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MASTER OF ARTS IN NURSING

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**PERCEIVED SAFETY ATTITUDES AMONG FILIPINO STAFF OF THEATRES
AND RECOVERY UNITS IN THE UNITED KINGDOM**

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17 May 2024

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Acceptance Page

This thesis titled “**PERCEIVED SAFETY ATTITUDES AMONG FILIPINO STAFF OF THEATRES AND RECOVERY UNITS IN THE UNITED KINGDOM**” is hereby accepted by the Faculty of Management and Development Studies, U.P. Open University, in partial fulfillment of the requirements for the Master of Arts in Nursing.

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Biographical Sketch

Ruthie Tupas is a registered nurse with more than 15 years of clinical experience in the surgery department. She graduated from St. Paul University Iloilo with a Bachelor of Science in Nursing degree.

She worked in the Philippines for almost 5 years while pursuing a Master of Arts in Nursing degree at the University of the Philippines Open University. She continued her education as she moved to work in the United Kingdom (UK) for 9 more years. While finalizing her thesis, she moved to the United States of America (USA) to continue working as an operating room nurse and has been there for more than 2 years.

Ruthie worked in various departments in the hospital at the start of her career, in the emergency room, adult and pediatric medical-surgical wards, ICU, NICU and labor and delivery room. Moreover, she specialized as a perioperative nurse since 2009 and has been working in the surgery department as a scrub and circulating nurse for the rest of her career. She also had experience as a post-anesthesia care unit (PACU) nurse while in the Philippines and as a pre-operative nurse in the USA.

She is a team-player, who advocates for her patients with compassion and care. She hopes to share her knowledge, competence and skills to future generations and will pursue a career in education once she receives her master's degree. Her assertiveness and leadership at work encourages others to prioritize and maintain safety during the whole perioperative journey of patients.

Acknowledgment

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To my family and friends, no other words can express how much I appreciate the love, support, and encouragement throughout this journey. Your patience with my everlasting mention of this study has been remarkable. Thank you for always understanding and for always being there.

Dedication

This thesis is dedicated to all the patients who underwent surgery and for those who are about to go for surgery. May you continue to experience the benefits of safety in the operating theatres and throughout your surgical journey..

For my friends, who supported and helped me get through the whole journey. May you be blessed as much as I have been. My sincerest gratitude to you all.

For my mother, who supported me since the start of my Masteral journey. I hope you are proud of me from heaven. You will be forever missed.

For the rest of my family, may you be proud of me for finishing this course – finally, despite the long journey and my unending complaints. Thank you, my dearest.

For myself, I am almost at the end of the tunnel. It was a requirement at the start but in the end, my passion for the operating theatres and patient safety made this thesis possible. Well done. Keep calm and carry on.

TABLE OF CONTENTS

Title Page	i
University Permission Page	ii
Acceptance Page	iii
Biographical Sketch	iv
Acknowledgment	v
Dedication	vi
Table of Contents	vii
List of Tables	x
List of Figures	xi
List of Acronyms	xii
Abstract	xiii
 CHAPTER I: THE RESEARCH PROBLEM	 1
Background of the Study	2
Statement of the Problem	5
Significance of the Study	5
Objectives of the Study	8
Scope and Limitation of the Study	9
 CHAPTER II: THEORETICAL BACKGROUND	 10
Review of Literature	10
Demographics of Filipino Staff in UK Perioperative Settings	10
Safety Attitude, Human Factors, and Safety Culture	12
Patient Safety-related Domains related to Human factors	18
Studies on Safety Attitudes and Demographic Profiles	27
Synthesis	30
Theoretical Framework	32
Conceptual Framework	33

Operational Definition of Terms	34
Research Hypothesis	38
CHAPTER III: RESEARCH METHODOLOGY	39
Research Design	39
Sampling Technique	40
Research Setting	42
Data Collection	43
Research Instrument	45
Statistical Analysis	53
Ethical Considerations and Data Management	56
CHAPTER IV: RESULTS AND DISCUSSIONS	60
Demographic Profile	60
Perceived Safety Attitudes	65
Results per Individual Question / Statement	65
<i>Safety Climate</i>	71
<i>Stress Recognition</i>	72
<i>Teamwork Climate</i>	73
<i>Job Satisfaction</i>	74
<i>Communication and Collaboration</i>	74
<i>Working Conditions</i>	76
<i>Perceptions of Management</i>	78
Results per Domain & Profile Group	79
<i>Safety Climate</i>	82
<i>Stress Recognition</i>	87
<i>Teamwork Climate</i>	94
<i>Job Satisfaction</i>	97
<i>Communication and Collaboration</i>	100
<i>Working Conditions</i>	105
<i>Perceptions of Management</i>	108
Statistical Difference in Safety Attitudes per Demographics	114
CHAPTER V: SUMMARY, CONCLUSION AND RECOMMENDATION	120

Summary of Results	120
Demographic profile	120
Perceived Safety Attitudes	120
Safety-related Domains and Profile Groups	121
Statistical Difference in Safety Attitudes per Demographics	127
Conclusion	128
Demographic profile	128
Perceived Safety Attitudes	128
Safety-related Domains and Profile Groups	129
Statistical Difference in Safety Attitudes per Demographics	133
Recommendations	134
REFERENCES	138
APPENDICES	160
Appendix A: Approval Letter	161
Appendix B: Research instrument	162
Appendix C: Online Questionnaire	167
Appendix D: Informed Consent	168
Appendix E: Ethics Review Board Evaluation	170
Appendix F: Profile of Interviewees	174
Appendix G: Visual Representation of Results	176
Appendix H: Normality Test of Data	179

LIST OF TABLES

Table 1: SAQ-OR Individual Questions/Statements	48
Table 2: SAQ-OR Rating Scale and Verbal Description	51
Table 3: SAQ-OR Interpretation	52
Table 4: Statistics per Research Objective	55
Table 5: Socio-Demographic Profile	61
Table 6: Individual Question / Statement Scores	66
Table 7.1: Perceived Safety Attitudes of All Respondents	80
Table 7.2: Perceived Safety Attitudes per Demographic Profile	80
Table 8: Differences in Perceived Safety Attitudes (ANOVA / T-test results).....	115
Table 9: Post Hoc Analysis (LSD)	117
Table 10: Interviewed Profile Representatives	174
Table 11: Normality Test of Mean scores per domain	179

LIST OF FIGURES

Figure 1: Theory of Reasoned Action and Theory of Planned Behavior	33
Figure 2: Conceptual Framework / Paradigm	34
Figure 3: Data Collection	43
Figure 4: Respondents per Demographic Profile Groups	176
Figure 5: Perceived Safety Attitudes	177
Figure 6: Normal Q-Q Plot of Mean Scores per Safety-related Domain.....	180

LIST OF ACRONYMS

ACSNI	Advisory Committee on the Safety of Nuclear Installations
ANOVA	Analysis of variance
CQC	Care Quality Commission
HCA	Health Care Assistant
HSE	Health and Safety Executive
LSD	Least Significant Difference
NCEPOD	National Confidential Enquiry into Patient Outcome and Death
NHS	National Health Service
NPSA	National Patient Safety Agency
ODP	Operating Department Practitioner
OR	Operating Room
SAQ	Safety Attitude Questionnaire
SAQ-OR	Safety Attitude Questionnaire - Operating Room version
SSC	Surgical Safety Checklist
UK	United Kingdom
WHO	World Health Organization

Abstract

Millions of UK surgeries highlight the importance of patient safety. However, preventable adverse events persist, despite initiatives like surgical safety checklists and safety protocols. This signifies the need to further understand human factors in perioperative settings. Research suggests demographics influence safety attitudes, yet data on Filipino healthcare workers, a growing population in the UK, are lacking. This study investigates safety attitudes among Filipino theatre and recovery staff in the UK and explores how demographic characteristics influence these attitudes.

A quantitative, non-experimental, descriptive comparative design was employed. Snowball-purposive sampling recruited 44 participants, supplemented by qualitative interviews. Descriptive and inferential statistics were utilized, alongside qualitative insights.

Demographic characteristics revealed that the majority of the staff are female, in their early thirties, primarily presiding in London, practicing a single specialty and working a part of the scrub team with over a decade of experience.

The Safety Attitude Questionnaire - Operating Room (SAQ-OR) adapted for UK terminology, assessed safety attitudes across domains. While the overall safety attitudes were positive, with high scores in Safety Climate, Stress Recognition, and Teamwork Climate, there were still areas for improvement. Job Satisfaction, Communication/Collaboration, Working Conditions, and Perceptions of Management received lower scores.

Analyzing the safety attitudes of demographic profile groups revealed variations across demographic categories. The Anesthetic team, various specialties, staff under 30 and 35-39 years old, those with less than 2 years of experience, staff

residing in North England, and Male staff demonstrated the strongest safety attitudes, consistently achieving high mean scores in a majority of the seven domains. Conversely, Other Perioperative teams, Dual specialties, the 30-34 and 50-year-old age groups, staff with 6-10 years of experience, those in West England, and Female staff reported the poorest safety attitudes, with low scores in most domains.

Findings of specific variations between profile groups allow for targeted interventions such as assessment of stress recognition factors for non-registered staff and staff younger than 30 and older than 50, and stress management for new hires. Interviews also paved the way for targeted suggestions such as mentorship training for new managers, and the use of adaptable leadership styles with proactive management for staff empowerment. Analysis of questionnaire responses, showed a suggested need for intervention, such as in-depth assessment of communication breakdown that delays surgical list, management of staffing and resources, and initiating strategies to prevent burnout, relieve workload pressures of staff, and provide conflict resolution skills.

Statistically significant results show that the scrub team has a better ability to recognize stress compared to Other perioperative team. Additionally, statistical analysis reveals a significant variance in mean scores showing that staff aged 35-39 prioritize safety more than other age groups, particularly those aged 30-34 and those 40 years and older. Despite specialty, experience, location, and sex differences, statistical test results show no significant variation in safety attitudes across profile groups.

Recommendations include a multi-pronged approach. Ongoing safety assessments should be maintained to monitor progress and prioritize patient safety. Educational programs for students and educators should be developed based on the

study's findings, particularly regarding Filipino staff experiences, to promote safety-centered skills, communication, teamwork, and patient advocacy. Continuous safety education tailored to different age groups, along with promoting stress recognition, is essential for theatre and recovery teams. Theatre and recovery management should implement targeted interventions for specific demographics, such as communication strategies, job satisfaction improvements, and leadership training. Additionally, ongoing safety climate education, regular assessments, addressing staffing concerns, and developing conflict resolution strategies are crucial. Further research could integrate qualitative data, explore the link between safety attitudes and patient outcomes, investigate the role of management in safety culture, and consider including pre-operative staff.

CHAPTER I

THE RESEARCH PROBLEM

Ensuring a safe surgical environment is crucial for optimal patient outcomes, particularly within the UK. With millions of surgeries performed annually in the UK alone, maintaining a safe environment is paramount, yet the high prevalence of Never Events (serious, preventable incidents causing patient harm) persists despite established surgical safety initiatives (Omar, Graham, et al., 2021; Moppett & Moppett, 2016; Koleva, 2020). Research suggests that cultural backgrounds and demographics, can influence safety attitudes and how individuals approach safety protocols within surgical teams (Sokhanvar, et al., 2018; Gambashidze et al., 2021; Tocco Tussardi et al., 2022; Soeder et al., 2023)

To meet the crucial demand of maintaining patient safety in surgical services, the UK National Health Service (NHS) relies on healthcare professionals from other countries, including the Philippines and India, particularly nurses (Baker, 2023). Filipino staff play a vital role in ensuring the smooth operation of UK hospitals, with a rapidly growing demographic in the NHS (Baker, 2023). However, limited data exists on the demographic characteristics of Filipino staff in UK perioperative settings (operating theatres and recovery units) and how it influences their safety attitudes and practices. This gap in knowledge hinders efforts to develop targeted interventions that can improve safety culture, teamwork, communication, and working conditions within these settings. Understanding these influences specific to Filipino staff is essential for fostering a culture of safety that resonates with all team members.

This study aimed to address this gap by (a) describing the demographic profile of Filipino staff in UK perioperative settings specifically in the operating theatres and

recovery units, (b) describing the perceived safety attitudes among Filipino staff in these settings, and (c) determining differences between the perceived safety attitudes of demographic profile groups of Filipino staff.

By understanding these variables and influences specific to Filipino staff, we can develop targeted interventions to enhance patient safety and outcomes and inform healthcare practices in the UK and the Philippines. A detailed review of relevant literature on demographic profiles, safety attitudes, human factors, safety culture, and patient safety domains is provided in Chapter 2.

Background of the Study

High-risk environments, such as operating theatres, are inherently prone to mistakes due to the collaboration of healthcare professionals with diverse backgrounds and perspectives, which can lead to conflicting attitudes and communication styles. A key factor contributing to Never Events is poor communication among the surgical team. Arad et al. (2023) support this, finding that the number of staff involved in surgery has a proportional effect on the occurrence of Never Events, with outcomes likely impacted by a lack of communication. Similarly, Thiels et al. (2015) identified various human factors that contribute to invasive procedural Never Events, including action-based errors, preconditions, cognitive factors, confirmation bias, comprehension failures, and poor communication.

Nurses play a central role in surgical flow by facilitating communication and upholding safety protocols through checklists, policies, and protocols. However, perceptions of these protocols vary, with some staff viewing them as compliance documents rather than team tools to ensure patient safety (Health Quality & Safety Commission New Zealand, 2012). Cultural influences and demographic factors such

as age and experience impact safety practices (Soeder et al., 2023; Nyberg et al., 2024). Older staff may exhibit different safety behaviors compared to younger or less experienced colleagues, with a positive correlation between age and adherence to preventive measures (Korn et al., 2021; Li et al., 2020). However, it was observed that some experienced staff may also become complacent and skip safety steps, due to familiarity with routines, which can compromise patient safety.

Orientation of new staff in operating theatres typically includes facility induction and safety training. However, new staff, especially those from different cultural backgrounds such as Filipino healthcare professionals, often face challenges adapting to the latest safety protocols, with some expressing a lack of confidence and difficulty engaging team members (Urban et al. 2021). It was also observed that older non-managerial senior staff may omit safety steps they find unnecessary in new protocols or revert to old protocols. However, younger newly promoted managers typically adhere more strictly to new protocols.

Differences in attitudes, collaboration expectations, and adherence to safety protocols across professional roles and educational backgrounds highlight the complexity of operating room dynamics. Sexton, Makary et al. (2006) note that teamwork-related attitudes significantly affect outcomes like nurse turnover, burnout, and surgical complications. Tamer et al. (2023) found significant differences in job satisfaction perceptions between OR nurses and nurse anesthetists based on age. Carvalho et al. (2017) reported that professionals with less than six months of service had better safety attitude scores in all domains. In contrast, those with over 21 years of service had the highest job satisfaction scores. Tocco Tussardi et al. (2022) also noted that less experienced staff had a more positive perception of job satisfaction, aligning with studies he cited, Vlayen et al. (2013) and with Bodur and Filiz (2009). Ji

et al. (2021) emphasized developing patient safety competency in new nurses to improve healthcare quality. Carvalho et al. (2017) also found differences in safety attitude scores among hospitals, possibly due to the size and specialty diversity.

Gambashidze et al. (2021) highlighted the influence of gender and profession on patient safety culture perceptions calling for further studies to plan targeted improvement initiatives. Differences were also noted in attitudes towards safety and health measures for infection control where some women are found to have a more positive attitude with certain safety measures, (Soeder et al. 2023). This research has particular significance for Filipino healthcare workers who are a growing demographic in UK operating theatres.

Filipino healthcare professionals play a vital role in healthcare systems around the world. This growing presence is further underscored by the recent appointment of a Filipino healthcare professional to a top leadership position within the NHS (McKinson, 2024). The NHS is also actively recruiting healthcare professionals from the Philippines, further contributing to this growing demographic within the UK healthcare system (NHS Professionals, 2024). This trend is particularly relevant considering the nursing workforce shortage in the UK, with Wales experiencing a significant need for qualified nurses. The Royal College of Nursing in Wales has highlighted the crucial role that Filipino healthcare workers can play in addressing this gap (Easedale, 2021). This highlights the need to understand the diverse safety attitudes and experiences of Filipino staff, particularly within fast-paced environments like operating theatres.

In the operating theatres, their contribution to maintaining a positive working environment through their friendliness and efficiency has been observed. Effective teamwork in operating theatres relies on a positive team attitude, smooth flow, unified

effort, and clear communication (Paige et al., 2021). To enhance patient safety, it is crucial to understand the diverse attitudes and perceptions of healthcare professionals in operating theatres. This study explores the perceived attitudes regarding patient safety of Filipino healthcare workers in the UK, considering the influence of demographic profiles on safety practices.

The results contributed to developing evidence-based interventions and recommendations for improving safety climate, teamwork, communication, and working conditions in theatres and ultimately, improve surgical patients' safety. Healthcare educators and students, especially in the Philippines, can incorporate enhanced patient safety into their educational systems and gain insights from the clinical practice in foreign countries.

Statement of the Problem

The study aimed to describe the perceived safety attitudes among the Filipino staff in theatres and recovery units in the United Kingdom and the differences per demographic profile.

Significance of the Study

Perioperative staff possess a great deal of information and experience regarding safety practices that might contribute to the enhancement of safety. This study, which described the safety attitudes of staff in theatres and recovery units, will be beneficial to the following:

Surgical Patients

The results of this study can help benefit patients by enhancing patient safety in anesthesia, surgery, and recovery, which gives better patient outcomes, including faster recovery.

Theatre and Recovery Team

As theatres and recovery units are composed of multidisciplinary teams, the study's results will help spread awareness of each demographic profile group's perceived attitudes and help enhance workflow on a day-to-day basis. Nurses are in many cases, the main people responsible for initiating a briefing and documenting when a patient check has been completed. When perioperative nurses facilitate the briefing, they are advocating not only for the patient, but also for their fellow team members since nurses guide positive interactions. This study can also help gain a deeper understanding of human factors, and safety attitudes and initiate more research studies that will benefit theatre and recovery staff in enhancing team participation and understanding safety attitudes, and cultural differences among different team members.

Operating Theatre and Recovery Management

In the United Kingdom, the nurse must make sure that the patient check is done in theatres during the whole perioperative care. Knowing their attitudes towards safety represents how much nurse view their role as a safety facilitators. While learning the rest of the team member's attitudes will also describe the team dynamics involved during safety checks. Describing the perspective of safety among theatre staff can also help describe the status of communication and working conditions in the operating

theatres, which in turn, benefit the management in producing improvement plans to patient safety by developing strategies and activities based on the results.

Clinical Healthcare Educators

This study is also designed to benefit healthcare educators to help integrate patient safety into the Philippine nursing educational system by describing the experiences of Filipinos in theatres and recovery units based on patient-safety factors like communication, teamwork, safety climate, stress recognition, management, and working conditions.

Healthcare Students

This study explores the perceived attitudes of Filipino healthcare staff in the UK to help nursing and medical students in the Philippines prepare for the reality of clinical practice not only in the Philippines but also abroad. WHO & WHO Patient Safety (2011) stated in their curriculum guide how important it is for healthcare students to understand how systems impact the quality and safety of healthcare and how poor communication can lead to adverse events.

Future Researchers

This study can help support other research studies that can focus on cultural differences among different nationalities and safety attitude analysis among different professionals. It can provide supportive evidence on the perceived attitudes of different targeted populations such Filipinos, operating theatre staff or healthcare workers in the UK.

Objectives of the Study

Specifically, the study aimed to

1. Describe the demographic profile of Filipino staff in theatres and recovery units in the United Kingdom in terms of
 - 1.1. Team
 - 1.2. Specialty
 - 1.3. Age Group
 - 1.4. Years of experience
 - 1.5. Location
 - 1.6. Sex
2. Describe the perceived safety attitudes among Filipino staff in theatres and recovery units in terms of safety-related domains and categorize them by their demographic profile groups.

Safety-related domains:

 - 2.1. Safety Climate
 - 2.2. Stress Recognition
 - 2.3. Teamwork Climate
 - 2.4. Job Satisfaction
 - 2.5. Communication/Collaboration
 - 2.6. Working Conditions
 - 2.7. Perceptions of Management
3. Determine the difference between the perceived safety attitudes of demographic profile groups of Filipino staff in theatres and recovery units in the UK.

Scope and Limitation

The study was done in the United Kingdom (UK) where self-report forms were given to each participant. The self-report forms consist of several declarative items regarding teamwork, safety climate, job satisfaction, stress recognition, perceptions of management, working conditions, and communication/ collaboration countered with a Likert scale. An informal interview was also conducted with selected participants who represent the diversity of the demographic profile of the target population. This study is only limited to Filipinos who work in theatres and recovery units at UK hospitals. The respondent's scope of response might be limited due to the determined set of choices of answers.

CHAPTER II

THEORETICAL BACKGROUND

Review of Related Literature

The World Health Organization (WHO, 2023) treats patient safety as a fundamental and serious global health priority that is essential to strengthening healthcare systems. Various safety methods such as patient checks, team building, and briefings can help avoid most complications in surgery. However, having a multidisciplinary team with team members from different specialties and teams with different attitudes and perspectives on safety can affect the use of these safety tools. Various studies indicate that factors such as demographic variables can influence the safety attitudes of the surgery team members, impacting their performance. The following literature highlights the importance of understanding the demographic profile, safety attitudes related to patient safety, human factors, safety culture, patient safety-related domains, and the differences in safety attitudes of individual profiles or demographic characteristics.

Demographics of Filipino Staff in UK Perioperative Settings

Out of the UK's population of 67 million, over 5 million individuals identified as Asian in the 2021 census (Office for National Statistics, 2022, 2024). Among Asian populations, Filipinos rank as the fifth largest group in the UK (Statista, 2024). Data indicates a consistent increase in Filipino nationals residing in the UK from 2013 to 2020, possibly due to the rising demand for healthcare workers (Statista, 2023). English-speaking Filipino nurses are generally regarded as professionals who are well-educated and maintain high standards of care similar to British nurses (Foreign &

Commonwealth Office, 2014). In 2022, Filipinos ranked among the top three nationalities granted Skilled Worker visas in the UK (Home Office, 2023).

As of June 2023, NHS staff in England have 264,822 non-British NHS staff, and among them are 34,652 Filipinos, making them the third-largest staff group behind Indians and British (Baker, 2023). Among nurses, 16% (60,336) reported an Asian nationality, with 42% (25,477) being Filipino, next to Indians (Baker, 2023). Among support staff, 5% (22,787) reported an Asian nationality, with 28% (6,366) being Filipino. Filipinos, along with Indians and Nigerians, have seen one of the largest increases in staff numbers since the pandemic (Baker, 2023). Unfortunately, there are no studies that show the total number of Filipinos specifically working in theatres, recovery, or the perioperative setting. This gap in knowledge highlights the need for further research, and your study aims to address this by investigating the demographic profiles of Filipino staff in these areas of UK hospitals.

The Association for Perioperative Practice (AfPP, 2022) recommends two scrub practitioners per theatre, paired with one anesthetic and one recovery practitioner. The two scrub practitioners can alternate between scrub and circulator roles, with a nursing assistant also able to take on the circulator role if necessary (Cross, 2023). Bradford Teaching Hospitals align their team with these recommendations, comprising an Operating Department Practitioner (ODP), a Scrub 1 (registered nurse or ODP), a Scrub 2 (registered nurse, ODP, or assistant theatre practitioner [ATP]), a Circulator (healthcare assistant [HCA]), and one Recovery Practitioner per list (RN recovery trained or ODP). In areas with only one list running, a second staff member, which could be HCA, in recovery is required (Hartley, 2018).

Existing research on operating room (OR) staff demographics highlights a potential shift towards a more gender-balanced workforce, particularly among

experienced staff. Haynes (2011) examined ORs worldwide and found male dominance in scrub teams. More than a decade later, studies explored demographics in various international settings. Urban (2021) found a majority female presence in ORs / theatres (including the UK), with a concentration in the scrub team and among staff over 50 years old with extensive experience. Nyberg (2024) similarly identified a significant female presence in Swedish ORs, with a majority exceeding 50 years old, with extensive experience, and possessing diverse skill sets across specialties. However, focusing on specific regions and diverse OR/theatre settings restricts generalizability.

Additionally, the time frame spanning 2011-2024 suggests potential demographic shifts. While these studies offer valuable insights, further research is necessary. Future studies could also explore trends in staff specialties to establish a more comprehensive picture of current OR staff demographics.

Safety Attitude, Human Factors, and Safety Culture

Safety Attitude Related to Patient Safety

Blankenship et al. (2022) found that when individuals perceive their attitudes as rooted in important values, they experience greater confidence in those attitudes, process opposing messages thoughtfully, resist better, and are more likely to act upon them. It aligns with Bohner et al. (2011) who highlighted that individuals often select information that aligns with their existing attitudes or beliefs. People tend to trust and develop more positive attitudes when they feel confident about the information provided, making it important for managers to align information with employee's attitudes when implementing new safety protocols. The study also revealed that attitudes influence behavior, where conscious attitudes lead to cautious and deliberate

actions. Soeder et al. (2023) agreed that a highly positive attitude toward a certain behavior increases the probability of translating plans into action.

The Joint Commission (2021) reported an increase in wrong-patient, wrong site, wrong procedure, and wrong implant events, often due to organizational culture, communication, and staff attitude. “Organizational focus on patient safety is inconsistent. Staff is passive or not empowered to speak up” (Joint Commission, 2021). Well-established procedures and processes like the Joint Commission's Universal Protocol and the World Health Organization Surgical Safety Checklist are among those that can help prevent these types of events from occurring. In 2012, Health Quality & Safety Commission New Zealand commissioned an independent research company, to explore theatre personnel's attitudes towards safety checklists. It was found that most personnel view the WHO checklist as a compliance document instead of a team tool to ensure patient safety, (Health Quality & Safety Commission New Zealand, 2012).

Poor communication among surgical teams is a key factor in Never Events. Arad et al. (2023) found that increasing the number of staff involved in surgery raises the risk of these events due to communication lapses. The NPSA (2010) similarly linked communication failures to errors. McDowell & McComb (2015) emphasized the importance of teamwork, and Sexton, Makary, et al. (2006) suggested that preoperative briefings and postoperative debriefings improve team performance. Perioperative nurses play a critical role in facilitating these communications, advocating for both patient safety and team collaboration.

Aouicha et al. (2022) identified significant patient safety concerns in operating rooms. Only 34.3% of healthcare professionals felt current safety procedures were effective, with issues like underreporting, blame culture, teamwork, and staffing

challenges highlighted. Interviews emphasized theory–practice gap, staff misconduct, and equipment failures as key obstacles.

Dixon-Woods (2010) highlighted challenges in ensuring patient safety, due to various factors, including unclear structures of authority and accountability and discrepancies in defining the right actions. The study also noted that patient safety incidents often go unreported for different reasons. Sokhanvar et al. (2018) found that despite the widespread acceptance of the surgical safety checklist among staff, uncertainty remains about when exactly the checklist should be used. Bains, L., Mishra, A., Kaur, D., Lal, P., Gupta, L., & Malhotra, V. (2020) emphasize that understanding the safety attitudes of the team is important as it reflects the intent to ensure patient safety in the operating theatres. Their study also revealed the existence of a blame culture that may lead to unreported errors and identified several barriers to using safety checklists, including perceptions of them being time-consuming, difficulty finding a coordinator, and considering them unnecessary. Additionally, Ghobadian et al. (2021) found that prevailing workplace attitudes can be a significant barrier to error reporting, particularly among nurses.

Koleva (2020) conducted a literature review on factors contributing to Never Events, or preventable harmful surgical incidents. It revealed that despite efforts such as multidisciplinary approaches, technologies, policies, and strategies, Never Events remain prevalent in surgery. The study found that communication failure, situational awareness, fatigue, lack of healthcare professionals, and high surgical caseloads are common factors leading to Never Events.

