit/your recent hospital experience?

Prompt questions based on the information provided in the participant answer:

- What worked well?
- Were there any challenges?
- Nurses and doctors spend more time with patients in the unit. Can you tell me more about their communication with each other and patients as well?
- Can you give some examples?
- I'm curious about how nurses and doctors collaborate and help one another while delivering patient care. To which extent do you think the staff are willing to help each other?
- How helpful were they for patients?

6 - A. Question for staff: Are clinicians in your unit eager to hear from patients to customise their care?

B. Question for patients: When reflecting upon your recent experience in the hospital unit, do you feel clinicians were eager to hear from you and took your advice on board to customise your care?

Prompt questions based on the information provided in the participant answer:

- Do you prefer more or less patient involvement? Why?
- Do you think that patients can play an important role in improving patient safety by becoming more involved in their health care?
- Do you think nurses and doctors on duty are always aware of crucial patient information such as medications, medical procedures, patient requests and so on after a shift change?
- Could you please give some examples?

7- A. Question for staff: Have you been involved in an incident related to patient care?

B. Question for patients: Did something go wrong or did an unexpected issue happen during your care?

If 'yes', would you like to talk a bit about it? What happened after that?

If 'no', move to question 6.

8 - Having an adequate workforce is known to improve the likelihood of high quality and safe care, and that can mean a minimum number of staff and the ratio of different types of groups.

Question for staff: In a typical day for you, do you feel there are enough staff on the ward?

Question for patients: When you were in the ward, did it seem that there were enough staff to look after you?

9 - Do you think that the patient room is usually clean and quiet? Are there any exceptions?

10 - A. Question for staff: Can you think of a recent example when a patient has made a complaint? What was that about? Can you tell me about what happened after that?

B. Question for patients: Did you make any complaints during your stay at the hospital? What was that about? Can you tell me about what happened after that?

Appendix 3

The Ethics approval letter

Dear Applicant

Re: ETH19-4550 - "Association between patient safety culture and patient experience in a hospital context in Saudi Arabia"

Thank you for your response to the Committee's comments for your project. The Committee agreed that this application now meets the requirements of the National Statement on Ethical Conduct in Human Research (2007) and has been approved on that basis. You are therefore authorised to commence activities as outlined in your application.

You are reminded that this letter constitutes ethics approval only. This research project must also be undertaken in accordance with all UTS policies and guidelines including the Research Management Policy.

Your approval number is UTS HREC REF NO. ETH19-4550.

Approval will be for a period of five (5) years from the date of this correspondence subject to the submission of annual progress reports.

The following standard conditions apply to your approval:

- Your approval number must be included in all participant material and advertisements. Any advertisements on Staff Connect without an approval number will be removed.
- The Principal Investigator will immediately report anything that might warrant review of ethical approval of the project to the Ethics Secretariat.
- The Principal Investigator will notify the Committee of any event that requires a modification to the protocol or other project documents, and submit any required amendments prior to implementation. Instructions on how to submit an amendment application can be found here.
- The Principal Investigator will promptly report adverse events to the Ethics Secretariat. An adverse event is any event (anticipated or otherwise) that has a negative impact on participants, researchers or the reputation of the University. Adverse events can also include privacy breaches, loss of data and damage to property.
- The Principal Investigator will report to the UTS HREC or UTS MREC annually and notify the Committee when the project is completed at all sites. The Principal Investigator will notify the Committee of any plan to extend the duration of the project past the approval period listed above.
- The Principal Investigator will obtain any additional approvals or authorisations as required (e.g. from other ethics committees, collaborating institutions, supporting organisations).
- The Principal Investigator will notify the Committee of his or her inability to continue as Principal Investigator including the name of and contact information for a replacement.

This research must be
undertaken in compliance with the Australian Code for the Responsible Conduct of Research and National Statement on Ethical Conduct in Human Research.

You should consider this your official letter of approval. If you require a hardcopy please contact the Ethics Secretariat.

If you have any queries about your ethics approval, or require any amendments to your research in the future, please don't hesitate to contact the Ethics Secretariat and quote the ethics application number (e.g. ETH20-xxxx) in all correspondence.

Yours sincerely,
The Research Ethics Secretariat

On behalf of the UTS Human Research Ethics Committees
C/- Research Office
University of Technology Sydney
E: Research.Ethics@uts.edu.au

Appendix 4

The participant information statement and consent

INTERVIEW PARTICIPANT INFORMATION SHEET

[ETH19-4550] - Association between patient safety culture and patient experience in a hospital context in Saudi Arabia

WHO IS CONDUCTING THIS RESEARCH?

My name is Adel Alabdaly and I am a PhD student at the University of Technology Sydney (UTS). My supervisors Dr Suyin Hor, Dr Deborah Debono and Dr Reece Hinchcliff are researchers at, and affiliated with UTS.

WHAT IS THE RESEARCH ABOUT?

The purpose of this research is to find out more about the associations between the patient perspective known as 'patient experience' and the shared ways of thinking about patient safety among hospital staff known as 'safety culture'. What we do not know about in the Saudi context, is patients' perceptions of safety culture in their health care experiences and what patients think is important about safety in relation to their health care. This research attempts to solve this problem by exploring the associations between patient safety culture and patient experience and what matters to the patient.

WHY HAVE I BEEN INVITED?

You have been invited to participate because you have filled out the online interview registration form, and you are either a doctor, nurse or manager, or a patient who has been discharged from the hospital.