Although the Surgical Safety Checklist is generally perceived to enhance patient safety, Urban et al. (2021) found that not all members of surgical teams actively engage in its use. Their study results showed that only 50.3% are satisfied

with their team's use of it, and just 47.5% reported team members fully participating in the process. Furthermore, nurses, in particular, lacked confidence regarding their role in the Checklist process.

Human Factors

Human factors are defined as “environmental, organizational and job factors, and human and individual characteristics which influence behavior at work in a way which can affect health and safety” (WHO, as cited in Dalton & Moran, 2013; Health and Safety Executive, 2017). Key factors influencing patient safety include organizational factors such as safety culture, team culture, individual factors like situation awareness and stress, and the work environment (WHO, 2009). All of these factors may affect a worker's behavior, leading to a positive safety outcome or an error.

Dalton and Moran (2013) emphasized that human factors and safety culture are interlinked, and an organizational culture embracing human factors science can achieve higher safety levels. Brennan and Oeppen (2022) agreed, noting that understanding human factors can reduce preventable mistakes and enhance team morale and well-being. NHS England (2013) stated that a broader understanding of Human Factors principles significantly improves care quality, including effectiveness, experience, and safety.

Safety Culture

Safety culture involves how patient safety is perceived and implemented within an organization, supported by specific structures and processes. Safety climate refers to staff attitudes toward patient safety and is considered a more specific component of safety culture, although the terms are often used interchangeably. Measuring safety climate is suggested to be easier than measuring safety culture, as it deals

with staff perceptions about safety management (The Health Foundation, 2011). On the other hand, the National Institute for Occupational Safety and Health (2023) notes that while "safety culture" and "safety climate" are often used interchangeably, they differ in scope. "Safety culture" encompasses an organization's overall safety values and actions, whereas "safety climate" specifically reflects employees' current perceptions of supervision, resources, and policies influencing safety, emphasizing trust and transparency (TJC, 2021, as cited in National Institute for Occupational Safety and Health, 2023).

Assessing safety culture typically involves surveys on attitudes and perceptions of safety prioritization and management. The safety culture of an organization is influenced by individual and group values, attitudes, perceptions, competencies, and behaviors related to health and safety management (ACSNI, 1993, as cited in WHO, 2009). Positive changes in safety culture have been linked to reductions in mortality and morbidity following the implementation of the WHO Surgical Safety Checklist (SSC) (Haugen, Sjøfteland, et al., 2013). Improved safety culture in theaters has been associated with enhanced patient outcomes through the introduction of the WHO-SSC and briefing and debriefing procedures (Hill et al., 2015). Hospitals in the United States recommend routine safety culture assessments as part of their quality framework due to the connection between improved safety culture and better patient outcomes (Hill et al., 2015). Despite concerns about adverse events in surgical patients, little attention has been given to patient safety culture in the operating room (Nwosu et al., 2022). Pimentel et al. (2021) noted a lack of studies assessing patient safety culture in the perioperative setting. There is also a gap in knowledge regarding Filipino healthcare workers in UK OR settings. This study aims to explore their safety attitudes and how they relate to patient safety culture within

these environments. There are different tools for measuring safety culture/climate but the one used in this study is the Safety Attitude Questionnaire, specifically the Operating Room version.

The Safety Attitudes Questionnaire (SAQ), particularly its Operating Room version (SAQ-OR), adapted from aviation safety surveys, serves as a cornerstone for assessing the safety climate within operating rooms and recovery units. Utilizing a Likert scale, the SAQ-OR gauges staff attitudes across seven key domains critical to patient safety: teamwork, safety climate itself, job satisfaction, perceptions of management, working conditions, and stress recognition. While it effectively identifies variations in safety perception between different groups, the questionnaire doesn't delve into the underlying reasons for these disparities.

The SAQ-OR's true strength lies in its well-established theoretical framework and the wealth of research supporting its use. This robust foundation allows for comparisons across countries and healthcare settings. Pilot testing conducted in the US, UK, and New Zealand showed strong psychometric properties, where healthcare organizations can utilize the survey to assess caregiver attitudes across six patient safety-related domains. Sexton et al. (2006) analyzed cross-sectional surveys of 10,843 healthcare providers across 203 clinical areas, assessing scale reliability, factor loadings, and inter-factor correlations. Results supported a six-factor model—Teamwork Climate, Safety Climate, Perceptions of Management, Job Satisfaction, Working Conditions, and Stress Recognition— with a scale reliability of 0.9. It also useful in benchmarking themselves against other organizations, initiating interventions, and evaluating the effectiveness of these interventions to improve safety attitudes.

SAQ has been used internationally in various healthcare settings and gathers

demographic data alongside safety perceptions. The effectiveness of the SAQ-OR is further confirmed by research that demonstrates its ability to measure not just teamwork and safety climate, but also how these factors influence each other and patient outcomes. Studies have revealed a positive correlation between improved SAQ-OR scores and better patient outcomes, highlighting the crucial link between staff perceptions and positive clinical results.

Patient Safety-related Domains related to Human factors

The Safety Attitude Questionnaires-Operating room version (SAQ-OR) assesses staff attitudes across seven safety-related domains critical to patient safety in operating rooms and recovery units: (a) communication and collaboration (b) teamwork climate, (c) safety climate, (d) job satisfaction, (e) stress recognition, (f) perceptions of management, and (g) working conditions. These domains directly relate to human factors that influence safety outcomes.

Communication / Collaboration

Communication is “the exchange of meanings between individuals through a common system of symbols” (Gordon, 2024). Problems in communication often occur during patient handovers, the quality of information in patient files, incident reports, status effects inhibiting junior staff from speaking up, and difficulties in transmitting information within and between large organizations.

Thiels et al. (2015) conducted a prospective analysis identifying human factors, such as action-based errors, preconditions, cognitive factors, confirmation bias, comprehension failures, and inadequate communication, that contribute to invasive procedural never events. They recommend system improvements addressing these factors and enhancing team resource management and perceptual biases to reduce

errors and improve patient safety, thereby identifying key targets for reducing never events in healthcare.

The WHO (2009) emphasizes that "safe and effective delivery of healthcare requires communication between individuals with different roles, training, experience, and perspectives on care." Tools like pre-task briefing and the Surgical Safety Checklist are crucial in preventing communication failures as they create opportunities for team members to speak up and exchange information. Task debriefing further enhances safety by identifying good performance, and areas for improvement, and suggesting future changes (WHO, 2009).

Etchegaray et al. (2020) conducted an electronic survey identifying barriers to speaking up about patient safety concerns and found an association between lower safety, teamwork scores and staff reluctance to speak up. Effective communication from coordinators and management to clinical staff is also vital for maintaining a good patient safety culture. Zeynep et al. (2020) stressed the importance of addressing patient safety during in-service training programs. Nurses, as part of their responsibility for patient safety, should continue to participate in training programs to enhance their knowledge and apply it in their daily work.

Teamwork Climate

"Teamwork is a process in which team members, using their individual knowledge, experience and skills through dynamic interaction with other team members, seek to achieve the common goals of the organization, and thus achieve a synergistic effect," (Berber et al., 2020). Studies show that "being a member of a work team can influence individual behavior" (WHO, 2009).

Makary et al. (2006) reported that most doctors viewed teamwork as good when "nurses anticipated their needs and followed instructions," while nurses believed

that teamwork was poor unless their input was respected. It is suggested that 70-80% of healthcare errors stem from human factors related to poor team communication and understanding (Schaefer et al., 1994, as cited in WHO, 2009). Catchpole et al. (2007) found that surgical complications often result from minor issues and individual errors by team members, as well as failures in group processes. Team performance is influenced by group structure, dynamics, and leadership.

Structural characteristics, such as the member number, status hierarchy, roles, and norms affect teamwork, particularly in multidisciplinary teams. Perceived status can impact behaviors, like the willingness to speak up when errors occur. WHO (2009) identified nine roles, in which a team member may fulfill more than one role, to make a team effective. Particularly in multidisciplinary teams, these roles must be balanced and respected. Clearly defined roles prevent problems such as multiple individuals assuming leadership which could lead to errors. Team leaders' behaviors can significantly impact staff's willingness to speak up (Edmondson, 2003). WHO (2009) also suggests that a pre-task briefing can confirm team roles and responsibilities. Effective teamwork can be fostered through regular team briefings to ensure shared understanding and goals, as suggested by the National Patient Safety Agency (NPSA).

Goals are better achieved when managers understand team interactions' psychological processes, such as communication, conflict, and decision-making (Furnham, 1997, as cited in WHO, 2009). Team dynamics are influenced by organizational culture, which includes shared perceptions of policies, practices, and procedures (Bower et al., 2003, as cited in WHO, 2009). Operating rooms involve a multidisciplinary team of professionals working towards high-quality patient care, with teamwork being central to ensuring effective systems (Corbett, 2009).

Paige et al. (2021) identified four key themes for effective teamwork in the operating room: smooth flow, unified effort, clear communication, and a positive team attitude. These themes have enhanced the development of a teamwork instrument for clinical settings. Witmer et al. (2022) found that improving OR team familiarity is associated with better operative efficiency and may lead to other positive outcomes.

Safety Climate

Safety climate, a subset of safety culture, refers to staff attitudes toward patient safety within an organization (The Health Foundation, 2011). Safety culture reflects managerial and worker attitudes and values related to risk and safety management (WHO, 2009). While "safety culture" and "safety climate" are often used interchangeably, most studies consider safety climate to be a specific component of safety culture. Safety culture encompasses all aspects of an organization's values and actions related to patient safety, whereas safety climate focuses on staff perceptions of how safety is managed in their organization (The Health Foundation, 2011).

Singer, Lin et al. (2009) found that hospitals with better safety climates had fewer patient safety incidents, especially those related to anesthesia and surgery complications. Frontline staff's perceptions of safety climate were more predictive of lower incident rates than senior managers' perceptions, highlighting the importance of improving safety culture in healthcare organizations.

Yoo and Kim (2017) found that nurses' attitudes toward incident reporting were positively associated with their perceptions of the work environment and patient safety culture. Ghobadian et al. (2021) had a similar result with prevailing workplace attitudes that can be a significant barrier to error reporting, particularly among nurses.

Kosydar-Bochenek et al. (2022) asserted that patient safety climate should be a global priority in healthcare systems as it is crucial to healthcare quality. Haugen,

Murugesh, et al. (2013) examined surgical team perceptions of near misses and Time-Out protocols, identifying incidents like failing to confirm patient identity and preparing for incorrect procedures. The study emphasized the need for systematic risk reduction and checklist use in surgery, involving all team members in identity checks, and increasing awareness of near misses to improve attitudes toward protocols.

Job Satisfaction

Job satisfaction has been defined as a “pleasurable or positive emotional state, resulting from the appraisal of one’s job experiences,” (Locke, 1976, as cited in Montuori et al., 2022). The Health and Safety Executive (HSE) believes that individuals lacking motivation and job satisfaction become less effective at work.

Tocco Tussardi et al. (2022) highlighted the importance of supporting empowerment and participation among nursing staff to enhance job satisfaction. Zangaro & Soeken (2007) examined the relationships between job satisfaction and autonomy, job stress, and nurse-physician collaboration among registered nurses. Their meta-analysis indicated that job satisfaction was most strongly correlated with job stress, followed by nurse-physician collaboration, and autonomy. This just shows how important it is to improve the work environment to increase job satisfaction.

Inoue, et al. (2017) found that nurses’ perception of their autonomy at work and hospital patient-safety procedures enhance their job satisfaction. However, certain leadership styles can restrict decision-making and actions, which in turn results in lowering job satisfaction.

Stress Recognition

Stress is defined as the adverse reaction people have, to excessive pressure or other types of demands placed upon them (HSE, 2005, as cited in WHO, 2009).

Chronic stress, which occurs over time, can result from a lack of support from managers and co-workers, unclear work objectives and responsibilities, or poor team relationships, and is linked to workplace safety (Cooper & Clarke, 2003, as cited in WHO, 2009). Acute stress, which occurs suddenly, can produce intense reactions and, if not managed effectively, can interfere with teamwork and decision-making (Flin, 1996, as cited in WHO, 2009).

Houtman (2005), as cited in WHO, (2009) reported that many healthcare workers, such as nurses, experience occupational stress. This stress can lead to work errors, poor team performance, and reduced productivity, underscoring the importance of stress management for patient safety. Managing stress involves prevention (primary), detection and management of symptoms (secondary), and treatment of effects (tertiary). Prevention includes identifying risks and reducing workplace stressors, such as allowing recovery periods after high workloads. Stress education and management training can ensure effective performance during stress. Techniques to help teams cope with acute stress include STAR (Stop, Think, Act, Review) and breathing exercises. Proper debriefing after stressful events is also recommended (Hokanson & Wirth, 2000, as cited in WHO, 2009).

Theatre Team Leaders (Band 6) manage care provision in the operating theatre, lead multidisciplinary teams, ensure high-quality patient care, and oversee staffing, budgets, and equipment. (Barking, 2024; University Hospitals Birmingham, 2023; Fairfield, 2023; EPSN, n.d.). Clinical Leads (Band 7) have broader responsibilities, including managing the department, providing leadership, developing and implementing evidence-based care programs, contributing to research, and managing departmental budgets (NHS Fife, n.d.). The theatre coordinator role (Band 6 or 7) manages shift staffing and clinical activities, provides leadership, maintains

interdepartmental communication, achieves performance targets, ensures staff competency, manages resources and equipment, handles on-call rotation, ensures health and safety standards, conducts audits, organizes theatre lists, adheres to safety checklists, safeguards patients, and handles complaints and inquiries (King Edward, 2016). On the other hand, Theatre Managers, (Band 8a or higher) handle day-to-day operational issues in the operating department, provide professional leadership to staff, develop and deliver a strategic vision for theatres, maintain operational performance and financial targets, and act as authorized signatory for departmental payroll and budget management (NHS Fife, n.d.; University Hospitals of Derby and Burton, 2023; Milton Keynes University Hospital, 2023).

Perceptions of Management

Yalçın Akgül and Aksoy (2021) examined the correlation between organizational stress levels and patient safety attitudes among operating room staff, finding that financial stressors significantly influenced organizational stress, especially for nurses. There is also a need for resources and protocols to mitigate burnout among perioperative team members, emphasizing wellness programs and clinician feedback (Meeusen et al., 2024). Teamwork climate was the primary factor affecting patient safety attitudes. Increased organizational stress levels among OR staff negatively impacted patient safety attitudes (Yalçın Akgül & Aksoy, 2021).

Alshyyab et al. (2022) highlighted the importance of the implementation of new techniques and management support to establish a safety culture in the operating room setting. Managerial leadership is defined as "the process of influencing people towards the achievement of organizational goals" (Naylor, 2004, as cited in WHO, 2009). Studies have shown that certain leadership styles are linked to improved safety behaviors and better organizational safety performance. Katz-Navon et al. (2005, as

cited in WHO, 2009) found that prioritizing safety at the managerial level resulted in fewer errors in hospital units. The transformational leadership approach, which inspires a sense of purpose and articulates clear goals, is particularly beneficial for healthcare managers (Firth-Cozens & Mowbray, 2001, as cited in WHO, 2009). However, identifying effective leaders can be challenging in multidisciplinary settings where authority is not always clearly defined.

Team leadership is defined by the role of the team leader, who directs and coordinates the work of others. Effective team leaders communicate well, build trust, care for team members, and set and reinforce safety standards (Hofmann & Morgeson, 2004, as cited in WHO, 2009). According to Arnold & Fleshman (2020), effective leadership in the operating room necessitates a deep understanding of various managerial styles and their appropriate application within different scenarios. A leader must possess the ability to discern the most impactful style based on the situation and adapt their leadership approach accordingly. A need to develop the ability to change from one style to another depending on the situation is imperative (Arnold & Fleshman, 2020). Edmondson (2003) demonstrated that effective team leaders facilitate speaking up and encourage effective teamwork by providing motivational rationales for changes and reducing concerns about power and status differences. Technology was also integrated with team coaching, speaking up encouragement, and boundary spanning. The findings underscore the importance of leadership in fostering a learning environment where team members feel comfortable sharing observations, questions, and concerns. Mostafapour et al. (2022) recommended that operating room managers and policy-makers should address the weaknesses in the staff's professional relationships and then take some steps to eliminate them to improve overall functioning. They also found that older staff with more experience worked better and

this could make them good preceptors for new employees who need help with their orientation.

Flin and Yule (2004, as cited in WHO, 2009) suggested that supervisors must monitor and reinforce safe behaviors, emphasize safety over productivity, engage in safety activities, and encourage team involvement in safety initiatives.

Team leaders need to define goals and expectations, provide guidance and feedback, and adjust their leadership style according to the team's experience level. Inexperienced teams require more instruction and structure, whereas experienced teams perform better with a leader who takes a monitoring role (Salas et al., 2004, as cited in WHO, 2009).

Working Conditions

Operating rooms have unique working conditions that impact the health of personnel, necessitating the assessment of workplace risks and hazards (Uğurlu et al., 2015). The physical layout and implementation of new equipment are crucial for establishing a safety culture in the OR (Alshyyab et al., 2022). Effective equipment design, as emphasized by the NPSA and UK Design Council in 2003, reduces human error by being simple, easy to use, and comfortable (National Reporting and Learning Service, 2015). Healthcare organizations must conduct formal risk assessments and document control measures, using various analysis methods like root cause analysis and failure modes effect analysis, to enhance patient safety (WHO, 2009). Briefings and debriefings maintain safe working conditions as they significantly improve surgical outcomes, with higher compliance leading to noticeable reductions in mortality rates (NPSA, 2010).

Clinical environments are key learning areas for healthcare professionals, but incivility can reduce performance in these settings (Cheetham & Turner, 2020). Nurses

who feel respected and supported by physicians and management have better patient outcomes (Brubakk, 2019, as cited in Arulampalam & Barach, 2023). Rudeness adversely impacts the performance of team members (Riskin et al., 2015). The complexity of clinical tasks and environments can amplify errors, so robust Quality Improvement (QI) programs are essential. These programs should include training, effective learning conferences, process standardization, and reliable data systems to improve quality and outcomes (Barach et al., 2024).

Studies on Safety Attitudes and Demographic Profiles

Fernandes et al. (2021) highlighted the importance of involving all professionals in the operating room in safety discussions, as safety culture is inherently transdisciplinary. The following are key findings from various studies on how safety attitudes differ based on demographic profiles/factors:

Team and Profession and Roles

Safety culture in the operating room varies significantly across professional roles and levels of training. Pimentel et al. (2021) found that surgical attending physicians perceived the strongest safety climate, while nurses and surgical technicians reported significantly worse perceptions. These variations in safety culture were seen across dimensions of safety climate, professional roles, and levels of training and should be addressed when implementing culture change programs.

Yalçın Akgül and Aksoy (2021) revealed that mean SAQ-OR scores in the subdimensions of perceptions of management, working conditions, and stress recognition were higher in technicians or OR support staff. Nwosu et al. (2022) also noted that nurse anesthetists had the highest safety culture perception, and surgeons the lowest. Similarly, Ruano-Ferrer et al. (2023) observed that OR nurses had a worse

patient safety culture than surgeons. Their communication and perception of the dimensions of overall safety, leader expectations, teamwork within units, feedback, staffing, and hospital management are also not any better.

Another study, by Jones et al. (2022), using SAQ scores, demonstrated that there is a correlation between teamwork and working conditions for surgeons and anesthesiologists. Sexton, J., Makary, M., et al, (2006) also discussed the differences in attitudes, the expectations of good collaboration, and styles of communicating between different educational cultures of professions. They have suggested that recent evidence demonstrates structured communication as an effective method of improving shared understanding of goals and situations.

Age and Experience

Safety attitudes also vary by age. Singer, Molina et al. (2016) found that patient age significantly influenced checklist completion, with older professionals more engaged in preventive behaviors and reporting better working conditions and management support (Korn et al., 2021; Li et al., 2020). A study by Mostafapour et al. (2022) found a statistically significant relationship between professional relationships and the demographic variables of work experience, education, work shift, and age. The study found that more experienced, older staff performed better, suggesting they could serve as effective preceptors for new employees needing assistance with orientation. Tamer et al. (2023) highlighted significant differences in job satisfaction perceptions between younger and older OR nurses and nurse anesthetists. The perception of job satisfaction and overall scores were found to be statistically significantly higher among OR nurses compared to nurse anesthetists.

The study by Nyberg et al., (2024) found that older age groups rated their working conditions and management support higher, and their stress recognition lower,

compared to younger age groups, indicating a greater focus on safety with increasing age and experience.

Experience level significantly influences safety attitudes. Murray, Sundin, and Cope (2019) noted that transition shock causes new graduate registered nurses to prioritize time management and task completion over patient safety and holistic care. Ji et al. (2021) emphasized the importance of developing patient safety competency among new nurses to improve healthcare quality and patient safety performance. Conversely, Carvalho et al. (2017) found that professionals with less than six months of service reported better safety attitude scores across all domains, especially in the Working Conditions domain, compared to those with more experience. Additionally, those with over 21 years of service had the highest scores in Job Satisfaction. However, Tocco Tussardi et al. (2022) found no statistically significant differences in safety attitudes based on years of experience, though less experienced staff had a more positive perception, particularly in Job Satisfaction. They also referenced studies by Vlayen et al. (2013) and Bodur and Filiz (2009), which showed newly hired staff having a better overall perception of safety climate than more experienced colleagues, possibly due to the accumulation of errors over time among the more experienced staff (Tocco Tussardi et al., 2022).

Location, Specialty, and Sex

Safety culture perceptions also differ by location, hospital size, and specialty (Carvalho et al., 2017; Tocco Tussardi et al., 2022). Carvalho et al. (2017) found a statistically significant difference was identified in the comparison of the mean scores of different hospitals, possibly due to the size of the hospital and the diversity of specialties. Some studies indicated that women may have more positive attitudes towards certain safety measures (Soeder et al., 2023). Gambashidze et al. (2021)

suggested that these demographic factors should be considered in safety culture assessments and improvement initiatives.

Synthesis

This summary highlights the importance of understanding various factors influencing patient safety in operating theatres, such as demographics, safety attitudes, human factors, and safety culture. The reviews include literature on the demographics of Filipinos in the UK, safety attitudes related to patient safety, patient safety-related domains related to human factors, and other studies showing differences in safety attitudes of demographic profile groups.

Filipinos are a rapidly growing demographic in the UK healthcare system, particularly among nurses, making them the third-largest non-British NHS staff group. However, data on their specific roles in perioperative settings like operating rooms is lacking, prompting your investigation into their demographic profile in these areas.

The literature underlines the multifaceted nature of patient safety in operating theatres. Staff attitudes significantly impact safety, with positive attitudes promoting communication, teamwork, and error reporting. Safety checklists and a strong safety culture are essential for preventing errors, with the WHO Surgical Safety Checklist playing a key role when team engagement and a safety-focused environment are present.

Human factors, encompassing environmental design, organizational structures, job demands, and individual characteristics like fatigue and situational awareness, significantly influence patient safety. A strong safety culture that integrates these human factors is critical for a safer work environment. A positive safety culture fosters better human factors practices by promoting effective leadership, teamwork,

communication, and positive staff perceptions. This focus on human factors within a strong safety culture ultimately contributes to improved patient outcomes.

The Safety Attitudes Questionnaire (SAQ), a valuable tool, is a human factors survey that assesses safety culture across these domains, including communication, collaboration, teamwork, safety climate, job satisfaction, stress recognition, management perceptions, and working conditions. Studies show the SAQ's effectiveness in assessing safety culture in operating rooms, using SAQ-OR.

The specific patient safety-related domains from the SAQ include communication/collaboration, teamwork climate, safety climate, job satisfaction, stress recognition, perceptions of management, and working conditions. Effective communication is crucial for preventing errors and ensuring patient safety. Tools like briefings and debriefings facilitate communication. Teamwork is central to safe surgery. Shared goals, clear communication, and mutual respect are essential for effective teamwork. Staff perceptions of how safety is prioritized within the organization influence the safety climate. Job satisfaction is linked to staff performance and patient safety. Recognizing and managing stress is important for maintaining patient safety. Effective leadership styles promote safety culture and teamwork. The physical layout and equipment design of operating rooms can impact safety.

Furthermore, studies reveal variations in safety attitudes based on team members' demographic factors: professions, age and experience, location, specialty, and sex. Team members' professions play a role, with surgeons generally reporting a stronger safety climate compared to nurses and surgical technicians (Pimentel et al., 2021). Age and experience also influence perceptions. Older staff tend to report better working conditions, stronger management support, and a greater focus on safety practices (Singer, Molina et al., 2016; Nyberg et al., 2024). Conversely, new

practitioners may prioritize completing tasks over safety initially due to transition shock as they adjust to the OR environment (Murray, Sundin, & Cope, 2019). Safety culture perceptions can also vary by location, hospital size, specialty, and sex, with some suggesting women might have a more positive view of certain safety measures (Carvalho et al., 2017; Tocco Tussardi et al., 2022; Soeder et al., 2023). However, the specific details in some studies require further investigation. These findings emphasize the importance of considering diverse perspectives when implementing safety initiatives in ORs to create the safest environment possible for staff and patients.

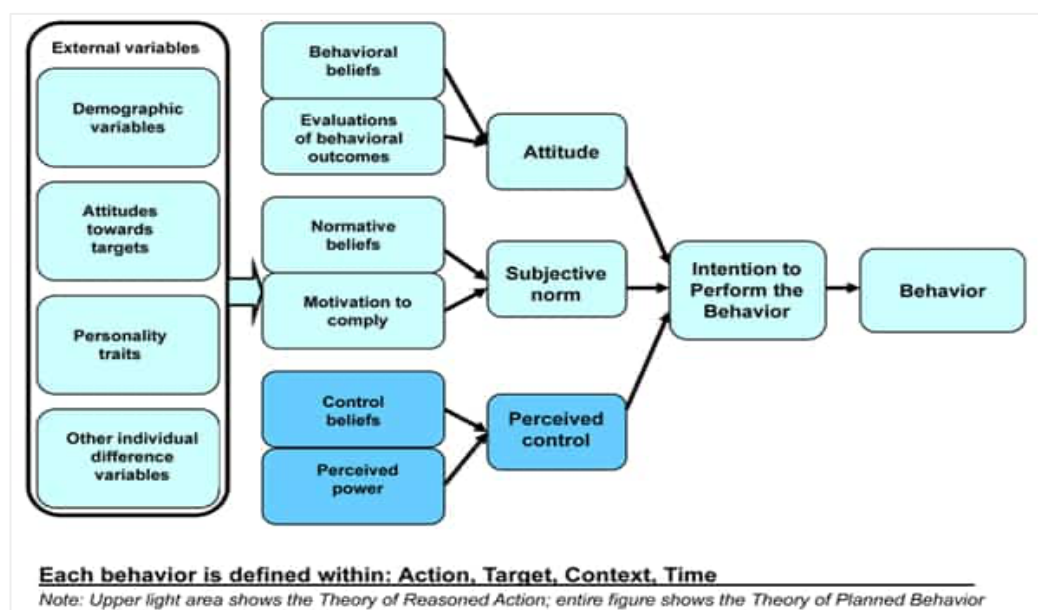
Theoretical Framework

Human factors involve not only organizational, job, and environmental factors, but also individual characteristics that influence behavior at work in a way that can affect health and safety (HSE, 2017). There are different frameworks displaying key factors influencing patient safety, but WHO (2009) also acknowledges the different diagrams indicating relationships between organizational and human factors, and safety outcomes. One of these models, by Jackson & Flin, (as cited in WHO, 2009) showed some factors influencing patient safety outcomes: organizational factors (senior management), team culture, individual factors, and worker behavior/error.

This study focused on the individual factors influencing worker behaviors and patient safety. The theory of reasoned action, also known as the theory of planned behavior, originated by Fishbein and Ajzen (1975), shows how an individual's intent to perform a behavior is affected by three types of beliefs: "(1) behavioral beliefs, which translate into attitudes toward the behavior; (2) normative beliefs, which relate to perceived attitudes of peers and respected figures toward the behavior; and (3) control beliefs, or perceived ability to perform the behavior. This theory is also frequently used

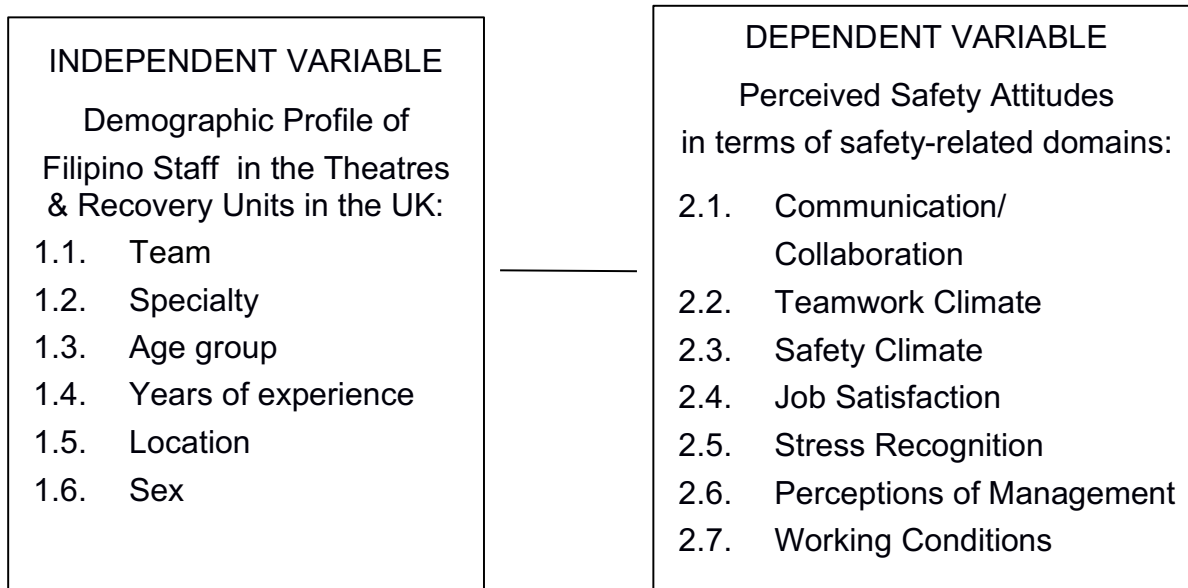
for both patient-facing and provider-facing interventions”, (Etheridge, 2023). It also shows how background factors or external variables, (Yzer, M., 2017) can affect the behavioral beliefs that then affect attitude (Nickerson & Mcleod, 2023). This study specifically determines if the demographic variables influence the attitudes of staff that lead to the intention of performing behaviors related to safety.

Figure 1. *Theory of Reasoned Action and Theory of Planned Behavior.*



Conceptual Framework/ Paradigm

Figure 2. Conceptual Framework/ Paradigm.



The Figure above shows the conceptual framework of the study. It describes the independent variable, which is the demographic profile of the Filipino staff in UK theatres and recovery units; the dependent variable which is the perceived safety attitudes, described in terms of safety-related domains; and the difference in the perceived safety attitudes among the demographic profile groups.

Operational Definition of Terms

The research operationally defined these important terms as follows:

Anesthetic Practitioners - They can either be nurses or Operating Department Practitioners (ODPs). They mainly assist the anesthesiologist in putting and keeping the patient anesthetized. Occasionally, they also assist the rest of the surgical team as a runner; spelled as “anaesthetic” practitioners in the United Kingdom. They are registered staff that are part of the Anesthetic team in this study.

Communication / Collaboration - One of the safety-related domains describes the transfer of information, ideas, or feelings from one staff to another.

Filipinos - Anyone born in the Philippines, who has been a citizen of the Republic of the Philippines, or who were children of Filipinos and grew up in the Philippines.

Health Care Assistants (HCAs) - They are also called NA or Nursing Assistants. They act as runners in theatres as they help the whole surgical and anesthetic team provide safe surgical and anesthetic care. They are given training once they start in theatres, but they are not registered practitioners. They are support workers that are part of the Other Perioperative team in this study.

Job Satisfaction - One of the safety-related domains that describes the positivity about the work experience of staff.

National Health Service (NHS) - The NHS in England, founded in 1948, offers mostly free healthcare, serving about 1.3 million people daily. The UK population is projected to grow from 67.1 million in 2020 to 69.2 million by 2030, primarily due to migration (NHS, n.d.).

Nurses - People trained to take care of the patients. In the operating theatres, there are three roles of a nurse, either as a scrub, an anesthetic or a recovery practitioner. Nurses are usually the checklist or safety coordinators as they facilitate the smooth flow of the perioperative care of the patient. They are registered staff that are either part of the Scrub team, Anesthetic team or Other Perioperative team in this study, depending on their role for the day.

Operating Department Practitioners (ODPs) - Another registered practitioner in the UK, who was mainly trained to work in operating theatres, alongside anesthetists, surgeons, nurses, and other professionals. Their role can be anesthetic, scrub, or recovery practitioners. Like nurses, they can facilitate in making sure patient checks

are done. They are registered staff that are either part of the Scrub team, Anesthetic team or Other Perioperative team in this study, depending on their role for the day.

Perceptions - A belief or opinion that is often held by many people and based on how things seem.

Perceptions of Management - One of the safety-related domains that describes staff's approval of managerial action.

Perioperative care - The overall care rendered to the patient, before the operation (pre-operatively), during surgery (intra-operatively), and after surgery (post-operatively).

Perioperative Staff - All personnel (registered / unregistered) caring for patients before, during, and after their surgery.

Recovery - A place where a postoperative patient is monitored until he or she recovers from the anesthesia.

Recovery Practitioners - They can either be a nurse or ODP. They are highly skilled and independent practitioners who keep the patient monitored and safe while he or she recovers from the anesthetics after the proposed procedure is done.

Runner - In theatres, they can be nurses, ODPs, or HCAs who are not in the sterile field and are tasked to assist the surgical team throughout the whole operation/procedure and in between cases. This may be called circulating practitioners in other countries (but a practitioner is a registered person; HCAs are not registered by a regulatory board).

Safety Attitudes - These are a feeling or opinion about safety, or a way of behaving towards safety, (Cambridge Dictionary, 2023). In this study, it is interchangeable with

safety culture as the instrument used measures not only the respondent's attitudes but specifically their safety climate, teamwork climate, stress recognition, perceptions of management, working conditions, job satisfaction, and the communication/collaboration of each team member in theatres.

Safety-Related Domain - Themes or domains generated from the instrument used in this study (Safety Attitude Questionnaire - Operating Room version). It includes the staff's perceptions of communication/collaboration, safety climate, teamwork climate, stress recognition, perceptions of management, working conditions, and job satisfaction in the operating theatres and recovery units.

Safety Climate - One of the safety-related domains that describe staff's perceptions of a strong and proactive organizational commitment to safety; is a subset of safety culture and refers to the attitudes of the staff to patient safety within the organization, (The Health Foundation, 2011).

Safety Culture - Safety culture has been defined as "the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management" (ACSNI, 1993, p.23, as cited in WHO, 2009)." Also, known as "safety climate" because climates (or perceptions) are more readily measurable aspects of safety culture. Other aspects such as behavior, values, and competencies cannot generally be measured by surveys, (Sexton, J., Helmreich, R., et al, 2006).

Scrub Practitioners - They can either be a nurse or ODP. They mainly assist the surgeon in the sterile field if they are scrubbed. As a second scrub practitioner in theatre, they also assist the surgical team outside the sterile field as a runner. They are registered staff that are part of the Scrub team in this study.

Staff / Theatre Personnel - This includes all personnel working in the operating theatres and/or recovery, which includes scrub and anesthetic nurses or practitioners (senior practitioners/ sisters, ODP), and theatre support workers (HCAs/NAs).

Stress Recognition - One of the safety-related domains that describes staff's acknowledgment of how performance is influenced by stressors.

Teamwork Climate - One of the safety-related domains that describes staff's perceived quality of collaboration between personnel.

Theatre - British term for the operating room; the complete name is operating theatre. The place where surgical operations or procedures are being performed.

Working Conditions - One of the safety-related domains that describes staff's perceived quality of the work environment and logistical

Research Hypothesis

The research tests the following hypotheses:

1. There is no significant difference in the perceived safety attitudes among demographic profile groups of Filipino theatre and recovery staff in the UK
2. There is a significant difference in the perceived safety attitudes among demographic profile groups of Filipino theatre and recovery staff in the UK.

CHAPTER III

RESEARCH METHODOLOGY

This section tackles the methodology for the current study. The methodology includes the research design, research setting, sampling design, methods and tools and procedures for data collection, ethical considerations, and statistical treatment.

Research Design

This study is a quantitative, non-experimental, descriptive comparative type. Quantitative research is used to provide a collection and analysis of numeric data (Polit & Beck, 2022). It also provides reliable measurement and statistical predictability of results. It is non-experimental because the researcher explores perceptions of existing situations and experiences of people without intervening (Polit & Beck, 2022). Tocco Tussardi et al. (2022) used different instruments to get complementary findings that showed a better grasp of data from the respondents. Although this study has a quantitative design, qualitative data, through interviews, was also collected to get more detailed information and additional context that compliments the quantitative data from self-report questionnaires.

Descriptive comparative design was chosen to summarize, describe, and document the variables and the differences between 2 or more groups, without inferring causal connections, (Polit & Beck, 2022). The dependent variables are the perceived safety attitudes of Filipinos in theatres and recovery units in the United Kingdom (UK). This was measured by taking the average Safety Attitude Questionnaire (SAQ) scores based on safety-related domains: (a) teamwork climate, (b) safety climate, (c) job satisfaction, (d) stress recognition, (e) perceptions of management, (f) working conditions and (g) communication/collaboration. The

independent variables are the demographic profile groups of the respondents: (a) team, (b) specialty, (c) years of experience, (d) location, (e) sex, and (f) age group. This study aimed to determine the difference in the perceived safety attitudes among the demographic profile groups of Filipino staff in theatres and recovery units by comparing the dependent variables (SAQ scores) between the profile groups. To control extraneous variables such as possible response biases or people's tendency to present a favorable image of themselves, no names were kept and anonymity was maintained.

Sample and Sampling Technique

The target population of the study are Filipinos working in the operating theatres and recovery units in the UK. The accessible population are Filipinos that the researcher knows, those known and referred by other respondents, and those who has access to Filipino community boards in the UK. Snowball-purposive sampling was also used to make sure the target population was appropriately represented. The recruitment process includes individually approaching known Filipinos, online posting on Filipino group pages (UK, Southampton, London), community sites, and referrals from each respondent. The inclusion criteria specified Filipino staff working either part-time or full-time in operating theatres and recovery units within the UK, with a minimum of three months' experience in the surgical departments of UK hospitals or surgery centers. Self-reported forms were collected from respondents who met these criteria. To ensure participants had adapted to the workplace culture, only responses from team members with at least three months of tenure in the hospital were included. Additionally, non-permanent staff working fewer than eight hours per week were excluded.

According to NHS statistics by Baker (2023), out of 1.51 million NHS staff, more than 30,000 are Filipino nationals, which is the 3rd largest group (second to British and Indian). However, there is no statistical number of how many Filipinos there are in the operating theatres or recovery. The estimated sample size was based on the visited hospitals' theatre numbers (27 theatres), multiplied by the minimum staff needed (5 staff per theatre - including recovery). A third of the total of 135 staff was assumed to be Filipino. Hence, the estimated sample is 40 to 45 respondents.

Due to the initial low response rate, from the respondent visitations, online questionnaires were also sent. A total of over 70 questionnaires were sent to Filipino staff known to the researcher for a 3-month period. Respondents were encouraged to share questionnaires and refer other Filipinos unknown to the researcher. To get more respondents, an online link for the questionnaire was also posted on 3 Filipino community boards in the UK as part of the snowball-purposive sampling. Only a total of 44 completed forms were submitted back to the researcher.

Oftentimes, the health team members may also be replaced by agency staff or locum (temporary) clinicians, in cases of sickness, long-term leave, or desire for professional development (change of job role). The researcher has considered including the agency/locum members in the study as they can also attest to the safety climate that the other theatre team members project (specifically the teamwork climate, perceptions of management, working conditions, and communication/collaboration). As some nurses and ODP do both scrub, anesthetic, and recovery roles, they can be categorized and included in the count, depending on the role they write on the self-report forms. Participants were asked to answer only one self-report form for the whole implementation period. To reduce the potential for bias, complete anonymity was imposed.

For the additional context, the researcher purposely selected 20 Filipino nurses working in theatres and recovery units in the UK to represent the profile of the respondents for an informal interview. Only 17 participants responded and completed the interview and follow-up questions. 13 of the participants answered the SAQ-OR questionnaires prior to the interview, while the other 4 were not able to answer the questionnaires due to different reasons. Appendix F shows the interviewees' profiles. Some interviewees have recently become dual-skilled and changed their profile (doing both anesthetics & scrub roles, from doing one specialty to multiple and being new or experienced in each role). The interviewees represented the profile that fit them at the time of the interview but were also asked about their experience on the difference between their profiles (e.g. anesthetic versus scrub, other versus various specialties, new versus experienced).

Research Setting

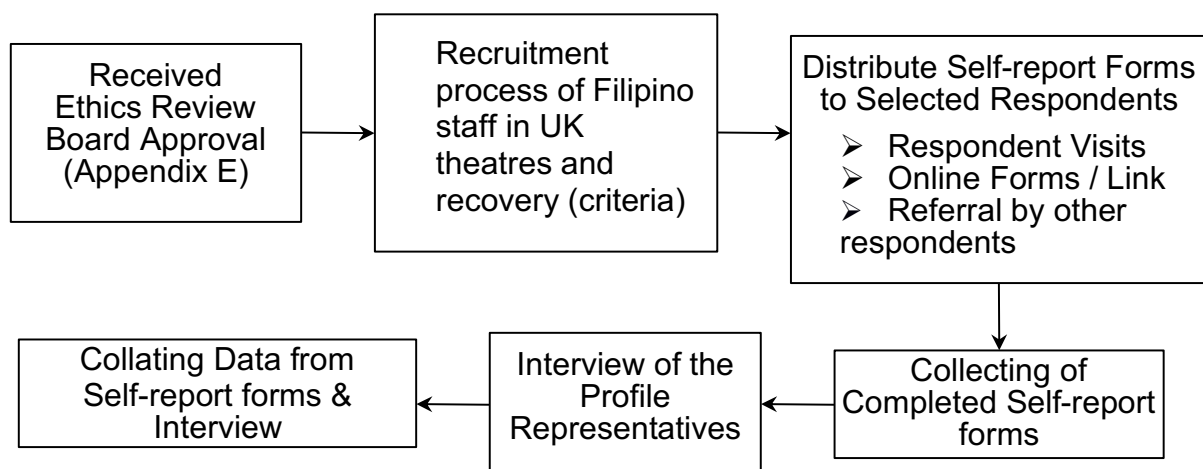
The study was conducted in different hospital theatres and recovery units in various locations in the UK. Locations were categorized according to the geographical location of the hospitals where the respondents worked: North England, West England, Southampton, and London. Each location has different hospitals, which may be private or public. Public hospitals in the UK are managed by different National Health Service (NHS) Trusts. Each trust may manage more than one hospital, and the staff may be transferable in different circumstances. Private hospitals are also managed by different groups of companies and staff may be transferred from one hospital to another on occasion.

Some of the hospitals included in the study are well-known designated major trauma centers that cater to various specialties (Trauma & Orthopedics, General, OB

& Gynae, etc.). However, despite the diverse specialties offered by the hospital, staff might be assigned to do only a single, dual, or various specialties, depending on the department or team. Despite the variety of teams, all staff members are required to accomplish a standardized health and safety training and each department would always have an experienced regular staff member that would guide newly hired staff member in making sure protocols and procedures are followed. There are thousands of Filipinos living and working all over the UK. However, the study only focused on the ones working in the operating theatres and recovery units. Each respondent was approached at their convenience so as not to disturb their workload, working hours, and personal time.

Data Collection

Figure 3. *Data Collection.*



After receiving approval from the Ethics Review Board (Appendix E), the recruitment process of the respondents was completed with the criteria of purposely selecting Filipinos working in the operating theatres and recovery units in the UK. Data collection was then implemented through the distribution of self-report forms. Self-report forms were given to each targeted respondent/participant at a time and place

that was suitable for them. It was handed out in an envelope that could be sealed after they completion. The researcher handed the forms to the respondents and explained the benefits and risks involved, as written in the informed consent that is enclosed with the questionnaire. The respondents were made to understand that their participation is voluntary and that at any point during the study, they have the right to withdraw without penalty. Respondents are then given time to complete the form before the researcher collects the sealed envelope with the form inside. Online forms were also sent out to some respondents to reach more participants and to allow for more convenience for the respondents and the researcher. An online link for the questionnaire was also posted on 3 Filipino community boards in the UK. Respondents are also encouraged to refer more participants and share the online link with other respondents who meet the sample criteria. Only fully completed self-report forms were included in this study.

The self-report form is the Safety Attitude Questionnaire (SAQ), which is widely used in the United States and across Europe. The SAQ is the most direct way of gathering information about a person's perceptions and attitudes regarding safety. It consists of several declarative items regarding communication and collaboration, teamwork, safety, job satisfaction, stress recognition, perceptions of management, and working conditions, which were the basis of safety-related domains for the SAQ. Each statement was countered with a Likert scale. A five-point Likert scale allows the respondents to express the degree to which they agree or disagree with the opinion stated on a certain topic, (Polit and Beck, 2022). A score of one point is given for strongly disagree and five points for strongly agree. There are a few questions that are marked reversely because of the negativity of the statement. Once all the forms had been returned, data were summarized and organized for statistical analysis.

For further details or additional context, the researcher conducted an informal interview with selected respondents, who were purposely chosen to represent the profile of the respondents. Initial questions were short open-ended questions that were based on the SAQ-OR safety-related domains and follow-up questions were based on their profiles.

The validity of the results was extensive with pilot testing done by Sexton, et al, (2006) in 3 countries including UK, and Hill, et al, (2015) with the OR version in the UK. The six-factor structure of the Safety Attitudes Questionnaire (SAQ) was validated using multi-level confirmatory factor analysis, resulting in a model with good fit and strong reliability (Raykov's $\rho = .90$). This analysis supports the SAQ's strong psychometric properties. Additionally, respondent feedback indicates that the SAQ addresses relevant topics for front-line staff. Benchmarking results showed variability in positive responses across 203 clinical areas, highlighting differences in safety attitudes. Full disclosure of the objectives was given to the participants. The reliability of the research is strengthened by using current studies that are published as scientific research and are official reports. Reference material was cited according to APA 7th edition. Plagiarism check was done using Turnitin similarity report.

Research Instrument

A self-report form (see Appendix B) was used as a tool for data collection to allow participants to gather retrospective data regarding their experience in the theatre. The University of Texas has developed the Safety Attitudes Questionnaire (SAQ) to assess the team members' perception of teamwork climate, safety climate, working conditions, and communication/collaboration in their unit or department. It also assesses the respondents' job satisfaction, stress recognition, and perceptions of

management. The Health Foundation, (2011) suggested using it in the healthcare teams in the UK because it allows comparisons with other countries and other industries. It also has a large body of research behind it and it is based upon a theoretical framework that emphasizes human factors.

The SAQ was originally created in the USA for their Intensive Care Units and was based on the Flight Management Attitudes Questionnaire (FMAQ). The concept was created when they found that most accidents were due to failures in interpersonal aspects of the crew, such as teamwork, leadership, communication, and collaborative decision-making. The SAQ has been pilot-tested in the USA, UK and NZ. Sexton, et al, (2006) analyzed six cross-sectional surveys of 10,843 healthcare providers across 203 clinical areas (critical care, ORs, inpatient, and outpatient settings). Results include scale reliability, floor/ceiling effects, factor loadings, inter-factor correlations, and agreement percentages for each item and scale. A six-factor model of provider attitudes fit the data at both the clinical area and individual levels. The factors included Teamwork Climate, Safety Climate, Perceptions of Management, Job Satisfaction, Working Conditions, and Stress Recognition, with a scale reliability of 0.9. It was then widely used in the United States and also across Europe. Several countries, such as Brazil, Portugal, Italy, Turkey, Sweden, Germany, Denmark, Korea, China, and Malaysia, have also used this instrument. Some UK hospitals used it to assess any changes in safety culture associated with the introduction of the "5 steps to safer surgery" in the operating theatres, (Hill, et al, 2015). Previous use of this tool in different studies and countries provides its validity and reliability.

Demographic information (age, sex, experience, and nationality) was originally on the SAQ, but the researcher also added positions to specify the job role or team of the participant (whether a nurse or ODP) and whether they are practicing as a scrub

practitioner, as an anesthetic or as a recovery practitioner. As some nurses and ODP do both scrub and anesthetic roles, they can be categorized per role depending on how they answer the self-report forms. Both Sexton, et al, (2006) and Hill, et al, (2015) also used the OR version in the UK with the same modification of terms for UK participants to better understand the statements and questions. The same minor linguistic modifications and more were also used in this study: "physicians" to "doctors", "OR" or "operating room" to "theatre", "attendings" to "consultants", "residents" to "registrars", "PACU" to "recovery", "anesthesiologists" to "anaesthetist", "specialty" to "speciality", "technicians" to "practitioners". The Operating Department Practitioner (ODP) was also added whenever applicable, as the USA does not have an ODP in its operating rooms. The validity and reliability of the SAQ-OR are already determined based on the studies of Hill, et al, (2015) and Sexton, J., Helmreich, R., et al, (2006). This was also consulted with academic and medical experts for content validity. This instrument was chosen due to its applicability to the study, and its widely-used and available benchmarked data in different countries. The same version was converted to an online questionnaire (see Appendix C). Permission from The University of Texas was secured before changes were made and before the use of the tool (see Appendix A for approval).

The SAQ-OR consists of 60 items answered by a five-point Likert scale. A section that allows respondents to indicate the quality of interaction they have with each theatre team member describes a part of how each participant collaborates and communicates with the rest of the team. The rest of the questions or declarative statements that were written for the SAQ have the following domains/ themes: communication/collaboration, working conditions, job satisfaction, teamwork climate, safety climate, perceptions of management, and stress recognition. There is also an

open-ended section for comments in the questionnaire: “What are your top three recommendations for improving patient safety in this clinical area?”. The table below shows the domains/themes and the individual questions/statements it relates to.

Table 1

SAQ-OR Individual Questions / Statements under Safety-related Domains

Safety-related Domain	Questions / Statements
Communication / Collaboration	• The use of scale to describe the quality of communication and collaboration the participants have experienced with different members of the theatre team: Anaesthetist, Surgeon, Anaesthetic ODP/ Nurse, Scrub ODP/Nurse, Recovery ODP / Nurse, HCAs, Perfusionists, Ward Nurse, and Others. *39. I am frequently unable to express disagreement with consultant doctors. 50. Important issues are well communicated at shift changes. *58. Communication breakdowns which lead to delays in starting surgical procedures are common.
Teamwork Climate	3. Nurse input about patient care is well received in the theatre. 19. Decision making in the theatre utilizes input from relevant personnel. *24. In the theatres here, it is difficult to speak up if I perceive a problem with patient care. 30. Disagreements in the theatres here are resolved appropriately (i.e., not who is right but what is best for the patient). 34. I have the support I need from other personnel to care for patients. 35. It is easy for personnel in the theatres here to ask questions when there is something that they do not understand 37. During emergencies, I can predict what other personnel are going to do next. 38. The doctors and nurses here work together as a well-coordinated team. 43. I know the first and last names of all the personnel I worked with during my last shift.

Safety-related Domain	Questions / Statements
Safety Climate	57. The lead surgeon should be formally in charge of the theatre staff during the surgical procedure.
	4. I would feel safe being treated here as a patient.
	5. Medical errors are handled appropriately in this hospital.
	11. I receive appropriate feedback about my performance.
	*12. In the theatre, it is difficult to discuss errors.
	13. Briefing theatre personnel before a surgical procedure is important for patient safety.
	20. I am encouraged by my colleagues to report any patient safety concerns I may have.
	21. The culture in the theatres here makes it easy to learn from the errors of others.
	*27. I have seen others make errors that had the potential to harm patients.
	28. I know the proper channels to direct questions regarding patient safety in the theatres here.
	36. Disruptions in the continuity of care (e.g., shift changes, patient transfers) can be detrimental to patient safety.
	*44. I have made errors that had the potential to harm patients.
	46. All the personnel in the theatres here take responsibility for patient safety.
	*56. Personnel frequently disregard rules or guidelines (e.g., handwashing, treatment protocols/clinical pathways, sterile field, etc.) that are established for the theatre.
Stress Recognition	16. Fatigue impairs my performance during emergency situations.
	25. When my workload becomes excessive, my performance is impaired.
	31. I am less effective at work when fatigued.
	32. I am more likely to make errors in tense or hostile situations.
	33. Stress from personal problems adversely affects my performance.
	47. I feel fatigued when I get up in the morning and have to face another day on the job.
	48. Patient safety is constantly reinforced as the priority in the theatres here.
	*49. I feel burned out from my work.
51. There is widespread adherence to clinical guidelines and evidence-based criteria regarding patient safety here.	

Safety-related Domain	Questions / Statements
	54. Information obtained through incident reports is used to make patient care safer in the theatres here.
Job Satisfaction	2. I like my job. 8. Working in this hospital is like being part of a large family. 15. This hospital is a good place to work. 29. I am proud to work at this hospital. 41. Morale is high in the theatres here. *52. I feel frustrated by my job. *53. I feel I am working too hard on my job.
Perceptions of Management	9. The administration of this hospital is doing a good job. 10. Hospital administration supports my daily efforts. 17. Hospital management does not knowingly compromise the safety of patients. 18. The levels of staffing in our theatres are sufficient to handle the number of patients. 22. This hospital deals constructively with problem with doctors and employees. 26. I am provided with adequate, timely information about events in the hospital that might affect my work.
Working Conditions	*1. High levels of workload are common in the theatres here. 6. This hospital does a good job of training new personnel. 7. All the necessary information is available before the start of a procedure. 14. Briefings are common in the theatre. 23. Medical equipment in the theatres here is adequate. 40. Truly professional personnel can leave personal problems behind when working. 42. Trainees in my discipline are adequately supervised. 45. Consultant doctors in the theatres here are doing a good job. 55. During emergency situations (e.g., emergency resuscitations), my performance is not affected by working with inexperienced or less capable personnel.

* Negative statements

The quality of collaboration and communication between team members used a five-point Likert scale (Very Low [1], Low [2], Adequate [3], High [4], Very High[5]) with a “Not Applicable” option placed but not scored. Each of the other questions/statements in the SAQ-OR was also answered by a five-point Likert scale (Disagree Strongly [1], Disagree Slightly [2], Neutral [3], Agree Slightly [4], Agree Strong[5]) with a “Not Applicable” option also placed but not scored. Negative questions/statements were reversely scored.

Using the SAQ Form Scoring Key provided by the University of Texas (2008), scores were converted to 100-scale. Tables showed mean scores and standard deviation per individual questions/statement and per safety-related domain. Scores for “Not Applicable” were not included in the computation of the means and standard deviations.

When mean (average) scores of the individual questions/statements from the SAQ-OR were computed, verbal description of the respondents’ scores for each statement in the SAQ-OR was based on the interpretations key below to classify the average level of agreement for each statement:

Table 2

SAQ-OR Rating Scale and Verbal Description

Scale	Rating Scale	Verbal Description
100	80.01 to 100	Very High / Agree Strongly
75	60.01 to 80.00	High /Agree Slightly
50	40.01 to 60.00	Adequate / Neutral
25	20.01 to 40.00	Low / Disagree Slightly
0	0 to 20.00	Very Low / Disagree Strongly

* Negative questions/statements were reversely scored and the description was also inverted

When the overall mean of the scores for each domain was also computed, the following score interpretations and descriptions were used:

Table 3

SAQ-OR Interpretation

Score	Meaning
Above 80 is excellent	This is a strength and groups should consider how to leverage their strengths in other areas
50-79 is average	<i>High average:</i> ~70-79: This is nearly a strength and may only require fine tuning to turn this into excellent. Groups should ask themselves: ‘what is required to go from good to excellent?’ <i>Medium average:</i> ~60-69: This is a neutral result. Groups should explore what underpins this result in facilitated discussions or staff debriefs to better understand what is needed to improve in this area. <i>Low average:</i> ~50-59: This is bordering on poor and can be considered an area for improvement.
Below 50 is poor	This indicates a priority area and requires discussion amongst the team and action planning for improvement.