Before you decide to participate in this research study, we need to ensure that it is okay for you to take part in this study. You can only participate in the study if you are an adult aged 18 years or over. Your contact details were obtained from the online interview registration form.

FUNDING

The investigator (Adel Alabdaly) is funded for a PhD scholarship from Imam Abdulrahman Bin Faisal University, Saudi Arabia.

WHAT DOES MY PARTICIPATION INVOLVE?

If you decide to voluntarily participate:

- I will ask you to participate in a semi-structured interview online via Zoom at a time that is convenient to you. With your consent the interview will be audio-recorded and transcribed to allow the interviewer to concentrate on the discussion and avoid any distraction to both the interviewer and the participants. You can still take part even if you don't want the interview to be recorded.
- You will be asked to answer questions concerning your perceptions about patient experience and patient safety culture, and the interview will last for 30- 45 minutes.
- Your information and answers will be de-identified after the interview is transcribed.

ARE THERE ANY RISKS/INCONVENIENCE?

Yes, there are some risks/inconvenience associated with participating in the interviews. To reduce the risk of inconvenience, the zoom interviews will be scheduled at a time that is most suitable to you. It is possible that you might experience concerns about privacy, job security, and feelings of embarrassment at being interviewed. Participation in the interview is entirely voluntary. You can choose not to answer any of the questions and/or stop the interview at any time. Doing so will not affect your relationship with the researchers or the hospital or healthcare staff. There is a small risk that you might experience distress when talking about a negative experience during the interview. If that happens, the researcher will ask you if you want to pause or stop the interview, and will offer you options that are available to you for support.

DO I HAVE TO TAKE PART IN THIS RESEARCH PROJECT?

Participation in this study is voluntary. It is completely up to you whether or not you decide to take part. If you decide not to participate, or to withdraw from the study, it will not affect your relationship with the researchers or the hospital or healthcare staff.

WHAT IF I WITHDRAW FROM THIS RESEARCH PROJECT?

If you wish to withdraw from the study once it has started, you can do so at any time without having to give a reason, by contacting . If you withdraw from the study, the transcripts and audio records will be destroyed.

However, it may not be possible to withdraw your data from the study results if these have already been used in analysis or published in a de-identifiable form. If you decide to leave the research project, we will not collect additional personal information from you, although personal information already collected will be retained to ensure that the results of the research project can be measured properly and to comply with law. You should be aware that data collected up to the time you withdraw will form part of the research project results. If you do not want us to do this, you must inform the researcher before you join the research project.

WHAT WILL HAPPEN TO INFORMATION ABOUT ME?

By signing the consent form you consent to the research team collecting and using personal information about you for the research project. All this information will be treated confidentially. All materials will be stored in secure OneDrive folders with password protection. The study data will be kept for five years, then it will be destroyed. The principal investigator Adel Alabdaly and supervisors (Suyin Hor, Reece Hinchcliff and Deborah Debono) will have access to the data. It is anticipated that the results of this research project will be published and/or presented in a variety of forums. In any publication and/or presentation, information will be provided in such a way that you cannot be identified.

Your information will only be used for the purpose of this research project and it will only be disclosed with your permission, except as required by law.
In accordance with relevant Australian and/or NSW Privacy laws, you have the right to request access to the information about you that is collected and stored by the research team. You also have the right to request that any information with which you disagree be corrected. Please inform the research team member named at the end of this document if you would like to access your information.

WHAT IF I HAVE ANY QUERIES OR CONCERNS?

If you have queries or concerns about the research that you think I or my supervisors can help you with, please feel free to contact us.

Adel Alabdaly, PhD student. Email [redacted], phone: [redacted]
Suyin Hor, Supervisor. Email: [redacted]

You can also speak to a local independent contact, General Director for research and studies at Ministry of Health Saudi Arabia on phone: [redacted] Ext: [redacted] or email: [redacted]

You will be given a copy of this form to keep.

NOTE:
This study has been approved in line with the University of Technology Sydney Human Research Ethics Committee [UTS HREC] guidelines. If you have any concerns or complaints about any aspect of the conduct of this research that you wish to raise independently of the research team, please contact the Ethics Secretariat on ph.: +61 2 9514 2478 or email: Research.Ethics@uts.edu.au], and quote the UTS HREC reference number. Any matter raised will be treated confidentially, investigated and you will be informed of the outcome.

CONSENT FORM

[ETH19-4550] - Association between patient safety culture and patient experience in a hospital context in Saudi Arabia

I _____ agree to participate in the research project being conducted by

Adel Alabdaly
PhD student, Faculty of Health, University of Technology Sydney, Sydney, Australia
Address: 15 Broadway, Ultimo NSW 2007
Phone: (02) 9514 2000
The principal investigator (Adel Alabdaly) is funded for a PhD scholarship from Imam Abdulrahman Bin Faisal University, Saudi Arabia.

I have read the Participant Information Sheet or someone has read it to me in a language that I understand.

I understand the purposes, procedures and risks of the research as described in the Participant Information Sheet.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time without affecting my relationship with the researchers or the University of Technology Sydney or my organisation.

I understand that I will be given a signed copy of this document to keep.

I am aware that I can contact Adel Alabdaly if I have any concerns about the research.

_____ ____/____/____
Name and Signature [participant] Date

_____ ____/____/____
Name and Signature [researcher or delegate] Date