(Clinical Excellence Commission, 2020)

Informal interviews were also conducted to get more detailed information. The interviews included open-ended questions that were derived from the SAQ-OR safety-related domains. All interviewees were asked to give a brief statement or describe in short phrases their perception and experience in the theatres or recovery units in terms of (a) communication/collaboration, (b) teamwork climate, (c) safety climate, (d) stress recognition, (e) job satisfaction, (f) perception on management, and (g) working conditions. Follow-up questions were also asked regarding their specific profiles such

as describing the difference in their experience with relocation (e.g. from Southampton to London), change in team (e.g. from scrub to anesthetics or vice versa), or their experience in different specialties.

Statistical Analysis

Descriptive statistics was used to describe and summarize data in averages, percentages, and variability to represent the target population. With quantitative data, statistical procedures have enabled the summarization, organization, evaluation, and interpretation of numeric data, with the help of Google Sheets and SPSS. Nominal data, such as demographic data was presented with frequency and percentage distribution. Measures of central tendency (i.e. mean, median, mode) were also acquired with the same category as above. The variability of the data was also determined through the standard deviation to see how spread out or dispersed the data was.

A Likert scale was used, with “not applicable” as not included and not scored, one point for strongly disagree and five points for strongly agree. Negatively worded items were reversely scored so they matched the positively worded items. To further interpret the results, scores were converted to a 100-point scale by using the SAQ Form Scoring Key provided by the University of Texas. This was done by calculating the mean scores of the set of items per domain, then subtracting 1 from the mean, and then multiplying the result by 25. “A score of 75 on the scale score indicates the same thing as ‘agree slightly’ on the original 5-point Likert scale (1=Disagree Strongly/Very Low, 2=Disagree Slightly/Low, 3=Neutral/Adequate, 4=Agree Slightly/High, 5=Agree Strongly/Very High), with the conversion to the 100-point scale: 1=0, 2=25, 3=50, 4=75, 5=100”, (UTHealth Houston, 2008). This then also indicates

that scores between 50 and 74 are the same as neutral responses and below 50 indicates negative responses ('disagree slightly' & 'disagree strongly' on the original 5-point Likert scale). Tables and figures showed mean (average) SAQ scores with standard deviations of the scores for all respondents when categorized according to their profiles.

Although "Likert scales produce data that are, strictly speaking, ordinal, most analysts believe that treating them as interval measures results in too few errors to warrant using less powerful statistical procedures", (Polit and Beck, 2022). With this in mind, a normality test was done to check for normal distribution (See Appendix H).

Once the normality test proved a normal distribution, an independent t-test was used to determine the difference between two independent group means (e.g. sex - between male and female). An inferential, independent t-test is a parametric test, where a p-value of less than or equal to 0.05, means that there is a significant difference from one group compared to the other, (Lund Research, 2018). Analysis of variance (or ANOVA) was also used to determine the difference among the means of 3 or more independent groups (e.g. scrub vs. anesthetic vs. recovery/ auxiliary team). ANOVA is a parametric test that has an omnibus test statistic that can only report that at least two groups were different but cannot tell which specific groups were significantly different from each other. If the p-value is less than or equal to 0.05, then the means of at least two groups are significantly different from the others, (Lund Research, 2018). The least significant difference (LSD) test was then used whenever a difference in means between the groups was statistically significant. It is a post-hoc test that evaluates statistically significant differences for all likely pairs of group means. It uses t-tests to perform all pairwise comparisons between group means. No

adjustment is made to the error rate for multiple comparisons. A P-value of less than or equal to 0.05 indicates one group is significantly different from the other.

Tables were used to present the differences in frequency distribution of each domain and group. Figures like bar graphs were also used to get a visual or graphic presentation of the data gathered (See Appendix G).

Table 4

Statistics per Research Objective

Research Objectives	Variables	Level of measurement	Statistical Method
1. Describe the demographic profile of Filipino staff in theatres and recovery units in the United Kingdom in terms of (a) Team, (b) Specialty, (c) Age Group, (d) Years of experience (e) Location, (f) Sex	Demographic profile	Nominal	Frequency and Percentage
2. Describe the perceived safety attitudes among Filipino staff in theatres and recovery units in terms of safety-related domains: (a) Safety Climate, (b) Stress Recognition, (c) Teamwork Climate, (d) Job	Individual SAQ Question/ Statement Scores	Interval	Mean and Standard Deviation,
	Demographic profile groups	Nominal	Descriptive Stats, and

Research Objectives	Variables	Level of measurement	Statistical Method
Satisfaction, (e) Communication / Collaboration, (f) Working Conditions, (g) Perceptions of Management, and categorized by their demographic profile/characteristics.	Perceived Safety Attitude (SAQ Scores per Domains)	Ratio	Cross- tabulation
3. Determine the difference in the perceived safety attitudes among the demographic profile groups of Filipino staff in theatres and recovery units.	Demographic profile groups Perceived Safety Attitude (SAQ Scores / Domains)	Nominal Ratio	Analysis of Variance (ANOVA), Least Significant Difference (LSD), and Independent t-test

Ethical Considerations and Data Management

Compliance with Protocol

This study follows a research protocol that serves as guidance to research conductors, evaluators, and reviewers. The protocol included the significance of the study, hypothesis, related literature, the research design, the data gathering

procedure/recruitment process, and the dissemination plan. The investigators referred to the protocol for guidance as the study was being conducted. Some qualitative data from the administration may have been collected to substantiate findings.

Informed consent (Please see Appendix D)

Full disclosure of the study was provided to all the respondents as specified in the informed consent. It means that the researcher provides a full description of the study, the person's right to refuse participation, the researcher's responsibility, and likely risks and benefits, (Polit and Beck, 2022).

The societal benefits, data management, recruitment process, and ethical considerations including their rights to self-determination, fair treatment, and protection from exploitation were also placed on the informed consent. Informed consent was placed before the questionnaires.

In case, participants have not signed the informed consent, data and answers provided were still collected if the criteria are met. "In general, if the information is obtained by means of a questionnaire, and adequate information has been given to the research participant, there is no need for a written informed consent (waiver of informed consent documentation) since answering the questionnaire implies consent," (Philippine National Health Research System and Philippine Health Research Ethics Board, 2017). Implied consent is therefore assumed once the forms are completed and submitted.

Openness and integrity

Only voluntary participants are included in this study and at any point during the study they have a right to withdraw from the study without penalty. Participants were aware that there was no compensation beyond their time and effort in

participating in this study. Only the executive summary of the research can be given to the participants, upon request.

Protection from harm

This study adheres to the ethical principles and rules for protecting human rights. Participants were not subjected to unnecessary harm or discomfort, as no anticipated risk for social, health, legal, employment, or financial status was foreseen to the participant. This study places very minimal risk to the participants since no manipulation was done by the researcher. Completed questionnaires were managed solely by the main investigator and were kept in secured storage for a period of time. They will then be completely disposed of appropriately after the set time period.

Confidentiality

Respondents who answered the SAQs were not identified in this study and rights to privacy and anonymity are preserved as no name or person identifier was collected from the participants in the questionnaire. Individual self-report forms were viewed by the researcher and the participant only and were identified with designated "Questionnaire ID No." for the organization of data collected. Analysis was taken as a group when the study was published. Individuals who were interviewed were aware that confidentiality would be kept and no names would be published unless permission was given. They are identified only by their demographic profile. Only the final results and/or executive summary of the study were published for future reference. Completed questionnaires were managed only by the main investigator and were kept in secured storage for 5 years. They will then be completely disposed of until they are unreadable.

Professional codes of practice and ethics

This study adheres to the National Ethical Guidelines (2017) provided by the Philippine National Health Research System and Philippine Health Research Ethics Board and the protocol complied with the Data Privacy Act of 2012. The researcher can be contacted at: ruthietupas@yahoo.com and the Program Chair can be contacted at: queenie.ridulme@upou.edu.ph

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study is to describe the perceived safety attitudes among Filipinos in the theatres and recovery units in the UK. It aimed to describe the demographic profile of Filipinos in terms of Team, Specialty, Age Range, Years Of Experience, Location, and Sex.

Perceived safety attitudes are measured by mean SAQ scores per patient safety-related domains in terms of communication and collaboration, teamwork climate, safety climate, job satisfaction, stress recognition, perceptions of management, and working conditions. Scores were tallied and tables were used to show means and standard deviations with the use of Google Sheets and SPSS 23.

The study also aims to examine the differences in the perceived safety attitudes of the respondents between their demographic profile groups using variance tests, such as ANOVA and t-test. Results were presented in tables for ease of analysis.

Informal interviews were integrated into the analysis and discussions to attain additional context with the target's perceptions and experiences in theatres and recovery units based on the same safety-related domains. A series of follow-up questions, specific to participant's profiles were also solicited.

Demographic Profile

With thousands of Filipinos working in the NHS England, (Baker, 2023), there was optimism for a larger turnout. However, due to unknown reasons, only 44 respondents completed the questionnaires. The table below shows the demographic profile of the Filipino staff in the theatres and recovery units, who responded to the self-report forms for this study.

Table 5*Socio-Demographic Profile (n=44)*

Demographic Profile Groups	Frequency	Percentage (%)
Team		
Anesthetic Team	8	18.0
Scrub Team	31	71.0
Other Perioperative Team	5	11.0
Specialty		
Dual (2 specialties)	13	29.6
Single (1 specialty only)	17	38.7
Various (3 or more specialties)	14	31.8
Age Group		
Under 30 years old	4	9.1
30-34 years old	15	34.1
35-39 years old	12	27.3
40-49 years old	9	20.5
50 years old and older	4	9.1
indicated of Experience		
Less than 2 years	3	6.8
2-5 years	12	27.3
6-10 years	12	27.3
More than 10 years	17	38.7
Location		
London	21	47.7
North England	2	4.5
Southampton	18	41.0
West England	3	6.8
Sex		
Female	30	68.2
Male	14	31.8

Table 5 displays the socio-demographic profile of the total sample (n=44). The number (frequency) of respondents and its corresponding percentage per demographic profile group were also presented. The demographic profiles of the

Filipino staff in the theatres and recovery units in the United Kingdom in this study include (a) team, (b) specialty, (c) age group, (d) years of experience, (e) location, and (f) sex. The teams were divided into the 3 most common groups in the surgery department: (a) the anesthetic team, (b) the scrub team, and (c) the other perioperative team.

Fernandes et al. (2021) stated in their study, that “the safety culture is transdisciplinary” and emphasized “the importance of including all professionals involved in care within the operating room”. Taking this into consideration, this study included Filipino health care assistants (HCAs) and other Filipino workers in the theatres and recovery units and included them in the other perioperative team.

Out of 44 respondents, 31 (71%) of them belong to the scrub team. The Scrub team includes scrub practitioners and surgical first assistants or care practitioners who are either nurses or ODPs (Operating Room Practitioners). They mainly assist the surgeon in the sterile field if they are scrubbed. They alternatively assist the surgical team outside the sterile field as a circulator.

Association for Perioperative Practice (2022) recommends 2 scrub practitioners per theatre paired with 1 anesthetic and 1 recovery practitioner, so, understandably, there is more Filipino staff in the scrub team as shown in Table 5. There are 8 (18%) of the respondents who belong to the Anesthetic team. They include anesthetic physicians and practitioners, either nurses or ODPs who assist anesthesiologists to put and keep the patient asleep during surgery. The 11% or 5 respondents belong to the Other Perioperative team. It includes one (20%) recovery practitioner who also rotates in the pre-op unit and the other four (80%) are support workers like health care assistants or nursing aides, who are non-registered workers that rotate in sterile services, portering, and on occasion as part of the scrub and recovery team (Hartley,

2018). They keep the theatres working smoothly by providing needed services before, during, and after surgery.

Operating theatres in most hospitals can perform different specialties, such as general and trauma surgeries. Respondents were categorized based on how many specialties they could do. A lot of the bigger facilities cater to multi-specialties and the more complex the surgery is, the more they want the staff to specialize in only one specialty, hence we can see in Table 5 that there is more staff that have single specialties, with 17 respondents (38.7%). The respondents who are categorized in the “Single” specialties can only do 1 specialty. They mostly cater to those with more complicated and highly specialized surgeries, such as Orthopedics, Cardiac, Neuro, Obstetrics & Gynecology and Pediatrics among others. However, those who work on emergency general surgeries usually work on another specialty like thoracic, vascular, or colorectal surgeries. Hence, they are included in the “Dual” group, which is considered having two specialties. Table 5 shows that 13 (29.6%) respondents belong to this group. Those who have “Various” specialties, not only do single specialized surgeries (1 specialty), they also do dual surgeries (2 specialties). There are 14 (31.8%) respondents included in this group and they are mostly anesthetic and recovery practitioners since they cater to all specialties.

Age groups were categorized according to decades. There are 4 respondents (9.1%) who are under 30 years old, 9 respondents (20.5%) who are 40-49 years old, and 4 respondents (9.1%) who are 50 years and older. A majority of the respondents are in their 30s, hence the age were further subdivided into 30-34 years old (early 30s) and 35-39 years old (late 30s), with 15 respondents (34.1%) and 12 respondents (27.3%) respectively.

Category for years of experience was grouped as less than 2 years, 2-5 years, 6-10 years, and more than 10 years, with 3 respondents (7%), 12 respondents (27.3%), 12 respondents (27.3%), and 17 respondents (38.7%) respectively. It can be seen in Table 5 that there are a lot of experienced Filipino nurses in the UK. Most of the hospitals in the UK would require an overseas nurse to have a clinical experience of at least 1 to 2 years before they get sponsored for a job, especially in theatres.

Since most of the respondents were from different facilities, other than the visited hospitals, the location was grouped according to the respondents' region in the UK including: 1) London, 2) North England, 3) Southampton, and 4) West England. London has the most Filipinos with 21 respondents (47.7%). It is a very popular place for Filipinos to live because of the higher salary and good entertainment value. A city like Southampton is also a good place to work and live because of the vibrant and lively suburban lifestyle it offers, making it consistently ranked in the top five cities in the UK, (Visit Southampton, 2021). Hence, it is understandable that 18 out of the 44 respondents (41%) came from there. There are 3 respondents (6.8%) from West England and 2 respondents (4.5%) from North England included in this study. Some interviewees highlighted differences between public (NHS) and private hospitals. A little over 9% of the self-report respondents revealed that they work in private hospitals, while almost 80% work in public hospitals. The remaining 11% did not disclose their hospitals but only their location (e.g. London). The presence of respondents with unknown hospitals makes insufficient data to support the interview differences.

Sex was divided into male and female, with 30 respondents (68.2%) and 14 respondents (31.8%) respectively. Table 5 shows that there are more females than males. Overall, Table 5 describes the diversity of demographic profile groups of the Filipino staff in theatres and recovery units in the United Kingdom. It can be seen that

the scrub team dominates, with mostly doing only one (single) specialty and the majority living in London. They are also mostly female in their early 30s (between 30-34 years old), with more than 10 years of experience.

Perceived Safety Attitudes

Brennan and Oeppen (2022) stated that understanding human factors and their impact on current practices can help improve team morale and well-being, reduce many preventable errors, and eventually lead to a safer working environment. This study aimed to understand the safety attitudes that are related to human factors influencing safety in operating theatres.

The instrument used was the Safety Attitude Questionnaires Operating room version (SAQ-OR), which measures the respondent's perceived safety attitude in theatres and recovery units based on patient safety-related domains: communication and collaboration, teamwork climate, safety climate, job satisfaction, stress recognition, perceptions of management, and working conditions. Each question from the SAQ-OR was scored from 1=Very Low / Disagree Strongly to 5= Very High / Agree Strongly and negatively worded items were reversely scored to match positively worded items. Scores were then converted to 100-scale by using the SAQ Form Scoring Key provided and can be identified as 1 = 0, 2 = 25, 3 = 50, 4 = 75, 5 = 100, NA = missing. The missing values (NA) were not included in the computation of the means and standard deviation.

Results per Individual Question / Statement

The mean and standard deviation of the individual questions/statements from the SAQ-OR were computed to see how the staff agreed or disagreed with certain statements and scored high or low on some questions. The score per question ranges

from 0 – Disagree Strongly to 100 – Agree Strongly. Negative statements were reversely scored and described.

Table 6

Individual Question / Statement Scores (sorted according to variation of scores per domain)

Domain / Question / Statement	Mean	Std Dev	Verbal Description
Safety Climate			
13. Briefing theatre personnel before a surgical procedure is important for patient safety.	89.88	18.36	Agree Strongly
5. Medical errors* are handled appropriately in this hospital.	80.11	20.59	Agree Strongly
28. I know the proper channels to direct questions regarding patient safety in the theatres here.	75.57	21.89	Agree Slightly
20. I am encouraged by my colleagues to report any patient safety concerns I may have.	78.98	22.19	Agree Slightly
46. All the personnel in the theatres here take responsibility for patient safety.	75.00	22.87	Agree Slightly
12. In the theatre, it is difficult to discuss errors. **	61.36	24.97	Disagree Slightly **
36. Disruptions in the continuity of care (e.g., shift changes, patient transfers) can be detrimental to patient safety.	74.43	24.99	Agree Slightly
11. I receive appropriate feedback about my performance.	60.23	26.04	Agree Slightly
4. I would feel safe being treated here as a patient.	79.55	26.56	Agree Slightly
21. The culture in the theatres here makes it easy to learn from the errors of others.	68.18	27.68	Agree Slightly
44. I have made errors that had the potential to harm patients. **	62.50	28.82	Disagree Slightly **
27. I have seen others make errors that had the potential to harm patients. **	43.60	28.92	Neutral **
56. Personnel frequently disregard rules or guidelines (e.g., handwashing, treatment	55.11	29.82	Neutral **

Domain / Question / Statement	Mean	Std Dev	Verbal Description
protocols/clinical pathways, sterile field, etc.) that are established for the theatre. **			
Stress Recognition			
51. There is widespread adherence to clinical guidelines and evidence-based criteria regarding patient safety here.	71.59	20.60	Agree Slightly
48. Patient safety is constantly reinforced as the priority in the theatres here.	82.39	21.28	Agree Strongly
54. Information obtained through incident reports is used to make patient care safer in the theatres here.	69.32	25.21	Agree Slightly
16. Fatigue impairs my performance during emergency situations.	72.62	25.79	Agree Slightly
25. When my workload becomes excessive, my performance is impaired.	75.00	28.35	Agree Slightly
47. I feel fatigued when I get up in the morning and have to face another day on the job.	57.74	28.42	Neutral
49. I feel burned out from my work. **	44.05	28.59	Neutral **
31. I am less effective at work when fatigued.	76.74	29.07	Agree Slightly
32. I am more likely to make errors in tense or hostile situations.	72.73	29.93	Agree Slightly
33. Stress from personal problems adversely affects my performance.	65.91	30.54	Agree Slightly
Teamwork Climate			
34. I have the support I need from other personnel to care for patients.	72.16	18.84	Agree Slightly
35. It is easy for personnel in the theatres here to ask questions when there is something that they do not understand	72.16	20.33	Agree Slightly
38. The doctors and nurses here work together as a well-coordinated team.	75.57	22.55	Agree Slightly
37. During emergencies, I can predict what other personnel are going to do next.	67.05	23.36	Agree Slightly
3. Nurse input about patient care is well received in the theatre.	80.68	23.42	Agree Strongly

Domain / Question / Statement	Mean	Std Dev	Verbal Description
30. Disagreements in the theatres here are resolved appropriately (i.e., not who is right but what is best for the patient).	61.93	25.57	Agree Slightly
19. Decision making in the theatre utilizes input from relevant personnel.	69.89	26.18	Agree Slightly
43. I know the first and last names of all the personnel I worked with during my last shift.	63.64	28.25	Agree Slightly
57. The lead surgeon should be formally in charge of the theatre staff during the surgical procedure.	64.53	28.99	Agree Slightly
24. In the theatres here, it is difficult to speak up if I perceive a problem with patient care. **	58.52	29.50	Neutral **

Job Satisfaction

2. I like my job.	81.25	21.65	Agree Strongly
29. I am proud to work at this hospital.	73.30	23.75	Agree Slightly
15. This hospital is a good place to work.	72.73	24.60	Agree Slightly
41. Morale is high in the theatres here.	53.98	25.83	Neutral
8. Working in this hospital is like being part of a large family.	70.45	26.01	Agree Slightly
53. I feel I am working too hard on my job. **	35.80	26.08	Agree Slightly **
52. I feel frustrated by my job. **	50.58	30.12	Neutral **

Communication / Collaboration

Describe your experience in terms of the quality of communication and collaboration with

Anaesthetic Operating Department Practitioner (ODP)	72.67	18.75	High
Scrub Nurse	78.98	19.40	High
Recovery Nurse	61.36	19.78	High
Anaesthetic Fellow, Registrar & Senior House Officer	62.21	19.95	High
Health Care Assistant / Nursing Assistants	76.16	20.38	High
Anaesthetic Nurse	75.00	20.68	High

Domain / Question / Statement	Mean	Std Dev	Verbal Description
Scrub Operating Department Practitioner	75.00	20.88	High
Consultant Anaesthetist	67.61	21.28	High
Recovery Operating Department Practitioner (ODP)	63.64	22.53	High
Surgical Fellows, Registrars, & Senior House Officer	63.07	22.55	High
Consultant Surgeons	63.64	23.78	High
Surgical First Assistant / Surgical Care Practitioner	59.76	24.29	Adequate
Support Staff (Operating Department Assistants/ODA)	58.75	24.38	Adequate
Other	42.71	24.98	Adequate
Perfusionists	30.36	28.35	Low
Ward Nurse / Practitioner	44.59	28.95	Adequate

Describe your experience in the theatres:

50. Important issues are well communicated at shift changes.	69.77	25.91	Agree Slightly
58. Communication breakdowns which lead to delays in starting surgical procedures are common. **	31.82	27.15	Agree Slightly**
39. I am frequently unable to express disagreement with consultant doctors. **	48.26	30.08	Neutral**

Working Conditions

14. Briefings are common in the theatre.	89.63	18.52	Agree Strongly
1. High levels of workload are common in the theatres here. **	11.93	19.05	Agree Strongly **
42. Trainees in my discipline are adequately supervised.	59.66	21.71	Neutral
45. Consultant doctors in the theatres here are doing a good job.	73.84	21.79	Agree Slightly
40. Truly professional personnel can leave personal problems behind when working.	70.35	24.55	Agree Slightly
23. Medical equipment in the theatres here is adequate.	58.52	25.26	Neutral

Domain / Question / Statement	Mean	Std Dev	Verbal Description
7. All the necessary information is available before the start of a procedure.	69.89	27.80	Agree Slightly
6. This hospital does a good job of training new personnel.	68.18	29.71	Agree Slightly
55. During emergency situations (e.g., emergency resuscitations), my performance is not affected by working with inexperienced or less capable personnel.	50.60	29.98	Neutral
Perceptions of Management			
26. I am provided with adequate, timely information about events in the hospital that might affect my work.	64.20	24.94	Agree Slightly
22. This hospital deals constructively with problem with doctors and employees.	59.30	25.60	Neutral
9. The administration of this hospital is doing a good job.	50.57	28.27	Neutral
10. Hospital administration supports my daily efforts.	51.14	29.51	Neutral
17. Hospital management does not knowingly compromise the safety of patients.	62.21	30.56	Agree Slightly
18. The levels of staffing in our theatres are sufficient to handle the number of patients.	51.70	31.62	Neutral

Note: **Highest** / *Lowest* Mean score per domain

** Negative questions/statements were reversely scored and the description was also inverted

Table 6 shows the mean scores of all respondents for each question/statement from the SAQ-OR self-report form. The questions/statements were categorized per domain and arranged according to the variation of scores. A smaller standard deviation (Std Dev) means a smaller variation of scores (median standard deviation is 26).

Safety Climate

Statement 13 has the highest mean score across the entire questionnaire, indicating that on average, respondents agree strongly with the importance of briefing the theatre personnel before a surgical procedure to ensure patient safety. As the standard deviation is small, this indicates a consensus among respondents. A recovery nurse who was interviewed highlighted that team briefings or “huddles” help them anticipate the needs of team members and patients. Sexton, J., Makary, M., et al. (2006) discussed that preoperative briefings and postoperative debriefing enhance teamwork and predictability, thereby improving performance.

Statements 5 and 20 also show high mean scores with low standard deviation, indicating that, on average, respondents strongly agree that medical errors are handled appropriately in their hospitals and slightly agree that their colleagues encourage them to report any patient safety concerns. This contrasts with the findings of Ghobadian et al. (2021), where workplace attitudes posed a barrier to error reporting, particularly among nurses. Kosydar-Bochenek et al. (2022) emphasized that patient safety climate should be a priority in healthcare, aligning with Haugen, Murugesh, et al. (2013), who advocated for increased awareness of near misses and improved attitudes toward safety protocols, especially during checks.

Statement 4 also has a high mean score, indicating respondents slightly agree that they feel safe being treated as patients in their theatres. The statement “*46. All the personnel in the theatres here take responsibility for patient safety*”, also had a fairly high average score with a low standard deviation, indicating a good number of respondents agreeing slightly with the statement. Overall, scores of each individual statement are fairly high with mostly low standard deviations, indicating respondents agree to a good safety climate in their departments.

However, neutral scores for statements about witnessing errors (Statement 27) and personnel disregarding guidelines (Statement 56) suggest a need for further assessment of adherence to safety protocols to mitigate errors and non-compliance.

Stress Recognition

Statements 48 and 51 have high mean scores with a small standard deviation, indicating a smaller variation of scores within the respondents. This signifies how the staff recognizes and strongly agrees that patient safety is constantly reinforced as a priority. They also slightly agree that there is widespread adherence to the clinical guidelines regarding patient safety within their theatre department. Staff also recognize and slightly agree that fatigue impairs their performance during an emergency (Statement 16). The smaller standard deviation indicates less variation in their answers. The statement “31. *I am less effective at work when fatigued.*” has a high average score, which indicates the respondents agree slightly with the statement. The statement “25. *When my workload becomes excessive, my performance is impaired.*” also has a high mean score which means that respondents agree slightly with the statement. However, the higher standard deviation shows a bigger variation in the scores of the respondents. Most statements received scores that indicated good stress recognition among respondents on average.

Although the statements about fatigue at the start of the working day (Statement 47) and about burnout from work (Statement 49) received median scores, which suggests investigation of factors that promote fatigue and burnout among theatre staff. Experiencing stress from fatigue and burnout over time can lead to work errors, poor team performance, and reduced productivity, underscoring the importance of stress management for patient safety (Houtman, 2005, as cited in WHO, 2009). Hence, there is a need to prevent the over-exhausting of staff by providing enough rest periods or

days off and other ways to identify risks and reduce workplace stressors.

Teamwork Climate

Statement 3 has the highest mean score. This means that on average, respondents strongly agree that the nurse's input about patient care is well received in the theatres. The small standard deviation indicates a small variation among respondents. Some of the respondent interviews also had similar responses where they explained that workflow in theatres is often nurse-driven. WHO (2009) suggests that balanced and respected roles are crucial for efficient multidisciplinary teams with varied values, expectations, and experiences. Clear role definitions are essential to avoid issues like having no leader or multiple self-assumed leaders. Hence, in a surgical list where multiple surgeons are working, the charge nurse or the “Sister” leads the surgical flow to maintain a consistently efficient team.

Statement 38 also had high average scores with a low standard deviation, which signifies that on average, there is a consensus with the respondents that slightly agree on a good doctor-nurse relationship in theatres. Several of the interviewees supported this claim with one of them stating that some doctors would prefer to be called by their first name.

Statements 34 and 35 also have high average scores with low standard deviation. This supports a consensus with the respondents agreeing slightly with having the support needed and being able to ask questions for clarification.

Statement 24 about difficulty speaking up when a problem is perceived, had neutral results which may indicate a need for improvement. However, the larger standard deviation suggests more variation in responses. Interviewees mentioned confidence and cultural differences as barriers to speaking up.

Team leaders' behaviors significantly impact staff's willingness to speak up

(Edmondson, 2003), highlighting the importance of empowering staff to express concerns. Therefore, it is crucial to provide support to instill confidence and neutralize differences among staff.

Job Satisfaction

Statement 2 has the highest mean score and lowest standard deviation, indicating a strong consensus among respondents who strongly agree that they like their job. Statements 29 and 15 also scored highly, showing that respondents slightly agree with being proud to work at their hospital and consider it a good place to work. The small standard deviation indicates a smaller variation in scores. An experienced scrub nurse in London noted that she is more satisfied and motivated in her job due to the culture of safety and better compensation compared to her country of origin.

Low average scores for negative statements about feeling overworked (Statement 53) indicate slight agreement, while the statement about feeling frustrated (Statement 52) suggests a neutral response with greater variation compared to the neutral Statement 41 about morale. Both areas still require improvement, and factors impacting staff frustration and morale in theatres need to be assessed to enhance job satisfaction. According to Zangaro & Soeken (2007) and Inoue et al. (2017), factors such as autonomy, leadership styles, and job stress are related to lower job satisfaction and may also be linked to staff frustration and morale, warranting further exploration. Supporting empowerment and participation among nursing staff may also be needed to improve job satisfaction (Tocco Tussardi et al., 2022).

Communication and Collaboration

When describing the quality of communication and collaboration experience, scrub nurses have the highest mean score, indicating very good interaction with other

team members in the operating theatre. The smaller standard deviation suggests consistency in responses scrub nurses, often coordinating with the entire surgical team to ensure smooth operations, likely contribute to their high scores. Recovery nurses also received high scores, though slightly lower, indicating a potential need for improvement, like in notifying recovery staff of incoming patients.

On the other hand, perfusionists have the lowest score, suggesting the lowest quality of interaction with other team members. Perfusionists are mainly present during cardiac surgeries, the higher standard deviation indicates varied responses, with some respondents possibly having minimal to no interaction with them at all. For those who have an interaction with perfusionists, the low score suggests a need to investigate whether the low scores reflect significant communication issues affecting patient safety or merely infrequent interactions.

Surgical assistants and support staff received adequate scores, but could still be improved from adequate to high or excellent. Other staff with low scores mentioned by respondents include the matrons, the educational team, cleaners, materials management, hospital porters, theatre coordinators, and managers. These roles often do not involve direct clinical work in theatres or recovery units, necessitating a more detailed assessment to identify specific communication and collaboration issues. It can highlight the potential correlation of communication with management (matron, theatre coordinator, and managers) and the perception of management.

Communication by the education team is also essential in addressing patient safety during in-service training programs in hospitals (Zeynep et al. (2020). It is important that information passed through these trainings align with the audience's attitudes, as they often select information that aligns with their existing attitudes (Bohner et al., 2011). Hence, it is important to routinely conduct safety culture and

attitude assessments or surveys to target training and communication needs.

Statements 50 and 58, with average scores that verbally describe a slight agreement by the respondents, that despite having communication breakdowns, leading to delays in procedures, important issues are well communicated. Related to the quality of communication scores, breakdowns between scrub staff and recovery staff can cause delays when recovery staff are not informed ahead of time about incoming patients. Despite this delay, there might not be any issues with the actual handover of patient details. Assessing the specifics of these communication breakdowns is crucial to improving communication that causes surgical delays.

One of the negative statements “39. *I am frequently unable to express disagreement with consultant doctors.*” had a score that describes a neutral agreement to the statement. The higher standard deviation for this statement suggests a greater variation in respondents' scores. A new anesthetic nurse in London disagreed with the statement, noting that there is good communication between anesthetic practitioners and anesthesiologists. Conversely, a new vascular scrub nurse in London supported the statement, observing that communication in their theatre is poor, especially between surgeons/anesthesiologists and nurses. Surgeons and anesthesiologists often make decisions without consulting nurses, such as sending for patients, changing the order of the list, or not checking if there is available cover in case the theatre overruns.

Despite this variation, there is a need to improve the ability to speak up among targeted profile groups. The SAQ-OR also included a question about recommendations for improving patient safety, with the recurring response being that communication needs improvement

Working Conditions

Statement 1, a negative statement with the lowest score among all statements

and with a small standard deviation, highlights a consensus among the staff that strongly agrees with the high levels of workload being common in the theatres. Several interviewees mentioned “*workload pressures*” and described that “*sometimes the workload is too much.*” Despite this, the statement “14. Briefings are common in the theatre.” received the highest mean score within its domain and second overall mean score in the whole questionnaire, with its smaller standard deviation, indicating strong agreement. This suggests a consistent effort to ensure safety through regular briefings, aligning with WHO (2009) recommendations that briefings enhance team communication, efficiency, and productivity, leading to better surgical outcomes (NPSA, 2010).

Statements 42 and 23, which state that “Trainees in my discipline are adequately supervised” and “Medical equipment in the theatres here is adequate” received neutral responses with low standard deviations, indicating a general consensus among respondents. These results suggest a possible need for additional training or orientation for staff, as well as attention to potential shortages in medical equipment. Similarly, statement 55, “During emergency situations (e.g., emergency resuscitations), my performance is not affected by working with inexperienced or less capable personnel” also received a neutral response, though with a higher standard deviation, indicating some variability in perceptions. This variability points to the importance of further training, particularly in conducting emergency drills. Although annual training is conducted, mid-year refresher sessions could support ongoing staff preparedness. Quality improvement programs, such as learning conferences, process standardization, and reliable data systems, may further enhance quality and outcomes by addressing these areas (Barach et al., 2024). Such initiatives could help to reinforce staff confidence and competence, especially in high-stakes situations.

Perceptions of Management

The statement *“26. I am provided with adequate, timely information about events in the hospital that might affect my work.”* had the highest average score with a smaller variation of scores. This suggests that there is a consensus among respondents who agree slightly with this statement. Although it is the highest in this domain, a medium average score leaves room for improvement. Information dissemination of work updates to staff can be made better, possibly with the help of technology (desktop posters on theatre computers) and by providing motivational rationales for changes (Edmondson, 2003), and by aligning selected information to staff’s existing attitudes (Bohner et al., 2011).

The statement *“17. Hospital management does not knowingly compromise the safety of patients.”*, received a score indicating slight agreement among respondents. However, a relatively high standard deviation reflects substantial variation in responses, suggesting diverse views on this issue. Other statements within this domain yielded mean scores reflecting neutral perceptions.

Statements *“10. Hospital administration supports my daily efforts.”* and *“9. The administration of this hospital is doing a good job.”*, had the lowest average scores within the domain, both falling within the neutral range. While neutral, these scores may indicate a perception of limited administrative effectiveness across various UK hospitals. Conducting a staff survey could clarify what specific support staff members feel they need, potentially enhancing their sense of support and confidence in hospital administration. Meeusen et al., (2024) suggested a need for resources and protocols to mitigate burnout among perioperative team members, emphasizing wellness programs and clinician feedback.

The statement *“18. The levels of staffing in our theatres are sufficient to handle*

the number of patients.” ad the largest standard deviation in the entire survey, reflecting considerable variability in responses. Despite a neutral mean score, this variability suggests staffing adequacy may be an area of concern for some respondents. Regular assessments of staffing levels and skill mix within each department may be necessary to support staff and ensure patient safety.

Most other statements in the questionnaire received neutral scores, with substantial variability in responses, highlighting areas that may require further assessment. At the end of the questionnaire, a respondent recommended: “*value the staff*” and “*listen to staff concerns*”. Other comments highlighted the need for improvement in staff retention, adequate resources, and enhanced collaboration across disciplines. Alshyyab et al. (2022) emphasized the role of management support and the implementation of new techniques in establishing a strong safety culture within the operating room setting.

Results per Domain and Profile Group

The mean of the SAQ scores for each domain per respondent were also computed and tallied. Then the overall mean and standard deviation were computed per domain. The smaller the standard deviation is, the smaller the variation there is in the respondent’s scores under each domain. The table below shows the mean and standard deviation of scores per safety-related domain of all respondents and the mean scores when categorized per demographic profile.

To complement the results of the self-report questionnaires, informal interviews were also conducted to collect and get more detailed information and additional context. Selected participants represented the diversity of the demographic profile of the target population.

Table 7.1

Perceived Safety Attitudes of All Respondents represented by mean scores per domain

All Respondents	Safety-Related Domain						
	SC	SR	TC	JS	C / C	WC	PoM
Mean SAQ Score	69.62	69.10	68.62	62.70	61.66	61.25	56.55
Standard Deviation	11.41	15.84	14.36	15.69	14.40	13.76	20.80

Table 7.2

Perceived Safety Attitudes per Demographic Profile represented by mean scores per domain

Demographic Profile	Safety-Related Domain						
	SC	SR	TC	JS	C / C	WC	PoM
Team							
Anesthetic	<u>72.4</u>	66.0	67.5	<u>70.1</u>	55.8*	<u>65.8</u>	<u>63.5</u>
Scrub	70.1	<u>72.5</u>	<u>70.5</u>	61.5	<u>64.0</u>	61.5	56.6*
Other Perioperative	62.3	53.0	59.0	58.6	56.1	52.2	45.0*
Specialty							
Dual (2)	68.4	67.6	<u>68.8</u>	58.0	<u>62.2</u>	60.0	52.4*
Single (1 specialty)	68.7	69.6	68.3	60.5*	60.8	<u>62.4</u>	<u>60.9</u>
Various (3 or more)	<u>71.8</u>	<u>69.9</u>	<u>68.8</u>	<u>69.8</u>	62.1	60.9	55.1*
Age Group							
under 30 yrs old	69.2	58.1*	<u>72.5</u>	69.6	<u>67.4</u>	64.6	<u>69.8</u>
30-34 years old	66.1	70.3	64.3	54.0	62.0	58.6	45.7*
35-39 years old	<u>77.8</u>	<u>76.0</u>	72.3	67.6	64.2	<u>65.6</u>	63.4*
40-49 years old	67.9	70.2	70.6	63.1	59.4	58.5*	61.1
50 yrs old & older	62.5	52.2	65.6	<u>72.8</u>	52.0*	61.1	53.1
Years of Experience							
Less than 2 years	69.2*	<u>80.8</u>	<u>76.7</u>	<u>71.4</u>	<u>77.4</u>	<u>72.2</u>	<u>70.8</u>
2-5 years	<u>73.6</u>	66.4	71.3	64.3	63.4	63.2	56.81*

Demographic Profile	Safety-Related Domain						
	SC	SR	TC	JS	C / C	WC	PoM
6-10 years	67.3	68.5	63.5	54.8	56.0	59.3	50.7*
More than 10 years	68.6	69.3	69.0	65.7	61.7	59.3	58.0*
Location							
London	68.4	66.7	<u>70.2</u>	65.7	64.5	60.0	56.2*
North England	<u>78.3</u>	<u>77.5</u>	68.8	<u>73.2</u>	67.8	<u>66.0</u>	<u>64.6*</u>
Southampton	70.7	70.3	67.5	59.7	56.5*	62.4	57.9
West England	66.0	73.1	64.2	52.4	<u>69.2</u>	60.2	46.1*
Sex							
Female	<u>70.0</u>	67.0	67.8	<u>63.4</u>	60.3	60.4	54.4*
Male	68.8	<u>73.5</u>	<u>70.4</u>	61.2*	<u>64.6</u>	<u>63.0</u>	<u>61.2*</u>

Note: **Highest score** & *Lowest score among the domains within the group;

Highest score & Lowest score among the groups under the domain

SC-Safety Climate, SR-Stress Recognition, TC-Teamwork Climate,

JS-Job Satisfaction, C/C-Communication/Collaboration,

WC-Working Conditions, PoM-Perceptions of Management

Table 7.1 shows the perceived safety attitudes among the Filipino theatre and recovery staff in the UK as measured by their mean SAQ scores under each safety-related domain for all respondents and the standard deviation, showing the variation in the scores per domain. On the other hand, Table 7.2 shows the mean SAQ scores under each safety-related domain of each demographic profile group, representing the perceived safety attitudes of each respective group.

In contrast to the findings by Göras et al. (2017), which revealed varied results across three professional groups, and underscored weaknesses in the patient safety climate with most domains scoring below 60 except for job satisfaction, the result of this study showed all domains scoring above 60, except for perceptions of

management. This suggests a need to further assess factors that impact perceptions of management and provide initiatives for improvement.

Safety Climate

Safety climate (SC), defined as staff attitudes towards patient safety within the organization (The Health Foundation, 2011), received the highest mean score from all respondents, indicating a prioritization of safety on average (Table 7.1). The lowest standard deviation suggests a consensus among respondents of the high average interpretation highlighting a potential strength of the Filipino staff in their commitment to safety practices within their respective departments. Singer, Lin et al. (2009) found that organizations with better safety climates experienced fewer patient safety incidents. A majority of the interviewees said that safety is a “*priority*” and “*highly valued*”. The researchers also mentioned that safety protocols, policies, and procedures are in place and are adhered to by most, which means that more strict adherence to these safety measures may be needed or other minor adjustments to transition the good safety practices to excellent. Kosydar-Bochenek et al. (2022) supported this in their study, where they measured the SAQ scores of healthcare workers in Europe during the pandemic. Although the results were not ideal, it mentioned that patient safety climate “should be a priority in the healthcare systems of all countries in the world” because it represents a key element in the quality of healthcare.

Compared to other domains, safety climate is the domain with the highest mean score for the groups: **Anesthetic** team, **Other Perioperative** team, **Various specialties**, **35-39 years old** (late 30s), **2-5 years of experience**, in **North England**, in **Southampton**, and **Female** staff (Table 7.2), indicating prioritization of safety in their organization. These findings align with the perspective of an interviewed

anesthetic nurse who stated that *“safety protocols are religiously observed”*, reflecting a strong commitment to safety practices within the anesthetic team.

As Kosydar-Bochenek (2022) highlights, the safety climate is not only a key element in reducing potential harm to patients, but it also ensures a safe working environment for healthcare professionals. Another experienced anesthetic nurse shares this point of view: *“Patients are equally important as staff safety.”* A female recovery nurse from Southampton, who have various specialties, also stressed the importance of staff safety, highlighting adherence to Personal Protective Equipment (PPE) and safeguarding guidelines, especially for vulnerable patients. Experienced Filipino nurses, including those who have various specialties and those in their late 30s, echoed these sentiments, and reiterated their adherence to safety standards and protocols, such as the WHO checklist, demonstrating a culture of safety across specialties.

Furthermore, safety climate also consistently ranked among the top two domains for all team and specialty groups, and the top 3 for all location groups, receiving the highest mean score within each demographic category (Table 7.2). This consistency reinforces the notion of safety climate as a top priority for Filipino staff across teams, specialties, and location groups.

An interview with a nurse, with over five years in Southampton and more than four years in London, revealed some interesting nuances related to location and staff experience. It was noted that major cities like London attract younger, newly qualified staff and agency nurses, while areas outside major cities have more senior staff with consistent practices, leading to stronger teamwork, communication, safety, management, and staff satisfaction.

This strong commitment to safety practices is further evidenced by analysis of questionnaire responses from the groups with high safety climate scores revealed that they strongly agree with the importance of briefing, feeling sufficiently safe enough as a patient, encouraging safety reporting, and minimal disregard for safety protocols. Overall, these results suggest a culture of safety ingrained within their organizations.

On the other hand, the Safety climate domain received the lowest mean score from those with less than 2 years of experience (Table 7.2), suggesting that safety might not be the primary focus for this group compared to other domains. Nevertheless, the medium to high average score indicates that safety remains an integral consideration for this group, despite needing improvement (Clinical Excellence Commission, 2020). Murray, Sundin, & Cope (2019) suggested that transition shock often causes new graduate nurses to prioritize time management and task completion over patient safety and holistic care.

In response, educators and management should then provide time management courses, allocate shadowing and mentoring opportunities with experienced staff to acquire better safety routines, and provide adequate orientation periods. Mostafapour et al. (2022) recommended older staff with more experience could make good preceptors for new employees who need help with orientation. However, evaluation of questionnaire responses, showed that this group has experienced errors, observed others making errors, and witnessed personnel frequently disregarding guidelines. This disparity in perception of the safety climate within their department might stem from the transition from ideal school-taught guidelines to the reality of clinical practice, or it could be attributed to their heightened observation as they strive to learn through watching others. Ji et al. (2021) emphasize the need to improve and develop patient safety competency, particularly for new

nurses, to enhance patient safety performance. Hence, it becomes essential to adjust orientation materials to facilitate the transition of new nurses to clinical settings.

Compared to other groups in among their respective demographic categories, the following groups have the highest mean score under the SC domain: Anesthetic team, Various specialties, aged 35-39 years old, those with 2-5 years of experience, from North England, and Female staff (Table 7.2). This implies that they demonstrate a stronger inclination towards prioritizing safety compared with other groups in their demographic profile. An interviewee noted that *“being in anaesthetic practice has more chances of having issues with safety. Hence, checklists in place are followed, such as stop before you block to prevent never events from happening.”*

The Anesthetics team also had the highest mean scores in 4 out of 7 domains, indicating that they have the best perception among different teams. This aligns with findings by Nwosu et al. (2022), where nurse anesthetists demonstrated the highest perceived safety culture. Haugen, Murugesh, et al. (2013) identified incidents like failing to confirm patient identity as near misses in their study. Given that the anesthetic team typically conducts the initial safety checks before any anesthesia or surgical care begins, these results are logical.

Various specialties also had the highest mean scores in 4 out of 7 domains, showing superior safety attitudes compared to other specialty groups. A nurse, involved in various specialties, described safety as *“paramount”*, while nearly all the interviewees aged 35-39 mentioned safety as a *“priority”*. Those who work in various specialties accommodate different doctors’ preferences and setups for each specialty. The consistency in adhering to the structured safety measures ensures everything is in place and patient safety is maintained, despite the variety of specialties.

Contrary to the findings of Nyberg et al. (2024), which indicate an increasing focus on safety with advancing age and experience, this study revealed a different trend, with safety attitudes peaking among individuals aged 35-39 and those with 2-5 years of experience. Individuals aged 35-39 years old had the highest mean score in 3 out of 7 domains, demonstrating the best attitudes among different age groups. A female scrub nurse in her late 30s, echoed the same sentiment, stating, *"I feel that safety is a priority in this country's healthcare system. There are standards and policies in place, and all we need to do is adhere to them. Also, staff are encouraged to speak up and incidents are looked into for learning and further improvement in safety practices."*

Several factors might contribute to those aged 35-39 having the best safety attitudes. Analyzing the questionnaire, respondents strongly agree with feeling safe as a patient, the importance of briefing, reporting concerns, and awareness of proper channels for patient safety concerns. They could also be in their prime and enthusiastic about their work, on the verge of promotion or recently promoted, or simply part of a generation that is particularly attentive to safety practices. North England residents also had the highest mean scores in 5 out of 7 domains, showing the best safety attitude across location groups. Nurses from North England described their department's safety climate as *"safe enough to deliver care,"* emphasizing the awareness and prioritization of safety among staff, despite occasional instances of rushed behavior by surgeons.

On the other hand, the following groups have the lowest mean score among their respective demographic categories under the SC domain: *Other Operative team, Dual specialties, 50 years old and older, 6-10 years of experience, in West England, and Male staff* (Table 7.2), suggesting a lesser inclination towards safety, compared

to the other groups. These findings contrast with Nyberg et al . (2024) claim that safety is more emphasized among older and more experienced staff. In this study, older staff may become complacent with the safety protocols due to familiarity with routines, hence the low safety climate scores. Additionally, it also complements the study by Tocco Tussardi et al. (2022), which found that more experienced staff accumulate errors over time, highlighting the need to ensure this demographic adheres to safety standards.

A male nurse from the Other Perioperative Team expressed the difficulty of prioritizing safety and maintaining adherence to standards in a fast-paced environment despite the presence of stringent safety protocols. Additionally, an experienced male nurse manager underscored the significance of regarding staff safety with equal importance to patient safety, citing an incident that highlighted the need for equality in treatment by all staff members. Furthermore, it was observed that males tend to be more tolerant of mistakes and imperfections. Findings are aligned with Soeder et al., (2023) who had similar results which indicated that women generally hold more positive attitudes towards certain safety measures compared to men. Similarly, Gambashidze et al. (2021) suggested targeting demographic profile groups when implementing initiatives and emphasizing the importance of safety protocol adherence to improve safety culture.

Stress Recognition

Stress recognition (SR) stands as a crucial approach to managing stress, aiming to detect it early to prevent and mitigate its chronic effects. Houtman (2005), as cited in the World Health Organization (WHO, 2009), reported that many healthcare professionals face occupational stress, a factor known to not only diminish productivity but also jeopardize work accuracy and compromise safety.

From all the respondents, mean scores under this domain were not far from the highest (Table 7.1), which shows how the respondents are aware of stress in the fast-paced environment of the surgical settings. Interviewees commonly cited everyday stress while working in theatres and recovery. Resources and support like flexible working hours, TRIM (Trauma Risk Management), and well-being champions were mentioned as readily available. Health and Wellbeing Champions are staff members who promote, identify, and direct their colleagues to local and national health and wellbeing support offers, (NHS England, n.d.).

Team briefings were also noted to alleviate tension facilitating communication and shared understanding, as recommended by the National Patient Safety Agency. Additionally, post-incident debriefing, particularly following events such as cardiac arrest, trauma, or death, serves not only to provide psychological support but also aid in learning and improvement. The significance of proper debriefing following stressful events is also recommended, by the WHO, (2009). However, despite positive accounts of stress recognition, the medium average score (Table 7.1) under the stress recognition domain suggests that more support for debriefing and other stress recognition initiatives is still necessary to better understand what is needed to improve safety-related attitudes.

Compared to other domains, SR is the domain with the highest mean score for the groups: **Scrub** team, **Single** specialty, **30-34 years old** (early 30s), **less than 2 years of experience**, **6-10 years of experience**, **more than 10 years of experience**, in **West England**, and **Male** staff (Table 7.2). This shows that these groups have a higher tendency to focus more on recognizing stress in their department.

An experienced scrub nurse noted how resources and support for stress management are readily “*visible*”, including encouraging team members, safe spaces

for sharing feelings, and flexible working hours to help with their life-work balance. Staff interviewees specializing in single specialties such as neuro, orthopedic, and cardiac surgery emphasized the importance of stress recognition and management, given the inherent complexity and stressfulness of these fields. This aligns with the medium to high average stress recognition scores given by the Single Specialty group, proposing the need for discussion with the department leads to enhance stress prevention and management strategies from good to excellent.

Table 7.2 further reveals that similar to the safety climate domain, scores in the stress recognition domain are predominantly in the high average range. This positions the stress recognition domain consistently on the top three ranking domains for all specialty, experience, sex, and location groups, receiving a high stress recognition score within each demographic category. This suggests that stress recognition is a common strength for Filipino staff despite specialty, experience, sex, and location in the UK. This is supported by an experienced scrub nurse who stated that stress is *“easily recognized by team members and actioned to be relieved and considered in the workplace”*.

Those with less than 2 years of experience not only have an excellent and the highest score in this domain but also have better scores in almost all domains (6 out of 7 domains) except for safety climate, though they still have a medium to high average score in the domain. Similarly, Carvalho et al. (2017) found that professionals with less than six months of service had better safety attitude scores across all the domains compared to those with longer service. Upon delving deeper into the questionnaire responses, it becomes apparent that respondents with less than 2 years of experience strongly agree with statements pertaining to the impact of fatigue, burnout, and hostile situations on performance and the consistent prioritization of

patient safety. These findings underscore their proactive approach towards recognizing and the need to address stressors in the workplace.

An experienced scrub nurse, in her early 30s from West England, who have a Single specialty (Orthopedics), also agreed with the findings of how she can recognize stress in herself and others: *“Younger employees appear to be easily stressed nowadays. Unlike the older generation where we can handle difficult surgeons and situations.”* This observation also supports the finding that stress recognition scores for those under 30 years old are the lowest mean score compared to other domains, indicating that this group does not prioritize recognizing the stress in their department. Upon review of individual responses, respondents do not recognize the impact of hostile situations and personal stress. They also expressed a neutral response regarding feelings of fatigue before starting work. This subtle contrast underscores the need for tailored interventions aimed at enhancing stress recognition among younger staff.

Moreover, it's essential to recognize that age and experience do not always correlate directly. The contrasting stress recognition scores between different age groups suggest that some less experienced staff may be over 30 years old, while some under 30 years old may already possess significant experience. This complexity emphasizes the importance of implementing targeted strategies to improve stress recognition among younger staff and instituting stress management programs for those with less than 2 years of experience.

Compared to other groups in among their respective demographic categories, the groups with the highest mean score are the following under the SR domain: Scrub team, Various specialties, 35-39 years old (late 30s), less than 2 years of experience, from North England and Male staff (Table 7.2). This indicates a greater inclination

towards recognizing stress compared to other groups in their demographic profile. A nurse who have various specialties mentioned that their department does “*Debriefing*” to provide psychological support for incidents such as cardiac arrest, trauma, or death.

This shows how staff from various specialties easily accept the need to manage the aftermath of stressful events. WHO (2009), citing Hokanson & Wirth (2000), also recommends proper debriefing after stressful events. A scrub nurse in her late 30s, who also works as a surgeon assistant in the private sector and handles various specialties, shared her experience of the stress involved due to the lack of a fixed or set specialty. She noted that seeking help from colleagues in single specialties reduced her fatigue and stress: “*I have been lucky because mostly, my colleagues have been very helpful and supportive*”. Another scrub nurse in her late 30s shared that her current “*work-life balance*” is the “*best*” and that managerial support helps her recognize and manage stress more effectively. WHO (2009), citing Cooper & Clark, (2003), discussed chronic stress can occur when there is a lack of support from managers and co-workers, unclear work objectives and responsibilities, or poor team relationships.

Table 7.2 also shows the trend of those aged 35-39 as having the peak (highest) mean score among the age groups, while those in the extremes of their age (under 30 and above 50), showed lower average scores on stress recognition compared to other groups. This supports the previous findings that those aged 35-39 have the best safety attitudes among the age groups. Various elements could have contributed to the high average score in stress recognition for this age group, including periodical training about stress and its management or generational personality traits. An in-depth assessment of practices within this group could provide valuable insights for

developing interventions to improve stress recognition among age groups with lower scores.

A scrub nurse participant from North England emphasized that stress is “*easily recognized by team members*” and “*considered in the workplace*”, indicating a commendable level of stress recognition in this region, which is consistent with the findings of this study. While a male nurse in his late 30s, who handles various specialties remarked: “*Theatres is considered a highly stressful area considering how specialized it is as a unit. Everybody, no matter what specialty or role, acknowledges and recognizes how difficult it is every day. But people know how to work with pressure and offload stress.*” This aligns with the high average stress recognition score. WHO (2009) reported that occupational stress is common among healthcare workers (Houtman, 2005) and can lead to emotional exhaustion, detrimental to patient care (Biaggi et al., 2003). Another male staff member in his late 30s agreed, stating: “*The intensity of our cases can be emotionally draining, and it’s essential to support each other. There are moments when stress is evident, and self-care is essential.*”

With male staff having the highest mean scores in 5 out of 7 domains, it indicates that male staff have better safety attitudes among the sexes. A closer examination of the questionnaire responses showed that like most of the groups with high stress recognition scores, males possess an awareness of the impact of fatigue, hostile situations, and excessive workload, and agree that patient safety is consistently reinforced in the theatres.

On the other hand, the following groups have the lowest mean score among their respective demographic categories under the SR domain: *Other Operative team, Dual (2 specialties), 50 years old & older, 2-5 years of experience, living in London,*

and *Female* staff (Table 7.2). This indicates that they have less tendency to recognize stress, compared to the other groups in their demographic profile.

A closer examination of individual scores reveals that a majority of the Other Operative team members are non-registered staff with fewer responsibilities, which may contribute to their low mean score under the stress recognition domain. However, a non-registered staff, who works in sterile services and as a porter/runner inside theatres, had a high average stress recognition score (75) and strongly agreed with questionnaire statements that recognize the impact of fatigue and excessive workload on work performance. This suggests that factors beyond registration status influence stress recognition. Department heads, with the support of well-being champions, should investigate these factors to better understand stress recognition differences among staff, particularly, non-registered staff in perioperative teams.

Individuals aged 50 years & older have the lowest average scores in the stress recognition domain, followed by those under 30 years old. These low average stress recognition scores are close to being considered poor, differing slightly from Nyberg et al. (2024), which found that older age groups reported lower stress recognition compared with the younger age groups.

Questionnaire analysis showed that those 50 years and older have neutral scores for most stress recognition statements, including about feeling burnt out and making mistakes under pressure. They also slightly disagree with statements about excessive workload affecting performance, being less effective when fatigued, personal problems affecting performance, and feeling fatigued in the morning of a workday. Other possible factors for less stress recognition include familiarity with routines for older staff and potentially lower responsibilities for younger staff which might contribute to their lower stress recognition. These findings suggest an in-depth

assessment of stress recognition for these groups to target intervention particularly to help older staff recognize stress effectively.

Teamwork Climate

Teamwork Climate (TC) reflects the staff's outlook on teamwork within their organization. WHO indicated that "teamwork within the operating theatre is central in ensuring that systems involving multiple people are effective", (Corbett, 2009).

From all respondents, this domain ranks third in terms of mean score, indicating the perceived significance of teamwork in operating theatres and recovery areas (Table 7.1). Additionally, the relatively low standard deviation shows unity among respondents. Insights from interviews with theatre, anesthetic, and recovery nurses suggest a strong intra-team collaboration, (within scrub, within anesthetics, within recovery). In a study by Witmer et al. (2022), results further support the positive impact of familiarity within teams, demonstrating reduced operative times. Interviewees frequently described a sense of "*camaraderie*", highlighting mutual assistance among team members, particularly when the same people consistently work together.

Table 7.2 also shows that the teamwork climate domain is also consistently ranked among the top two domains for all team and sex groups, and the top 3 for all age and experience groups, with the highest mean score within each demographic category. This consistency reinforces the notion of teamwork climate as a top priority for Filipino staff across teams, sex, age, and experience groups.

Compared to other domains, teamwork climate was the domain with the highest mean score for the groups: **Dual specialties**, those **under 30 years old**, **40-49 years old**, and those in **London** (Table 7.2). This shows that these groups' attitudes gravitate toward having a good team working environment in their department. This supported WHO's indication that "teamwork within the operating theatre is central in

ensuring that systems involving multiple people are effective”, Corbett (2009). One of the scrub nurses who have dual specialty describes the teamwork in their department as, *“The (teamwork) climate is generally inclusive and collaborative. Though each team member has their specific role and tasks, they are willing to support each other when needed.”*

Those under 30 years old have the highest mean scores across most domains (3 out of 7), primarily focusing on teamwork. Questionnaire responses from this group strongly agree that decision-making in the theatre involves relevant personnel, nurse input is well-received, and they know most of the staff they work with. They also agree they have the support needed to care for patients and that doctors and nurses work together as a well-coordinated team. A younger nurse (under 30 years old) added that there is good teamwork between nurses and HCAs inside theatres. Other profile groups with high teamwork scores also agree with the same statements. A nurse from London commented that his team is “dedicated”, while another nurse from London, mentioned how teamwork is cultivated in their practice: *“The circulating nurse is trained to be more proactive and anticipate what the scrub needs.”* These findings align with Paige et al. (2021), who identified a positive team attitude, smooth flow, unified effort, and clear communication as key factors to having effective teamwork.

On the other hand, the mean scores for the teamwork domain were not the lowest from any of the profile groups, compared to other domains, suggesting that teamwork is one of the significant components of the respondents’ perceived attitude, regardless of team, specialty, age, experience, location, and sex.

Compared to other groups in among their respective demographic categories, the groups with the highest mean score are the following under the TC domain: Scrub team, Dual, Various specialties, under 30 years old, less than 2 years of experience,

living in London and Male staff (Table 7.2). This reveals that these groups are driven to work with their team members compared to other groups in their demographic profile.

A scrub nurse mentioned that working with people you know or with the same culture (Filipino) makes work more comfortable. Another interviewee, who works in both anaesthetics and scrub, noted that team dynamics are better in the scrub team due to more manpower (usually 2-3 scrub people per theatre) compared to anaesthetics, where typically only one anaesthesia nurse and the anaesthetist are present. This interviewee also described how anaesthetists often rely on anaesthesia practitioners for various tasks. A male nurse affirmed the importance of teamwork, in their team stating, *“It is evident in every successful procedure for each patient. Even when things go awry, it remains a team effort and a learning experience.”*

Conversely, Table 7.2 also shows the following groups with the lowest mean score among their respective demographic categories under the TC domain: *Other Perioperative* team, *Single* specialty, *30-34 years old (early 30s)*, *6-10 years of experience*, from *West England*, and *Female* staff. This indicates that they have less tendency to work in a team compared to other groups in their demographic profile. An experienced recovery nurse from the Other Perioperative team, in his early 30s, stated that the *“pressure of critical surgeries can sometimes create tense moments within the team.”* Similarly, an experienced Ortho nurse (Single specialty) in her early 30s from West England noted that team dynamics vary based on age and experience levels, with younger individuals often distracted by their phones. Additionally, an experienced female paediatric (Single specialty) scrub nurse, in her early 30s, highlighted a lack of collaboration among team members, attributing it to a focus on individual tasks rather than intentional disregard. She further elaborated on how this delineation has

intensified over the years, with staff becoming more focused on learning technical skills specific to their chosen field, over multidisciplinary expertise.

Findings show mostly medium average scores for most profile groups. The lowest score came from the Other Perioperative team, whose questionnaire responses were mostly neutral and most of the respondents highlighted inappropriate resolution of conflict. Therefore, conflict resolution training should be made available not just to registered staff but to all staff.

Job Satisfaction

Job satisfaction (JS) has been defined as a “pleasurable or positive emotional state, resulting from the appraisal of one’s job experiences” (Locke, 1976, as cited in Montuori et al., 2022). Table 7.1 displays that this domain garnered the fourth-highest mean score in the SAQ among all respondents, accompanied by a moderate standard deviation. This medium average score suggests a neutral level of job satisfaction among respondents, with a moderate degree of variability in their satisfaction levels at work. This indicated a potential need for support or discussions to facilitate a deeper understanding to improve the staff’s job satisfaction, within their respective departments.

According to the Health and Safety Executive (2017), lacking motivation and job can result in decreased workplace effectiveness. Interviewees also have different perspectives on their job satisfaction. For instance, a male interviewee, an experienced anesthetic nurse engaged in various specialties and a managerial role in Southampton described job satisfaction as: *“multifactorial. The current crisis is not helping how people view their job to meet their and their family’s day-to-day needs. No wonder some leave the industry.”* One interviewee, like the experienced scrub nurse in London, who works in the NHS, also commented that the work itself is “okay”

but the salary was inadequate. In contrast, another scrub nurse working in London's private sector stated, "Pay is satisfying but sometimes the workload is too much". This does prove how several factors affect a person's satisfaction with his/her job, which may be related to his/her profile. Some interviewees noted distinctions between public (NHS) and private hospitals, but the presence of respondents with unknown hospitals makes insufficient data to support the interview differences.

Compared to other domains, Table 7.2 shows that job satisfaction is the domain with the highest mean score for those **50 years old & older**. This signifies how this group bases their attitude on their satisfaction at work. Tamer et al. (2023) found similar results with a significant difference between OR nurses and nurse anesthetists in terms of their age and their perception of job satisfaction. A senior recovery nurse mentioned that, despite pay shortcomings, benefits like an 8-week annual leave and 9 months of maternity leave compensate: *"I love my profession, that's why I have been in nursing here (UK) for 23 years and 25 years in the Philippines."* Reviewing the questionnaire responses closely, most respondents in this group agree they like their job, are proud to work at their hospital and feel like part of a large family.

Conversely, job satisfaction is the domain with the lowest mean score for the groups: Single* specialty and Male* staff, suggesting these groups' attitudes are perceived to be less focused on how satisfied they are with their work. A male interviewee, who recently switched from a single specialty to various specialties, expressed satisfaction with his current role, highlighting the importance of patient interaction, *"I am quite satisfied with doing anesthetics at the moment since I am able to speak to patients before they go to sleep and be part of making them feel safe before surgery."* He noted that job satisfaction often boils down to personal preference, with some staff returning to their original roles and specialties. However, their

responses also revealed feelings of frustration and overwork, indicating a need for improved morale in theaters.

Compared to other groups in their respective demographic categories, the groups with the highest mean score are the following under the JS domain: Anesthetic team, Various specialties, 50 years old & older, less than 2 years of experience, from North England, and Female staff (Table 7.2). This indicates that these groups are generally more satisfied with their work compared to other groups in their demographic profile. An experienced female anesthetic nurse, who have various specialties, cited the *“ability to impact other people’s lives and departmental camaraderie and teamwork”* as key to her job satisfaction. An experienced scrub nurse noted that those nearing retirement tend to *“settle”* for what they know, while younger staff *“explore more and work for the sake of job satisfaction.”* A North England scrub nurse said: *“I am satisfied with how I do my job to the standards I uphold, but overall, not so satisfying when colleagues do not have the same work wavelength as you do.”* Another experienced female scrub nurse highlighted life-work balance and stress levels as significant factors in her job satisfaction. Most profile groups agreed with statements about liking their job, feeling like part of a large family, and being proud to work at their hospital. However, feelings of frustration and overwork were also noted, suggesting the need for further assessment to address these issues

In contrast, the following groups have the lowest mean score among their respective demographic categories under the JS domain: *Other Perioperative team, Dual specialties, 30-34 years old (early 30s), 6-10 years of experience, from West England, and Male staff* (Table 7.2).

This shows that these groups are less likely to be satisfied with their work compared to other groups in their demographic profile. Inoue et al. (2017) found that

nurses' perception of autonomy at work can enhance job satisfaction, while restrictive leadership styles can lower it. One experienced staff member from West England recounted how her manager "micromanages" her, impacting her job satisfaction. Questionnaire responses revealed these groups feel frustrated, overworked, and, in some cases, disagree that their hospital is a good place to work or that morale is high.

Those doing Dual specialties revealed feeling burned out from their work. This suggests a need for surveys to identify specific reasons for frustration and burnout and allocate resources and protocols such as wellness programs (Meeusen et al., 2024), to reduce workload pressures, potentially improving job satisfaction. Two of the experienced nurse interviewees from West England (one was male in his early 30s) also linked job stress to lower satisfaction, aligning with Zangaro & Soeken's (2007) analysis of the strong relationship between job satisfaction and job stress, underscoring the need for stress management initiatives.

Communication / Collaboration

Communication, defined as "the transfer of information, ideas, or feelings" (WHO, 2009), is essential for effective collaboration, which involves working together with other people to achieve common goals (Cambridge, 2024).

While interviewees noted effective communication within immediate teams, such as between anesthetic and scrub nurses or between nurses and healthcare assistants, challenges arose in communication between senior management and frontline staff, leading to occasional misunderstandings. Barriers to speaking up about patient safety concerns, as highlighted by Etchegaray et al. (2020), were echoed by some interviewees who cited factors like confidence and cultural differences as influencing communication dynamics. For instance, one overseas nurse mentioned the need to adapt to UK English as a second language, including learning common

terminologies, and expressions that are specific to the British language and developing assertiveness in speaking up over time. Sexton, J., Makary, M., et al. (2006) discussed differing attitudes and expectations regarding collaboration and communication styles across professional cultures, influenced by diverse educational backgrounds. Interview responses regarding collaboration with doctors varied, with some nurses reporting that doctors valued their input, while others felt their suggestions were often overlooked.

Despite communication being vital for effective healthcare delivery, Table 7.1 shows that this domain received the 3rd lowest mean score among all respondents, with a moderate standard deviation, indicating variability in communication and collaboration within theatres and recovery units. Although communication initiatives like pre-task briefings exist to prevent communication failures, identifying specific areas for improvement, during task debriefings, is essential.

Table 7.2 reveals that in comparison to other domains, the communication/collaboration (C/C) domain does not yield the highest mean scores across any profile groups suggesting that communication and collaboration may not be perceived as primary attitudes among respondents, regardless of their team, specialty, age, experience, location and sex. This highlights the importance of evaluating communication dynamics comprehensively.

Conversely, communication/collaboration emerges as the domain with the lowest mean score for certain groups: Anesthetic team, 50 years old & older, and in Southampton. This indicates that these profile groups are perceived to be focused less on communication and collaboration compared to other safety-related domains. Anesthetic nurses suggested that effective communication and collaboration depend on individual traits, cultural factors, and proactive engagement. Additionally, workload

pressures and hierarchical structures were cited as potential barriers to communication, particularly in Southampton.

Those 50 years and older are also among the age groups with the most domains and the lowest mean scores (3 out of 7 each), suggesting the poorest overall safety attitudes among age groups. Reviewing the questionnaire data reveals challenges in interacting with certain professionals such as surgeons and matrons for the anesthesia team, consultant anesthetists and ward nurses for those 50 years old and older, as well as perfusionists and ward nurses for those from Southampton. Despite these obstacles, respondents across groups recognize the importance of effective communication during shift changes. However, issues persist with expressing disagreement with consultant doctors and addressing communication breakdowns leading to surgical delays.

Table 7.2 also shows that compared to other groups in among their respective demographic categories under the C/C domain, the groups with the highest mean score are the following: Scrub team, Dual specialties, under 30 years old, less than 2 years of experience, from West England, and Male staff.

This indicates that these groups perceive better communication and collaboration compared to other groups in their demographic profile. A scrub nurse from West England noted that communication tends to be most robust among peers of similar levels or bands. Echoing this sentiment, another scrub nurse who have dual specialties highlighted the effectiveness of verbal communication within immediate theater teams, emphasizing team members' willingness to address concerns openly. This aligns with findings by Brennan and Oeppen (2022) and Dalton and Moran (2013), who stress the integral relationship between human factors and safety culture in enhancing overall safety levels. Supporting these observations, a male interviewee,

experienced as a scrub nurse but newly integrated into the anesthetic team, affirmed the impact of his demographic profile by suggesting that his proficiency in both scrub and anesthetics allows him to communicate effectively and collaborate with the scrub team. A male nurse with less than 2 years of experience in anesthetics emphasized the significance of communication in their department, noting that due to the independent nature of their work, effective communication with the doctor is vital, and he observed consistent good communication between practitioners like him and doctors in their workplace.

Interestingly, the communication/collaboration score peaks among those with less than two years of experience, with questionnaire results reflecting high levels of interaction with all team members. However, challenges remain in expressing disagreement with consultants, indicating areas for improvement. Instances of communication breakdowns are also noted, suggesting ongoing efforts to enhance communication dynamics within healthcare teams.

On the contrary, the following groups have the lowest mean score among their respective demographic categories under the C/C domain: *Anesthetic team, Single specialties, 50 years old & older, 6-10 years of experience, from Southampton, and Female staff* (Table 7.2). This stipulates that these groups are less likely to discern good communication and collaboration compared to other groups in their demographic profile. A female experienced pediatric (single specialty) scrub nurse from Southampton, noticed a decline in collaborative practices as more practitioners focused solely on their tasks, whether in scrubs or anesthetics.

Research by Gawande et al., as cited in McDowell & McComb (2015), indicates that nearly half of surgical incidents stem from communication and teamwork failures. Interviews across various profile groups referenced poor communication between

employees and management. A female experienced orthopedic nurse (single specialty) who previously held a management position in the NHS mentioned occasional misunderstandings between management and staff. A neuro scrub nurse (single specialty) described how even slight communication problems with management significantly impact team effectiveness, forcing the team to work harder to maintain efficiency. This is in line with the research by Lingard et al., as cited in NPSA (2010), further revealing that poor communication is frequently present when errors or problems occur.

Another neuro nurse mentioned that complex cases often lead to communication challenges affecting patient care. A cardiac surgery nurse noted that communication is "okay" but "not perfect," particularly when surgeons fail to inform staff of changes in the surgery plan. This aligns with Ruano-Ferrer et al. (2023) who found operating room nurses have a worse patient safety culture (PSC) than surgeons, particularly in areas where communication is crucial.

Reviewing questionnaire responses reveals that individuals with 6-10 years of experience reported low interactions with ward nurses, cleaners, materials management, matrons, and porters. The anesthesia team and females indicated low interactions with perfusionists and ward nurses. Females also reported low interactions with support staff and theatre coordinators. Those working in Single specialties have adequate to high interactions with other staff members but, along with other groups with low scores in this domain, faced challenges in expressing disagreement with consultant doctors and acknowledged that communication breakdowns are common. Analysis of communication and collaboration challenges for the anesthetic team, single specialties, older staff, and female staff, suggests

interventions like promoting teamwork, enhancing staff-management communication, and fostering inter-team interactions.

Working Conditions

Working conditions (WC) in operating rooms, which include risks and hazards of the workplace environment, are significantly different from other departments (Uğurlu et al., 2015).

Concerns about suboptimal conditions were highlighted by several interviewees. For instance, a female scrub nurse in North England reported logistical issues such as supply shortages, equipment malfunctions, and staffing problems. A male anesthetic nurse in Southampton described the NHS as leaning towards a corporate business model, adding pressure on staff to deliver. Table 7.1 shows that WC scored the second-lowest in mean SAQ score among the respondents, indicating a neutral stance towards working conditions. The medium average score in this domain indicates the potential need for support through debriefing or discussion to gain better insight into the improvements necessary for enhancing working conditions within their respective departments.

Compared to other domains, the mean scores under the working condition domain in Table 7.2 were not the highest from any of the profile groups, which suggests that working conditions in the facilities are not perceived favorably, regardless of demographics. This is reinforced by the analysis that working conditions consistently ranked among the lowest domains for all staff demographics (team, specialty, age, sex). Specifically, it ranked among the bottom two domains for all teams and the bottom three for all specialty, age, and sex groups.

On the other hand, compared to other domains, working condition is the domain with the lowest mean score for those 40-49 years old* (Table 7.2). This indicates this

group is less focused on perceived working conditions in their department. One of the senior nurses in her 40s said that their working conditions have issues with short staff and no permanent theatre home, lack of equipment, poor storage system, and difficulty in the quick turn-over of cases.

Compared to other groups in among their respective demographic categories, the following groups have the highest mean score under the WC domain: Anesthetic team, Single specialty, 35-39 years old (late 30s), less than 2 years of experience, in North England, and Male staff (Table 7.2). This shows that these groups recognized better working conditions compared to other groups in their demographic profile. New anesthetic nurses provided positive assessments of equipment availability, with the male nurse highlighting the department's readiness even for challenging scenarios like difficult airways. While the female nurse in her 30s, confirmed the general availability of equipment. This scenario aligns with the significance of clinical environments for the learning of new staff and their subsequent performance (Cheetham & Turner, 2020).

In the study of Alshyyab, M. A., Albsoul, R., & Fitzgerald, G. (2022), respondents emphasized the significance of the physical layout of the OR, implementation of new techniques and equipment, and management support, highlighting the essential role of establishing a safety culture in the operating room setting. This aligns with the comments from a Single specialty nurse about *“reporting safety-related issues”* and having organized *“bigger store rooms”* in theatres in the hospital where she currently works. A new male nurse underscored adherence to standards of practice in the UK, noting courteous consultants and supportive colleagues, aligning with research indicating that respect and support from physicians and management improve nurse performance and patient outcomes (Brubakk, 2019, as cited in Arulampalam & Barach, 2023), while rudeness harms team performance

(Riskin et al., 2015). The pediatric scrub nurse, formerly part of the anesthetic team, described their department's working conditions as challenging but highlighted the collective effort of NHS staff to address issues, noting its temporary sustainability.

On the other hand, the following groups have the lowest mean score among their respective demographic categories under the WC domain: the *Other Perioperative* team, *Dual specialties*, *40-49 years old*, *6-10 years of experience*, *more than 10 years of experience*, in *London*, and *Female* staff (Table 7.2), indicating a perception of inferior working conditions compared to other groups in their demographic profile. An experienced recovery nurse (Other Perioperative team) in the private sector in London noted occasional challenges like equipment maintenance and overcrowding, while another, formerly from the NHS, highlighted the NHS's better equipment provision, particularly for complex cases. Concerns about staffing shortages and professionalism were voiced by experienced female nurses, with some attributing staff turnover to younger, less disciplined employees, which compels experienced staff to leave and find a better workplace. Questionnaire analysis revealed agreement across profile groups on workload challenges and the need for training and supervision, with concerns about unprofessional behavior raised primarily by those in the Other Perioperative team and those aged 40-49. Also, participants in Dual specialties echoed the equipment concerns expressed by those aged 40-49.

This contrasts with findings by Nyberg et al. (2024), where older age groups rated their working conditions more favorably than younger ones. The disparity in working condition scores between age groups, with those aged under 30 rating conditions higher than those aged over 40, suggests potential resource-related challenges and turnover issues requiring investigation and robust Quality Improvement (QI) programs, as suggested by Barach et al. (2024).

Perception of Management

Perception of Management (PoM) involves the staff's opinion and insight on the leaders and management of their department and hospital. By all respondents, this domain was given the lowest scores, with the highest standard deviation (Table 7.1), showing significant variation in perceptions in regard to their department heads and management. The low average scores reveal a poor perception of the leadership among their managers and administrators. The low average scores suggest a need for improvement and more proactive intervention by the department heads and hospital management.

Research suggests transformational leadership, fostering purpose, confidence, and clear goals, is crucial for healthcare staff (Firth-Cozens & Mowbray, 2001, as cited in WHO, 2009). This aligns with the desire for supportive management expressed by an experienced female scrub nurse in her late 30s from a private neuro hospital in London. She stated, *"Ideally, we want management that supports our learning, mental health, and physical well-being."* Effective leadership in the operating room builds on this foundation. While the current leadership structure (Bands 6-8a) oversees staff, budgets, and operations (Barking, 2024; NHS Fife, n.d.), research by Salas et al. (2004, as cited in WHO, 2009) and Arnold & Fleshman (2020) highlights the importance of clear definitions and adaptable leadership styles for success. This perspective was echoed by an experienced male anesthetic nurse in his late 30s, holding a management position in an NHS hospital in Southampton: "More leaders, less managers. A good leader knows how to make his team follow and deliver."

Analysis of Table 7.2 reveals management perceptions ranked consistently low across demographics (sex, team, experience, location). Notably, it ranked lowest for both sexes and among the bottom two for all team, experience, and location groups.

Similarly, it was among the bottom three for specialty groups and all age groups except for the under 30-year-olds. This suggests a widespread negative perception of management throughout various demographics.

Table 7.2 illustrates that, in comparison to other domains, the mean scores under the perceptions of the management domain were not the highest from any of the profile groups. This suggests a generally negative perception of management among the Filipino staff in the UK, regardless of team, specialty, age, experience, location, and sex. This was a perception shared by a senior scrub nurse from Southampton who mentioned that her perception of management is not good overall because *“new people manage theatres with no experience”*.

On the contrary, in comparison to other domains, perception of management is the domain with the lowest mean score for most groups, specifically: Scrub team, Other Perioperative Team, Dual and Various specialties, 30-34 years old, 35-39 years old, 2-5 years of experience, 6-10 years of experience, and more than 10 years of experience, residing in London, North England, and West England, as well as both Female and Male staff. Table 7.2 also demonstrates that these groups represent the majority of the demographic profile of all respondents, indicating consistently inferior results across team, specialty, age, experience, location, and sex. This further suggests that a significant portion of the respondents hold unfavorable perceptions of management and administration heads in their departments and hospitals.

Questionnaire analysis revealed that respondents with the lowest perceptions of management scores felt insufficient levels of staffing, lack of support from hospital administration, and that the administration was not performing effectively. The scrub team and staff of both sexes also agreed that there is a need for better conflict resolution among doctors and employees. This aligns with Mostafapour et al. (2022)

who recommended that operating room managers and policy-makers should address the weaknesses in the staff's professional relationships and take some steps to eliminate them to improve overall functioning.

Recovery nurses (Other Perioperative Team) expressed concerns about management practices. A female nurse, specializing in various specialties, noted a gap between the encouragement of adverse event reporting (AER) and the lack of follow-up, potentially discouraging staff from reporting incidents. This aligns with studies on prevailing workplace attitudes (Ghobadian et al., 2021) and perception of the work environment and patient safety culture (Yoo & Kim, 2017) impacting reporting behavior. She also voiced a lack of recognition for hard-working staff, suggesting a potential issue with staff morale. Additionally, a male recovery nurse acknowledged management's understanding of the complexities of their work. However, he emphasized the critical challenges of staffing shortages and limited resources as barriers to providing optimal patient care. This sentiment underscores the need for proactive management solutions that address these limitations and empower staff to deliver the best possible care.

Staff, from the different profile groups with low perception of management scores, voiced concerns about management practices. They criticized micromanagement, with a focus on paperwork over clinical duties. Additionally, they felt management lacked awareness of daily clinical challenges. Distrust in management's decision-making was also expressed, with some believing staff well-being wasn't a priority. One nurse, previously in NHS management, highlighted the struggle to balance service provision with staff well-being. This agrees with Meeusen et al., (2024) emphasizing a need for wellness programs and clinician feedback to mitigate staff burnout. Flin and Yule (2004), cited in WHO (2009), also emphasize the

importance of safety leadership, where supervisors actively monitor behavior, prioritize safety, and involve staff in safety initiatives. To address these concerns, team leaders and clinical leads, who work alternatively as theatre coordinators, should be more proactive in managing clinical activities, maintaining clear communication across departments, and handling complaints effectively as part of their duties and responsibilities (King Edward, 2016). This shift towards a more engaged and supportive leadership style could bridge the gap between management and staff, ultimately improving staff well-being and patient care.

Compared to other groups in among their respective demographic categories, the following groups have the highest mean score under the PoM domain: Anesthetic team, Single specialty, under 30 years old, less than 2 years of experience, in North England, and Male staff (Table 7.2).

This points out that these groups appraise their management more positively compared to other groups in their demographic profile. This finding aligns with Yalçın Akgül and Aksoy (2021), who reported higher mean scores in management perception among anesthetic technicians. However, there are some contrasting studies, like Nyberg et al. (2024) where older staff typically reported better management support. While studies by Tocco Tussardi et al., (2022) and Vlayen et al., (2013) suggest less experienced staff (under 2 years) have a more positive view. The latter aligns with reports from new nurses who described "cohesive" management (male), supportive team leaders (anesthetics team), and recognition for small achievements (Single specialty, under 30). This highlights the importance of acknowledgment and supportive guidance to staff, particularly for new hires.

Table 7.2 also displays how staff members who have single specialties regard their management significantly better compared to those who have multiple specialties,

(Dual and Various), possibly because those in multiple specialties answer to different team leaders.

On the other hand, the following groups have the lowest mean score among their respective demographic categories under the PoM domain: *Other Perioperative* team, *Dual* specialty, *30-34 years old*, *6-10 years of experience*, in *West England*, and *Female* staff (Table 7.2). These groups convey less confidence to their management compared to other groups in their demographic profile.

The Other Perioperative Team with the lowest scores across most domains (6 out of 7), indicating the weakest safety attitudes among teams. Similarly, Dual specialties had the lowest scores in 5 out of 7 domains, suggesting the weakest safety attitudes among specialty groups. Among age and experience groups, those aged 30-34 scored the lowest in 3 out of 7 domains, while the 6-10 year experience group had the lowest scores in 6 out of 7 domains, highlighting areas for improvement in safety perception. Location-wise, West England scored lowest in 4 out of 7 domains, and among the sexes, females had lower scores in 5 out of 7 domains, suggesting a need to address safety concerns in these demographics.

Several experienced nurses, working in both the NHS and private sector, expressed dissatisfaction with management. These nurses, typically with 6-10 years of experience, highlighted a lack of clinical presence from managers. As one female experienced nurse stated, "Management is ok but there are things I don't like, like managers not being aware of what's happening in practice." Additionally, some nurses, particularly those in the 6-10 year experience range, felt their managers, who might be younger and less experienced, weren't equipped to handle challenges. A senior nurse in her early 30s, from West England, echoed this sentiment, "*Being a Band 7 (team leader) taught me a lot... but there are too many inexperienced new staff and*

new managers in our area.” This dissatisfaction aligns with research by Bodur and Filiz (2009, as cited in Tocco Tussardi et al., 2022), who found a trend towards more negative management perceptions with increased experience. One senior female nurse, who had previously held a management position, even pointed to the increased “*politics*” involved in management as a reason for this shift in role. The findings highlight the need to improve morale. To address this, department heads should prioritize selecting managers with strong clinical backgrounds. Additionally, offering training and mentorship programs for new managers will equip them to better understand staff needs and foster a more positive work environment.

Overall, Tables 2, 3.1, and 3.2 describe the perceived safety attitudes among the Filipino staff in the theatres and recovery units in the United Kingdom in terms of safety-related domains. Mean scores indicate how respondents perceived their attitudes towards safety and prioritized each domain in a certain order: safety climate, stress recognition, teamwork climate, job satisfaction, communication/collaboration, working conditions, and perceptions of management. Moreover, the mean scores per safety-related domain, when respondents were categorized by their demographic profile, showed that each group had different priorities and inclinations in regard to their safety attitudes.

Collectively, the anesthetic team, various specialties, those aged 35-39, North England residents, and females exhibit a strong inclination towards safety, with similar sentiments observed among those with 2-5 years of experience. Conversely, individuals with less than 2 years of experience and male staff demonstrate a higher tendency to recognize stress, with the scrub team also sharing this inclination. Additionally, most Filipinos show an ability to recognize stress, regardless of experience, although extreme age groups (under 30 and 50 years & older) are less

prone to this recognition. While teamwork remains essential across all demographic profiles, individuals under 30 years old, those in dual specialties, and those from London exhibit a stronger drive. Job satisfaction is notably higher among individuals aged 50 years & older, whereas male staff exhibit lower satisfaction levels. Perceptions of communication and collaboration are poorer among the anesthetic team, individuals aged 50 years & older, and those from Southampton, while individuals aged 40-49 perceive working conditions in their departments less positively. Confidence in management is lower among the Other perioperative team, those in dual specialties, individuals aged 30-34, those with 6-10 years of experience, London residents, and both males and females. Additionally, poor perceptions of management persist across location and sex groups.

Statistical Difference in Safety Attitudes per Demographics

To determine the relationship between the perceived safety attitudes of Filipino staff in theatres and recovery units and their demographic profile, an independent t-test (for profiles with 2 groups) and Analysis of Variance [ANOVA] (for profiles with 3 or more groups) were used. As both are parametric tests, a normality test was first conducted to confirm that the data gathered are reliable and suitable. Shapiro-Wilk test for normality (See Appendix H) reveals if the sample mean scores per safety-related domain are normally distributed. Results show that all of the data are normally distributed except for the Stress Recognition domain.

A graphical representation of the data using a Q-Q plot was then generated to determine if the distributions of the sample mean scores come from a normal distribution. With the points in the QQ-normal plot lying relatively on a diagonal line, this suggests that the data is normally distributed (See Appendix H). Hence,

parametric tests ANOVA and independent t-test were used for consistency for all dimensions and comparability.

The table below shows a one-way ANOVA that was used to compare the mean SAQ scores for each safety-related domain of different demographic profile groups with more than 3 groups (team, specialty, age group, years of experience, location, and sex) using F-distribution. While an independent T-test was used for those with 2 groups only (sex).

Table 8

Differences in Perceived Safety Attitudes between Demographic Profile Groups

Demographic Profile	One-way ANOVA per Safety-Related Domain						
	SC	SR	TC	JS	C / C	WC	PoM
Team							
F	1.310	3.905	1.427	1.166	1.481	1.549	1.237
p-value	0.281	*0.028	0.252	0.322	0.239	0.225	0.301
Specialty							
F	0.380	0.085	0.005	2.313	0.046	0.113	0.657
p-value	0.686	0.919	0.995	0.112	0.955	0.894	0.524
Age Group							
F	2.704	2.552	0.675	2.281	0.745	0.567	2.071
p-value	*0.044	0.054	0.613	0.078	0.567	0.688	0.103
Years of Experience							
F	0.677	0.655	0.963	1.646	2.007	0.903	0.806
p-value	0.571	0.585	0.420	0.194	0.128	0.448	0.498
Location							
F	0.606	0.424	0.212	1.229	1.492	0.175	0.361
p-value	0.615	0.737	0.887	0.312	0.231	0.913	0.781
Two-tailed t-test per Safety-Related Domain							
	SC	SR	TC	JS	C / C	WC	PoM

Sex

t	-0.338	1.276	0.544	-0.481	0.930	0.572	1.011
p-value	0.737	0.209	0.589	0.633	0.358	0.570	0.318

Note: * **significant p-values** are those less than or equal to 0.05

C/C-Communication/Collaboration, TC-Teamwork Climate,

SC-Safety Climate, JS-Job Satisfaction, SR-Stress Recognition,

PoM-Perceptions of Management, WC-Working Conditions

When respondents were categorized according to their teams, the ANOVA test results revealed that, at a 5% level of significance, there was a statistically significant difference in the mean SAQ score under the stress recognition domain ($F = 3.905$, $p = 0.028$). This shows that the level of stress recognition may differ between at least two groups of staff teams (anesthetic, scrub, or other perioperative team).

When respondents were categorized according to their age groups, the ANOVA test results revealed that there was a statistically significant difference in the mean SAQ score under the safety climate domain ($F = 2.704$, $p = 0.044$). This signifies that the level of consideration for safety within their organization may differ between at least four groups of the staff age groups (under 30 years old, 30-34 years old, 35-39 years old, 40-49 years old, or 50 years & older).

Results from different studies showed significant differences in their safety cultures across professional roles, levels of training (Pimentel et al, 2021), years of working experience (Tocco Tussardi et al, 2022), hospitals (Carvalho et al, 2017 & Tocco Tussardi et al, 2022), and sexes (Gambashidze et al, 2021).

However, in this study, there are no statistically significant differences (at a 5% level of significance) in the mean SAQ score in all domains between any group when respondents were categorized according to their specialty, years of experience, and location when the ANOVA test was performed. There were also no statistically

significant differences (at a 5% level of significance) in the mean SAQ score in all domains between any sex group when the t-test was performed. This suggests that these demographic profiles do not influence nor affect the perceived safety attitudes (represented by SAQ scores) in any safety-related domain.

The null hypothesis is proven if two means have no differences or are equal. Therefore, a significant result means that the two means are unequal. As a one-way ANOVA can only test if at least two groups were different from each other, it will not tell which groups were different. If the results from the ANOVA turn out to be significant, a post hoc test, the Least Significant Difference test (LSD), is needed to be conducted to tell which groups had a difference in means. The table below shows the post hoc analysis of the profile groups that had a significant difference at the 0.05 level (from Table 8), using the LSD test for multiple comparisons. It includes the specific safety-related domain where mean scores differ significantly and the results for each pairwise comparison between profile groups with their corresponding mean differences and p-values.

Table 9

Post Hoc Analysis for Multiple Comparisons using Least Significant Difference (LSD)

Demographic Profile	Pairwise Comparisons between Groups		Mean Difference	p-value
Safety-Related Domain				
Team				
Stress Recognition	Anesthetic team	Scrub team	-6.44	0.281
	Anesthetic team	Other Perioperative	13.04	0.132
	Scrub team	Other Perioperative	19.48	*0.010
Age Group				
Safety Climate	Under 30 years old	30-34 years old	3.13	0.603
	Under 30 years old	35-39 years old	-8.56	0.170

Demographic Profile Safety-Related Domain	Pairwise Comparisons between Groups		Mean Difference	p-value
	Under 30 years old	40-49 years old	1.30	0.839
	Under 30 years old	50 years & older	6.73	0.375
	30-34 years old	35-39 years old	-11.69	*0.007
	30-34 years old	40-49 years old	-1.83	0.684
	30-34 years old	50 years & older	3.60	0.550
	35-39 years old	40-49 years old	9.86	*0.041
	35-39 years old	50 years & older	15.29	*0.017
	40-49 years old	50 years & older	5.43	0.399

Note: * **significant p-values** are those less than or equal to 0.05

Under the stress recognition domain, the LSD post hoc test (Table 9) revealed that the mean score was significantly different between Scrub and Other Perioperative Team ($p=0.0010$). The mean scores of the Scrub team are significantly higher compared to the Other perioperative team. This suggests scrub nurses are better at recognizing stress, possibly due to their constant exposure to stressful situations in the operating room, as highlighted by an experienced scrub nurse, *“Every day in theatres there is stress... But like in life, stress in theatres becomes more manageable as I have aged in experience.”*

However, this contrasts with Yalçın Akgül and Aksoy (2021) who found higher stress recognition scores for technicians and support staff, who are also part of the other operative team, Scrub team demonstrated higher stress recognition compared to other perioperative staff likely due to constant stress exposure. This difference warrants further investigation. One possible explanation is that the Other Perioperative Team, which consists mostly of non-registered staff with less responsibility, may experience lower stress levels overall, potentially leading to a decreased ability to recognize stress in others.

Under the safety climate domain, the LSD post hoc test revealed that the mean scores between different age groups were significantly different, specifically between those aged 30-34 and 34-39 ($p=0.007$), between those aged 35-39 and 40-49 ($p=0.041$) and between those aged 35-39 and 50+ ($p=0.017$). Those aged 35-39 (late 30s) scored highest, indicating a stronger perception of safety protocols being followed within the organization compared to both younger employees (under 30) and older employees (40+). While the difference between those under 30 and the 35-39 age group wasn't statistically significant, the trend suggests a lower perception of safety adherence among younger employees. This contrasts somewhat with previous research by Korn et al. (2021) and Li et al. (2020) which suggested older professionals prioritize preventive behaviors. An experienced neuro scrub nurse in her late 30s exemplifies this focus on adherence. She stated, *"We take all precautions seriously, ensuring sterile environments and following protocols. Though occasionally, the fast-paced nature of surgeries might lead to minor oversights, which we always strive to rectify."* This suggests despite lapses and challenges due to the fast-paced environment, those in their late 30s prioritize adherence to safety.

Overall, this study revealed differences in safety climate perception and stress recognition across demographic groups. Staff aged 35-39 reported stronger perceptions of safety compared to other age groups, while the scrub team demonstrated a better ability to recognize stress compared to the other perioperative team, possibly due to constant stress exposure. Future research is needed to understand these variations, considering factors like workload, responsibility, and experience across teams and age groups.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Results

This study investigated the demographic profile of Filipino Staff in UK theatres and recovery units, their perceived safety attitudes, and the difference between their profile groups.

Demographic profile

The Filipino staff sample displayed a diverse demographic profile. The majority (71%) belonged to scrub teams, highlighting their role in surgical procedures. Most participants worked in single specialized surgical units (e.g., Orthopedics, Neurology, Cardiac) which comprised nearly 39% of the sample. The majority were in their 30s (34.1% aged 30-34, 27.3% aged 35-39). In terms of experience levels, the sample skewed towards highly experienced staff, with nearly 40% having over 10 years of experience in UK healthcare and only 7% with less than 2 years of experience in the UK. Geographically, a significant portion (47.7%) resided in London, suggesting a potential regional concentration. Finally, the sample consisted primarily of females (over 68%). While some interviewees mentioned working in private hospitals, limitations due to missing data on hospital type from a portion of respondents precluded a comprehensive analysis across public and private settings.

Perceived Safety Attitudes

The Safety Attitude Questionnaire (SAQ) was used to assess staff perceptions of safety culture. The results revealed a generally positive safety climate, with the highest average score for the Safety Climate domain (mean = 69.62, SD = 11.41).

Scores were also high for Stress Recognition (mean = 69.10, SD = 15.84) and Teamwork Climate (mean = 68.62, SD = 14.36). Job Satisfaction (mean = 62.70, SD = 15.69) had a lower mean score, while Communication/Collaboration (mean = 61.66, SD = 14.40) and Working Conditions (mean = 61.25, SD = 13.76) received the lowest average scores. Perceptions of Management had the lowest mean score (mean = 56.55, SD = 20.80).

When considering demographic profiles and analysis of safety attitudes revealed variations across demographics. The Anesthetic team, Various specialties, staff under 30 and 35-39 years old, those with less than 2 years of experience, staff residing in North England, and Male staff demonstrated the strongest safety attitudes, consistently achieving high mean scores in a majority of the seven domains. Conversely, Other Perioperative teams, Dual specialties, the 30-34 and 50-year-old age groups, staff with 6-10 years of experience, those in West England, and Female staff reported lower safety attitudes, with high scores in fewer domains.

Safety-related Domains and Profile Groups

The following findings per safety-related domain reveal more comparisons of various profile groups:

Safety Climate

The findings suggest a generally positive safety attitude, with safety emerging as a top priority for most Filipino staff. This is reflected in high average scores for safety climate across most respondent groups. Safety climate consistently ranked among the top two or three domains with the highest mean score across all demographic categories (teams, specialties, locations). This consistency reinforces the notion of

safety climate as a top priority for Filipino staff, regardless of teams, specialties, or locations.

However, some variations emerged based on demographics, with new hires (less than two years of experience) reporting lowest ranking domain and certain groups (Other perioperative team, Dual specialty, 50 years old and older, 6-10 years of experience, West England, Male staff) reporting lower safety climate scores among their respective category. The questionnaire also revealed that despite positive aspects like pre-surgery briefings and a culture of error reporting, some Filipino healthcare workers in the UK witnessed occasional lapses in safety protocols. This highlights the need for improved adherence to ensure optimal patient safety.

Stress Recognition

Filipino healthcare workers in UK theatres generally recognize stress as a concern. Facilities are increasingly offering support resources, but interviews revealed mixed experiences with their accessibility and effectiveness.

The study found stress recognition to be a general strength across staff demographics. This is evidenced by the stress recognition domain consistently ranking among the top three for all groups categorized by specialty, location, sex, and experience. Some notable differences and interesting variations in stress recognition based on age and experience emerged. New hires (less than 2 years) prioritized recognizing stress the most, while younger staff (under 30) tended to focus on it the least. Similarly, individuals aged 50 and above displayed the lowest stress recognition while those aged 35-39 had the highest. These findings highlight the need for targeted interventions.

Moreover, the study found that non-registered staff, included in the Other Operative Team, generally scored lower in stress recognition. However, some

individuals within this group scored high, indicating that factors beyond registration status might be at play. Further investigation, potentially through focus groups, could improve understanding of stress recognition among non-registered staff.

Overall, the study emphasizes tailoring stress management programs to address these variations. By implementing age-specific interventions and focusing on newer staff and non-registered personnel, healthcare facilities can equip Filipino staff with better stress recognition skills. Ultimately, this will contribute to preventing burnout and ensuring optimal patient care.

Teamwork Climate

Teamwork was seen as a vital aspect, with a sense of camaraderie and collaboration. Teamwork remains essential across all profile groups, despite some differences. Those under 30, scrub teams, staff in various specialties, and those in London reported the highest scores, while other perioperative teams, single specialties, individuals in their early 30s, those with 6-10 years of experience, staff in West England, and female staff reported lower scores.

The study also revealed positive aspects of teamwork. Nurse input was valued, with a clear hierarchy ensuring efficient workflow. Doctor-nurse relationships were generally good, with open communication encouraged. However, some staff felt less comfortable speaking up about problems, highlighting the need for strategies to empower staff and address cultural barriers. Overall, fostering a supportive and inclusive environment is crucial for optimal teamwork and patient care.

Job Satisfaction

A study examined job satisfaction among Filipino healthcare workers in UK operating theatres. Average scores revealed a neutral overall satisfaction, but

significant variations emerged across groups. Factors influencing satisfaction included workload, compensation, sense of community, and stress. Workers who felt a strong sense of community, such as those in various specialties and anesthetic teams, reported higher satisfaction. Conversely, those in West England reported feeling micromanaged and overworked, leading to lower satisfaction.

The study also identified positive aspects of job satisfaction. A strong majority of respondents enjoyed their work and took pride in their hospital. However, the study also found areas for improvement. While most staff did not report feeling overwhelmingly overworked, some expressed frustration, and morale varied. These findings suggest a need for targeted interventions to address workload and promote a sense of community. Additionally, investigating the reasons for lower satisfaction among specific groups and implementing stress management initiatives are crucial for staff well-being and overall job satisfaction.

Communication and Collaboration

While some teams, like scrub nurses, reported good communication, others, like the anesthesia team, did not. While some staff reported good communication within their immediate teams, there were challenges communicating with senior management and speaking up about safety concerns. The study found that communication and collaboration scores were generally low to medium average, with some variations across groups. For example, scrub teams and those with less experience reported better communication, while anesthetic teams, those 50 and older, and staff in Southampton reported lower scores.

This suggests a need for improved communication across all staff groups. The study also identified areas for improvement within specific groups. For example, staff in Southampton and those 50 and older reported lower communication scores.

Additionally, some staff, particularly females, felt unable to voice concerns to doctors, and communication breakdowns caused delays.

These findings highlight several areas for improvement. Staff suggested cultural differences, workload pressures, and hierarchical structures as barriers to communication. Additionally, some reported difficulty expressing disagreement with doctors and encountering communication breakdowns that led to delays. Overall, the study suggests a need for interventions to improve communication and collaboration across all staff groups.

Working Conditions

While some staff reported adequate equipment and supportive colleagues, others mentioned concerns like supply shortages, staffing problems, and pressure to deliver. Overall, the study found that working conditions were not perceived well by most staff groups.

The study also identified variations in working condition scores across groups. For example, new staff and those in the anesthetic team reported better conditions, while those in other perioperative teams, those 40-49 years old, and females reported lower scores. These variations suggest a need for targeted interventions to improve working conditions for specific staff groups.

The study highlights the importance of factors like equipment availability, staffing levels, and supportive workplace culture for staff well-being. It also revealed high workload as a major concern, with staff consistently mentioning feeling overwhelmed.

Despite this, briefings were reported to be consistently conducted, suggesting a strong focus on patient safety through clear communication. However, neutral

responses on training and equipment adequacy highlight a need for improvement in these areas. The study suggests that additional training, particularly focused on emergency situations, and addressing any equipment shortages could further enhance staff well-being and patient safety. It also suggests a need for further investigation into resource allocation and potential solutions to improve working conditions across all staff groups.

Perception of Management

Staff reported consistently negative perceptions of management across most demographics, with the lowest scores overall. Interviews echoed this sentiment, highlighting the need for proactive management that addresses staffing shortages, and limited resources, and fosters supportive leadership. Interestingly, the interviews also emphasized the importance of strong clinical backgrounds in managers, alongside targeted training for newer managers. This aligns with the finding that some staff perceive younger managers less favorably. The study also identified some variations in perception across groups. Newer staff, those in the anesthetic team, those under 30 years old, and those in single specialties were among those who reported a more positive view of management. In contrast, the Other Perioperative team, Dual specialty, 30-34 years old, 6-10 years of experience, in West England and Female staff, reported lower scores.

These findings suggest a multi-pronged approach to improve management. Targeted interventions should be designed for specific staff groups based on the combined data from questionnaires and interviews. Additionally, a staff survey could explore specific support needs, and an assessment of staffing levels and skill mix could be conducted to optimize patient safety. Finally, improved communication and

conflict resolution strategies are crucial, especially with the scrub team, as highlighted in the interview.

Statistical Difference in Safety Attitudes per Demographics

This study utilized statistical analysis to explore how demographics influence staff safety attitudes within UK operating theatres, focusing on Filipino healthcare workers. Statistically significant differences were found using ANOVA in stress recognition scores between staff teams (anesthetic, scrub, or other perioperative) ($F = 3.905$, $p = 0.028$). Post-hoc analysis using LSD revealed that scrub teams reported a stronger ability to recognize stress compared to other perioperative staff ($p=0.010$). This suggests that different teams may perceive and manage stress differently.

A significant difference was also observed in safety climate scores among age groups (under 30, 30-34, 35-39, 40-49, and 50+ years old) ($F = 2.704$, $p = 0.044$). LSD test results showed that staff aged 35-39 perceived safety protocols more stringently than both younger ($p=0.007$) and older colleagues ($p=0.041$, $p=0.17$). This indicates that the perception of safety culture may vary across different age groups. Future Research is needed to explore the reasons behind the observed differences in stress recognition and safety climate across teams and age groups and investigate potential links between safety attitudes and other factors not explored in this study (e.g., workload, staffing levels).

No significant differences in SAQ scores were found based on specialty, years of experience, location, or sex. This suggests that these factors may not have a major influence on overall safety attitudes in this study.

Conclusions

The following conclusions were made from the results of the self-report forms and interviews:

Demographic Profile

1. Filipino staff in UK theaters and recovery units represent diverse demographics.
2. Respondents are primarily individuals in the scrub team engaged in single specialized surgeries such as orthopedic, neurology, and cardiac procedures.
3. While the majority fall within the age range of 30-34 years old, there is also a considerable population aged 35-39 years old.
4. A substantial number of respondents also have over 10 years of professional experience.
5. London serves as a major hub for Filipino healthcare professionals in this context, with a notable representation of female workers.

Perceived Safety Attitudes

The study assessed safety attitudes among theatre and recovery staff using the Safety Attitude Questionnaire (SAQ). While the overall safety climate was positive, there were variations across different demographics.

1. Positive Aspects: The study found high average scores for Safety Climate, Stress Recognition, and Teamwork Climate, indicating a generally strong foundation for safety culture. The Anesthetic team, various specialties, staff under 30 and 35-39 years old, those with less than 2 years of experience, staff residing in North England, and male staff demonstrated the strongest safety attitudes.

2. Areas for Improvement: Scores for Job Satisfaction, Communication/ Collaboration, Working Conditions, and Perceptions of Management were lower. Other perioperative teams, dual specialties, staff aged 30-34 and 50 years old and older, those with 6-10 years of experience, staff in West England, and female staff reported lower safety attitudes.

Safety-related domains and Profile Groups

Safety Climate

Overall, staff reported positive perceptions of safety, but neutral responses on questionnaires regarding adherence to safety protocols suggest a need for further assessment and improvement in the consistency of following safety measures.

1. Safety climate emerged as a top priority across specialties, locations, and sexes. Notably, most groups scored highly in this domain.
2. Specific groups require focused interventions:
 - 2.1. Less Than 2 Years of experience: This group scored lower in the safety climate domain, suggesting safety may not be their primary focus. They may benefit from time management training, mentorship, and extended orientation to improve safety routines.
 - 2.2. Other Perioperative Team, Dual Specialties, 50 years old & older, 6-10 Years of experience, West England, and Male Staff: These groups displayed a lower inclination towards safety compared to others. Initiatives should target these demographics to emphasize the importance of safety protocol adherence.
3. Interestingly, the study found a trend of peak safety focus among those aged 35-39 contradicting research suggesting increased safety focus with age.

Stress Recognition

Overall, staff demonstrated good stress recognition with an average score, but neutral scores for fatigue and burnout suggest a need to investigate contributing factors (e.g., workload). Effective stress recognition is crucial for patient safety, highlighting the importance of managing workplace stressors and ensuring adequate rest.

1. Stress recognition emerged as a common strength across specialties, experience levels, sexes, and locations. Notably, most groups scored high in this domain.
2. Specific groups require tailored interventions:
 - 2.1. Under 30 years old: This group displayed the lowest domain score on stress recognition, indicating a need for strategies to enhance their focus on recognizing stress.
 - 2.2. Less than 2 years of experience: While demonstrating strong recognition overall, this group could benefit from additional stress management programs.
 - 2.3. 50 years old & older: Scoring the lowest stress recognition score among age groups, this group may require in-depth assessment and targeted interventions to improve stress recognition skills.
3. While most staff recognized the impact of fatigue on performance, younger staff reported neutral responses regarding before-work fatigue, highlighting the need for investigation.
4. The Other Operative team, comprised mostly of non-registered staff, statistically scored lower in stress recognition compared to other team groups,

particularly compared to the Scrub team. Further investigation is needed to understand these differences.

Teamwork Climate

Overall, the teamwork climate received positive results with a high ranking (3rd) among all domains, indicating its perceived importance across staff. Consistency across demographics is evident, with teamwork climate not ranking lowest for all teams, sex, age, location, specialty, and experience groups. This reinforces its status as one of the top priorities for Filipino staff.

Specific groups displayed a stronger emphasis on teamwork climate:

1. High domain scores, suggesting a high focus on teamwork: Dual specialties, under 30 year-olds, 40-49 year-olds, staff in London.
2. High Scores within Demographics: Scrub team, Dual specialties, Various specialties, under 30 year-olds, less than 2 years of experience, staff in London, and male staff.
3. However, neutral responses regarding difficulty speaking up suggest a need for improvement in staff confidence and cultural differences to empower staff for better communication within teams.
4. The Other Perioperative team emerged with the lowest score, highlighting challenges with conflict resolution.

Job Satisfaction

Staff reported a neutral level of job satisfaction with moderate variation across demographics. Specific groups displayed contrasting job satisfaction levels.

1. High satisfaction for the Anesthetic team, Various specialties, 50-year-olds & older, less than 2 years of experience, North England, and female staff.

2. Low satisfaction for the Other Perioperative team, Dual specialties, 30-34 year olds, 6-10 years of experience, West England, and male staff.
3. Staff groups with low satisfaction reported frustration, overwork, and low morale.

Communication/Collaboration

This domain scored the third lowest overall, indicating consistent challenges across demographics. Specific groups, including the Anesthetic team, single specialties, staff aged 50 and older, those with 6-10 years of experience, staff in Southampton, and female staff, reported lower C/C scores than their peers.

Common issues across these groups included:

1. Difficulty interacting with specific staff (surgeons, ward nurses, perfusionists)
2. Challenges expressing disagreement with consultant doctors
3. Communication breakdowns leading to surgical delays
4. Interestingly, staff with less than two years of experience reported the highest C/C score, suggesting the potential high level of interaction with team members as communication comfort early in their careers.

Working Conditions

Staff reported a medium average working conditions overall. Analysis of demographics groups indicates that working conditions were consistently ranked among the lowest domain, across all groups, suggesting widespread dissatisfaction.

Specific areas of concern identified by staff include:

1. High workload levels
2. Logistical issues like supply shortages and equipment malfunctions
3. Staffing problems and lack of training
4. Unprofessional behavior (reported by specific groups)

5. Disparity in working condition scores between age groups, with younger staff reporting more favorable conditions than older staff (possibly due to resource limitations and staff turnover)

Perceptions of Management

Staff reported consistently negative perceptions of management across most demographics. This negative perception was widespread and independent from factors like team, specialty, age, experience, location, and sex.

Specific areas of concern identified by staff with the lowest management scores included:

1. Insufficient staffing levels
2. Lack of support from the administration
3. Ineffective administration
4. Need for better conflict resolution

Statistical Difference in Safety Attitudes of Demographic Profile Groups

These findings suggest that team roles and age may influence how staff perceive and manage stress and safety within the operating theatre environment:

1. Stress Recognition of Teams: Scrub teams reported a stronger ability to recognize stress compared to other perioperative staff.
2. Safety Climate of Age groups: Staff aged 35-39 perceived safety protocols more stringently than both younger and older colleagues.
3. Other Demographics: No significant differences in safety attitudes were found based on specialty, years of experience, location, or sex.

Recommendations

This study showed how patient safety, stress recognition, and teamwork steadily appear as important safety attitudes of the staff in the theatres and recovery units, while perceptions of management have the lowest regard. Based on the results of this study, the following are recommended:

Surgical Patients

It is recommended to maintain ongoing safety assessments by regularly assessing safety attitudes across all staff groups in terms of teams, professions, specialties, age, experience, location and sex to gain a better understanding of attitudes towards safety and identify areas for improvement. Exploring safety climate differences among age groups, especially factors that make safety less of a priority for younger and older staff will ultimately benefit patients by enhancing safety in anesthesia, surgery, and recovery and eventually improving patient outcomes. Additionally, it is recommended to assess adherence to safety protocols and develop initiatives based on identified areas of improvement. Data analysis can help identify certain demographics such as registered staff, aged 50 years old & older, those with 6-10 years of experience, and staff hailing from West England where additional support can be provided. This will ensure a more focused approach to emphasize the importance of safety protocol adherence for all staff.

Clinical Healthcare Educators and Healthcare Students

The results of this study also suggest developing Safety Practice Training, where they can leverage the study's findings on safety attitudes among Filipino staff in perioperative settings to develop educational programs for healthcare students and

educators. These programs can equip students with the knowledge and skills to prioritize patient safety by integrating real-world experiences from Filipino staff members to illustrate how systems impact healthcare quality. The programs can also focus on developing safety-centered skills like stress recognition, effective communication, and teamwork strategies to foster a collaborative and supportive environment. In line with the training are communication strategies, conflict resolution, time management, and prioritization that can address concerns identified in the study, ultimately equipping students with the necessary skills to navigate the complexities of the healthcare environment while maintaining a focus on patient safety.

Theatre and Recovery Team

With the conclusion of lower scores among those below 35 and above 40 years old, continuous learning about the safety climate for different age groups is recommended. Additionally, encouraging stress recognition across all perioperative teams is crucial. Routine assessment of safety climate and adherence to protocols will help develop initiatives to prioritize safety practices including routine patient checks, enhance teamwork strategies such as team building activities with managers, and other identified areas of improvement. This will ultimately foster a culture of continuous learning and collaboration, where all team members feel empowered to participate in safety discussions and improvements. Zeynep et al. (2020) stressed the importance of addressing patient safety during in-service training programs. Healthcare workers, as part of their responsibility for patient safety, should continue to participate in training programs to enhance their knowledge and apply it in their daily work.

Theatre and Recovery Management

A multi-pronged approach to improve safety culture could be taken with targeted interventions, aligned with demographics. Based on the findings, specific interventions can be developed to address areas with lower safety attitudes across different demographic groups:

Communication, Collaboration, and Teamwork

Implement strategies to enhance communication effectiveness and collaboration across teams and departments. This could involve fostering open communication channels, establishing clear reporting structures, and promoting teamwork strategies during procedures. Tailoring these strategies based on the specific needs identified for different teams namely communication strategies for anesthetic team and basic conflict resolution training for the Other Perioperative team members and various age groups such as communication assessment for younger versus older staff.

Job Satisfaction and Working Conditions

Investigate the reasons behind lower job satisfaction and working condition scores for specific demographics (e.g., staff with 6-10 years of experience, staff in West England, female staff). Implement solutions to improve staff experience, such as workload management initiatives, well-being programs, or recognition and reward systems.

Management Practices

Focus on improving management practices and leadership to address concerns reflected in the low Perceptions of Management score. This could involve leadership training programs and mentorship initiatives, particularly for new and

younger managers, or conducting regular staff surveys to understand staff needs and concerns.

Regularly evaluating safety attitudes across all staff demographics allows for progress monitoring and identification of areas needing improvement. Furthermore, implementing continuous safety education, such as programs addressing stress recognition, fostering teamwork, and promoting a collaborative environment, tailored to specific needs and potentially targeting different age groups or specializations is also recommended. Addressing staffing concerns after surveys and through assessments of skill mix and level across departments is also vital to ensure patient safety and address any workforce shortages. Finally, implementing improved communication and conflict resolution strategies, particularly with groups identified as having lower safety attitudes, can create a more supportive and effective work environment.

Further Research

Combining qualitative data, like interviews, with quantitative data from surveys could provide richer insights into why safety attitudes vary across demographics. Additionally, future studies could explore the potential link between staff safety attitudes and patient outcomes. Furthermore, investigating the specific roles of management in fostering positive safety attitudes for different staff groups, along with potential differences between specific genders and the NHS and private sector, could yield valuable insights. Finally, including pre-operative staff in future studies and exploring the influence of workload, responsibility, and experience on safety perception across teams and age groups would provide a more comprehensive picture of perioperative safety culture.

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APPENDICES

Appendix A

APPROVAL LETTER



Medical School
University of Texas at Houston-Memorial Hermann
Center for Healthcare Quality and Safety

May 6, 2016

Dear Ruthie Tupas,

You have our permission to use any of the following Safety Attitudes Questionnaires and the corresponding scoring keys:

- Safety Attitudes Questionnaire – Short Form
- Safety Attitudes Questionnaire – Teamwork and Safety Climate
- Safety Attitudes Questionnaire – Ambulatory Version
- Safety Attitudes Questionnaire – ICU Version
- Safety Attitudes Questionnaire – Labor and Delivery Version
- Safety Attitudes Questionnaire – Operating Room Version
- Safety Attitudes Questionnaire – Pharmacy Version
- Safety Climate Survey

Please note, we do not have editable versions for any of the SAQ surveys but feel free to modify the surveys to meet your research endeavors.

Respectfully,

University of Texas at Houston-Memorial Hermann
Center for Healthcare Quality and Safety Team

6410 Fannin Street
UTPB Suite 1100
Houston, TX 77030
<https://med.utah.edu/chqs/>

Appendix B

RESEARCH INSTRUMENT

SAFETY ATTITUDES QUESTIONNAIRE (OPERATING THEATRE VERSION)

Questionnaire ID No: _____

Use the scale to describe the quality of communication and collaboration you have experienced with (encircle answer):

A = Very Low, B = Low, C = Adequate, D = High, E = Very High, X = Not Applicable

1. Consultant Surgeons	A	B	C	D	E	X
2. Surgical Fellows, Registrars, & Senior House Officer	A	B	C	D	E	X
3. Surgical First Assistant / Surgical Care Practitioner	A	B	C	D	E	X
4. Perfusionists	A	B	C	D	E	X
5. Consultant Anaesthetist	A	B	C	D	E	X
6. Anaesthetic Fellow, Registrar & Senior House Officer	A	B	C	D	E	X
7. Anaesthetic Operating Department Practitioner (ODP)	A	B	C	D	E	X
8. Scrub Operating Department Practitioner (ODP)	A	B	C	D	E	X
9. Anaesthetic Nurse	A	B	C	D	E	X
10. Scrub Nurse	A	B	C	D	E	X
11. Health Care Assistant / Nursing Assistants	A	B	C	D	E	X
12. Recovery Operating Department Practitioner (ODP)	A	B	C	D	E	X
13. Recovery Nurse	A	B	C	D	E	X
14. Ward Nurse / Practitioner	A	B	C	D	E	X
15. Support Staff (Operating Department Assistants/ODA)	A	B	C	D	E	X
16. Other:	A	B	C	D	E	X

Please answer the following with respect to your experience in the theatres here. You can encircle the response of your choice to the right of each item, using the letter from the scale below:

A	B	C	D	E	X
Disagree Strongly	Disagree Slightly	Neutral	Agree Slightly	Agree Strongly	Not Applicable

1. High levels of workload are common in the theatres here.					
---	--	--	--	--	--

2. I like my job.						
3. Nurse input about patient care is well received in the theatre.						
4. I would feel safe being treated here as a patient.						
5. Medical errors* are handled appropriately in this hospital.						
6. This hospital does a good job of training new personnel.						
7. All the necessary information is available before the start of a procedure.						
8. Working in this hospital is like being part of a large family.						
9. The administration of this hospital is doing a good job.						
10. Hospital administration supports my daily efforts.						
11. I receive appropriate feedback about my performance.						
12. In the theatre, it is difficult to discuss errors.						
13. Briefing theatre personnel before a surgical procedure is important for patient safety.						
14. Briefings are common in the theatre.						
15. This hospital is a good place to work.						
16. Fatigue impairs my performance during emergency situations.						
17. Hospital management does not knowingly compromise the safety of patients.						
18. The levels of staffing in our theatres are sufficient to handle the number of patients.						
19. Decision making in the theatre utilizes input from relevant personnel.						
20. I am encouraged by my colleagues to report any patient safety concerns I may have.						
21. The culture in the theatres here makes it easy to learn from the errors of others.						
22. This hospital deals constructively with problem with doctors and employees.						
23. Medical equipment in the theatres here is adequate.						
24. In the theatres here, it is difficult to speak up if I perceive a problem with patient care.						
25. When my workload becomes excessive, my performance is impaired.						
26. I am provided with adequate, timely information about events in the hospital that might affect my work.						
27. I have seen others make errors that had the potential to harm patients.						
28. I know the proper channels to direct questions regarding patient safety in the theatres here.						
29. I am proud to work at this hospital.						

30. Disagreements in the theatres here are resolved appropriately (i.e., not who is right but what is best for the patient).						
31. I am less effective at work when fatigued.						
32. I am more likely to make errors in tense or hostile situations.						
33. Stress from personal problems adversely affects my performance.						
34. I have the support I need from other personnel to care for patients.						
35. It is easy for personnel in the theatres here to ask questions when there is something that they do not understand						
36. Disruptions in the continuity of care (e.g., shift changes, patient transfers) can be detrimental to patient safety.						
37. During emergencies, I can predict what other personnel are going to do next.						
38. The doctors and nurses here work together as a well-coordinated team.						
39. I am frequently unable to express disagreement with consultant doctors.						
40. Truly professional personnel can leave personal problems behind when working.						
41. Morale is high in the theatres here.						
42. Trainees in my discipline are adequately supervised.						
43. I know the first and last names of all the personnel I worked with during my last shift.						
44. I have made errors that had the potential to harm patients.						
45. Consultant doctors in the theatres here are doing a good job.						
46. All the personnel in the theatres here take responsibility for patient safety.						
47. I feel fatigued when I get up in the morning and have to face another day on the job.						
48. Patient safety is constantly reinforced as the priority in the theatres here.						
49. I feel burned out from my work.						
50. Important issues are well communicated at shift changes.						
51. There is widespread adherence to clinical guidelines and evidence-based criteria regarding patient safety here.						
52. I feel frustrated by my job.						
53. I feel I am working too hard on my job.						
54. Information obtained through incident reports is used to make patient care safer in the theatres here.						

55. During emergency situations (e.g., emergency resuscitations), my performance is not affected by working with inexperienced or less capable personnel.						
56. Personnel frequently disregard rules or guidelines (e.g., handwashing, treatment protocols/clinical pathways, sterile field, etc.) that are established for the theatre.						
57. The lead surgeon should be formally in charge of the theatre staff during the surgical procedure.						
58. Communication breakdowns which lead to delays in starting surgical procedures are common.						
59. Have you ever completed this survey before? Yes ☐ No ☐ Don't Know ☐						

BACKGROUND INFORMATION

Position (as today): (mark your position) ☐ Consultant Surgeon ☐ Surgical Fellow, Registrar, or Senior House Officer ☐ Surgical First Assistant / Surgical Care Practitioner ☐ Perfusionist ☐ Consultant Anaesthetist ☐ Anaesthetic Fellow, Registrar, or Senior House Officer ☐ Anaesthetic Operating Department Practitioner (ODP) ☐ Scrub Operating Department Practitioner (ODP) ☐ Anaesthetic Nurse ☐ Scrub Nurse ☐ Health Care Assistant / Nursing Assistant ☐ Recovery Operating Department Practitioner (ODP) ☐ Recovery Nurse ☐ Ward Nurse / Practitioner ☐ Support Staff (Operating Department Assistants/ODA) ☐ Other: How long have you been working/liasing with this hospital? _____ months _____ years	Speciality: ☐ General, specific: ☐ Orthopedics ☐ Ears, Nose, Throat/ Maxillary-Facial ☐ Neurology ☐ Other: How many years of experience do you have in this speciality? _____ years Usual Shift Job Status: ☐ Days ☐ Full-time ☐ Evenings ☐ Part-time ☐ Nights ☐ Agency ☐ Variable Shifts ☐ Contractual Gender: ☐ Male ☐ Female Current Age _____ years old
Ethnic Group: ☐ Asian (i.e. Indian, Filipino, Chinese) ☐ Black (i.e. African, Caribbean)	COMMENTS:

☐ European ☐ Hispanic ☐ Mixed / Multi-ethnic ☐ White (i.e. British, Irish) ☐ Other: <i>(Optional) collected as part of a cross-cultural study</i> Citizenship (e.g. British, Spanish, Indian, Filipino) Country of Birth (if different):	What are your top three recommendations for improving patient safety in the theatre? 1. 2. 3. If more room for comments is needed, please provide your response on a separate sheet of paper.
--	---

Thank you for completing the questionnaire – Your time and participation are greatly appreciated

Appendix C

Online Questionnaire

SAFETY ATTITUDES QUESTIONNAIRE (OPERATING THEATRE VERSION)

Safety Attitudes Questionnaire (SAQ) is a tool to assess the team members' perception of teamwork climate, safety climate, working conditions, communication/collaboration in their unit or department, job satisfaction, stress recognition and perception of management. It has 60 questions in total with a short history on your background information.

Indicates required question

Introduction
Good day!

I am Kathie Tapan, a fellow Filipino theatre practitioner. I am conducting a study regarding the Safety Attitudes and Culture among the Filipino Operating Room and Recovery Nurses in UK, as part of my master's degree. This study can help develop theatre to enhance patient safety in theatres, surgery or recovery and further more research that focus on culture and safety attitude among different professionals. The attached questionnaire has already been used in different countries such as USA, Portugal, Ecuador and China. Your participation and input is valued of your time to complete this questionnaire. All questionnaire results will then be tabulated and analysed.

Rest assured that your answers will be treated with strict confidentiality as only the researcher will be able to see the form and only the final result of the study will be published for future reference. I am to provide complete anonymity for not asking participants, name or other details in the questionnaire. No harm and no expense to participants is intended by this study. Participation to this study implies no anticipated risk for social, health, legal, employment or financial status to the participant.

We have to get your cooperation. For any queries, please don't hesitate to email: kathietapan@gmail.com, call +44 01452 761167. Thank you!

Informed Consent

By agreeing to the following terms of the research study,

Safety Attitudes and Culture of Filipino Theatre Operating Room and Recovery Nurses in UK:

- I have received adequate information regarding the nature and extent of the study and I understand that my role includes filling this form completely. This is to benefit development further research about patient safety.
- I am aware that I have been selected by a fellow Filipino to serve the purpose of this study and that a participation in this study is voluntary at any point during the study have right to withdraw from the study without penalty and there is no anticipated or potential harm in social, health, legal, employment and financial status in participating in this study.
- I understand that I will be identified (just not as a participant) and that the study will be kept confidential. However the results of this study will be presented to the faculty of Nursing from University of the Philippines. I understand that completed questionnaire will be kept in a locked storage for 5 years and then will be completely disposed.
- The investigator has explained to me that there is no compensation beyond my time and effort in participating in this study. If I have any questions and problem during study period, I can contact Kathie Tapan this email: kathietapan@gmail.com or mobile +63 917 622 1211.

I hereby participate in this study after all that was explained to me and I understand that by signing this consent form, all my questions have been answered.

1. I agree to be part of the research study.*
Mark only one oval.
☐ Yes
☐ No *Stop to answer 5 (PHILIPPINE VERSION)*

2. You can sign your name here or leave it blank (so I know who and not to follow up):

COMMUNICATION AND COLLABORATION

3. Use the scale to describe the quality of communication and collaboration you have experience

with other team members.
Mark only one oval per row.

	Very Low	Low	Adequate	High	Very High	Not Applicable
Chiefward Surgeon	☐	☐	☐	☐	☐	☐
Surgical Fellow, Registrar, & Senior House Officer	☐	☐	☐	☐	☐	☐
Surgical First Assistant / Surgical Care Practitioner	☐	☐	☐	☐	☐	☐
Perfusionist	☐	☐	☐	☐	☐	☐
Consultant Anaesthetist	☐	☐	☐	☐	☐	☐
Anaesthetist Fellow, Registrar & Senior House Officer	☐	☐	☐	☐	☐	☐
Anaesthetist Operating Department Practitioner (ODP)	☐	☐	☐	☐	☐	☐
Scrub Operating Department Practitioner (ODP)	☐	☐	☐	☐	☐	☐
Anaesthetist Nurse	☐	☐	☐	☐	☐	☐
Scrub Nurse	☐	☐	☐	☐	☐	☐
Health Care Assistant / Nursing Assistant	☐	☐	☐	☐	☐	☐
Recovery Operating Department Practitioner (ODP)	☐	☐	☐	☐	☐	☐
Recovery Nurse	☐	☐	☐	☐	☐	☐
Ward Nurse / Practitioner	☐	☐	☐	☐	☐	☐
Support Staff (Operating Department Assistant/ODA)	☐	☐	☐	☐	☐	☐

responsibility for patient safety

47. I feel frustrated when I get up in the morning and have to face another day on the job.

48. Patient safety is constantly reinforced as the priority in the theatres here.

49. I feel burned out from my work.

50. Important issues are well communicated at shift changes.

51. There is widespread adherence to clinical guidelines and evidence-based practice regarding patient safety here.

52. I feel frustrated by my job.

53. I don't see working here hard on my job.

54. Information obtained through incident reports is used to make patient care safer in the theatres here.

55. During emergency situations (e.g., emergency anaesthetics), my performance is not affected by working with inexperienced staff.

5. Position: As of today, you are a:*

Mark only one oval.

☐ Consultant Surgeon
☐ Surgical Fellow, Registrar, or Senior House Officer
☐ Surgical First Assistant / Surgical Care Practitioner
☐ Perfusionist
☐ Consultant Anaesthetist
☐ Anaesthetist Fellow, Registrar, or Senior House Officer
☐ Anaesthetist Operating Department Practitioner (ODP)
☐ Scrub Operating Department Practitioner (ODP)
☐ Anaesthetist Nurse
☐ Scrub Nurse
☐ Health Care Assistant / Nursing Assistant
☐ Recovery Operating Department Practitioner (ODP)
☐ Recovery Nurse
☐ Ward Nurse / Practitioner
☐ Support Staff (Operating Department Assistant/ODA)
☐ Other:

6. How long have you been working/staying with this hospital? (in MONTHS & YEARS) *

capable personnel.

56. Personnel frequently disregard safety or guidelines (e.g., handwashing, treatment protocols, etc.) that are established for the theatres here.

57. The lead surgeon asked me to be in charge of the theatres staff during the surgical procedure.

58. Communication breakdowns which lead to delays in making surgical procedures are common.

6. Have you ever completed this survey before? *

Mark only one oval.
☐ Yes
☐ No
☐ Don't know

BACKGROUND INFORMATION

7. Name of hospital you work with:*

Please specify City / Town, if not in Southampton

8. Specialty: *

Other (if not specify)
☐ General
☐ Orthopaedics
☐ Gynaecology, Obstetrics, Neonatology
☐ Plastic, Visceral, Thoracic, Maxillofacial
☐ Neurology
☐ Other:

11. If GENERAL is chosen, please specify:

12. How many YEARS of experience do you have in this specialty? *

13. Usual Shift that you work in this hospital: *

Mark only one oval.
☐ Day
☐ Evening
☐ Night
☐ Variable Shifts

7. All the necessary information is available before the start of a procedure.

8. Working in this hospital is the best part of being a nurse.

9. The administration of the hospital is doing a good job.

10. Hospital administration supports my safety efforts.

11. I receive appropriate feedback about my performance.

12. In the theatre, it is difficult to discuss errors.

13. Working theatre personnel makes a surgical procedure is important for patient safety.

14. Staffing are common in the theatres.

15. This hospital is a good place to work.

16. Patient inquiry my performance during emergency situations.

17. Hospital management does not thoroughly appreciate the safety of patients.

18. The levels of staffing in our theatres are sufficient to handle the number of patients.

19. Decision making in the theatres often leads to adverse patient.

20. I am encouraged by my colleagues to report any patient safety concerns I may have.

21. The culture in the theatres here makes it easy to learn from the errors of others.

22. This hospital deals consistently with problems with doctors and employees.

23. Medical equipment in the theatres here is adequate.

24. In the theatres here, it is difficult to speak up if I perceive a problem with patient care.

25. When my workload becomes excessive, my performance is impacted.

26. I am provided with adequate, timely information about events in the hospital that might affect my work.

27. I have seen others make errors that had the potential to harm patients.

28. I know the proper channels to direct questions regarding patient safety in the theatres here.

29. I am proud to work at this hospital.

30. Changes in the theatres here are not always appreciated (e.g., not clear what is best for the patient).

31. I am less effective at work when fatigued.

32. I am more likely to make errors in more or less situations.

33. Stress from personnel problems affects my performance.

34. I have the support I need from other personnel to care for patients.

35. It is easy for personnel in the theatres here to ask questions when there is something they don't understand.

36. Changes in the complexity of cases (e.g., shift changes, patient handling) here are:

37. I have seen others make errors that had the potential to harm patients.

38. During emergencies, I can provide value other personnel are going to do not.

39. The doctors and nurses here work together as a well-coordinated team.

40. I am frequently unable to express disagreement with co-workers' decisions.

41. Truly professional personnel can have personal problems behind their working.

42. Knowledge is high in the theatres here.

43. Trust in my discipline are adequately maintained.

44. I know the best and best names of all the personnel I worked with during my last shift.

45. Consultant doctors in the theatres here are doing a good job.

46. All the personnel in the theatres here are:

47. I have seen others make errors that had the potential to harm patients.

48. During emergencies, I can provide value other personnel are going to do not.

49. The doctors and nurses here work together as a well-coordinated team.

50. I am frequently unable to express disagreement with co-workers' decisions.

51. Truly professional personnel can have personal problems behind their working.

52. Knowledge is high in the theatres here.

53. Trust in my discipline are adequately maintained.

54. I know the best and best names of all the personnel I worked with during my last shift.

55. Consultant doctors in the theatres here are doing a good job.

56. All the personnel in the theatres here are:

Available at:

<https://forms.gle/WGG1RKiMpycnVuw77>

QR Code 1: Scrub, ODP, Recovery

QR Code 2: OR, ODP, or Recovery

SCAN ME

SCAN ME

14. Job Status *

Mark only one oval.
☐ Full-time
☐ Part-time
☐ Agency
☐ Contractual

15. Gender *

Mark only one oval.
☐ Male
☐ Female

16. Age (in YEARS) *

17. Ethnic Group *

Mark only one oval.
☐ Asian (e.g., Indian, Filipino, Chinese)
☐ Black (e.g., African, Caribbean)
☐ European
☐ Hispanic
☐ Mixed / Multi-ethnic
☐ White (e.g., British, Irish)
☐ Other:

18. Citizenship (e.g., British, Spanish, Indian, Filipino) (Optional) collected as part of a cross-cultural study

19. Country of Birth (if different from Citizenship) (Optional) collected as part of a cross-cultural study

20. COMMENTS:
What are your TOP THREE RECOMMENDATIONS for improving patient safety in the theatre?

PARTICIPATION DECLINED

You have selected not to participate. You can click submit or close this browser

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Google Forms

Appendix D

INFORMED CONSENT

Introduction:

Good day! I am Ruthie Tupas, a fellow Filipino theatre practitioner. I am conducting a study regarding the **Safety Attitudes and Culture among the Filipino Operating Room and Recovery Staff in the UK**, as part of my master's degree. This study can help develop theories to enhance patient safety in anesthesia, surgery and recovery and initiate more research that focus on culture and safety attitude among different professionals. The attached questionnaire has already been used in different countries such as the USA, Portugal, Sweden, and China. I hope you can participate and spare 10-15 minutes of your time to complete this questionnaire. If you do not wish to complete it, simply leave it blank and place it back on the envelope and seal. However, if you do wish to voluntarily participate, please fill the form.

Rest assured that your answers will be treated with strict confidentiality as only the investigator will be able to see the forms and only the final results of the study will be published for future references. I aim to preserve complete anonymity by not asking participants, name or other identifiers in the questionnaire. No harm and exposure to exploitation is intended by this study. Participation to this study imposes no anticipated risk for social, health, legal, employment or financial status to the participant.

Once fully completed, please place forms back on the envelope and SEAL. Forms will be collected at the end of the week or at your convenience. All questionnaire results will then be tabulated and analysed. We hope to get your cooperation. For any queries, please don't hesitate to email: ruthietupas@yahoo.com. Thank you!

FORM PROPER:

I _____ agree to be part of the research study:
Safety Attitudes and Culture among the Filipino Operating Room and Recovery Staff in the UK under the following terms:

- I have received adequate information regarding the nature and extent of the study and I understand that my role includes filling this form completely. This is to benefit development further research about patient safety.
- I am aware that I have been referred by a fellow Filipino to serve the purpose of this study and that my participation in this study is voluntary at any point during the study have right to withdraw from the study without penalty and there is no anticipated or potential harm in social, health, legal, employment and financial risk in participating in this study.
- I understand that I will not be identified (and kept as anonymous) and that the study will be kept confidential; however the results of this study will be presented to the Faculty of Nursing from the University of the Philippines. I understand that completed questionnaires will be kept in a locked storage for 5 years and then will be completely disposed of.
- The investigator has explained to me that there is no compensation beyond my time and effort in my participating in this study. If I have any questions and problem during study period, I need to contact Ruthie Tupas thru email ruthietupas@yahoo.com or

I hereby participate in this study after all that was explained to me and I understand that by signing this consent form, all my questions have been answered.

Signature of Participant

Date

Ruthie Tupas
Name of Researcher

Date

Appendix E

Ethics Review Board Evaluation



Office of the Vice Chancellor for Academic Affairs
UNIVERSITY OF THE PHILIPPINES
OPEN UNIVERSITY

Los Baños, Laguna 4031
(6349) 536 6001 to 6006 loc 301, 420

9 May 2018

ASST. PROF. QUEENIE R. RIDULME

Program Chair
Diploma/Master of Arts in Nursing
Faculty of Management and Development Studies
UP Open University
Los Baños, Laguna

Dear Asst. Prof. Ridulme:

The UPOU Research and Publications Committee as per the endorsement of Dr. Josephine Agapito and Ms. Maria Cecilia Punzalan who served as Ethical Reviewer for the thesis proposal of one UPOU Master of Arts in Nursing student whose name is indicated below is recommending the following action:

RUTHIE E. TUPAS. *"Safety Attitudes and Culture among the Filipino Operating Room and Recovery Nurses in Southampon, United Kingdom"*.

ACTION: Passed the ethical review and can proceed with her research but have to revise according to the comments made by the reviewer.

May we request you to disseminate the said information to the concerned student.

Thank you.

Truly yours,

MELINDA F. LUMANŢA

Vice Chancellor and
Chair, Research and Publications Committee



UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM Appendix C

Research/Project Title:

Safety Attitudes and Culture Among the Filipino Operation Room and Recovery Nurses in Southampton, United Kingdom

Faculty of Studies/Office:

Faculty of Management and Development Studies

Researcher/Proponent:

Ruthie E. Tupas

Form

Checklist of Required Documents	Compliance	
	Yes	No
Application for Ethical Review (Appendix A)	X	
Research proposal/protocol	X	
Research investigator/proponent's curriculum vitae	X	
Official Letter of Endorsement	X	



UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM Appendix C

Evaluation Criteria	Compliance		Remarks
	Yes	No	
Compliance with protocol	X		
Informed consent	X		
Openness and integrity	X		
Protection from harm	X		
Confidentiality	X		
Professional codes of practice and ethics	X		



UP OPEN UNIVERSITY
APPLICATION FOR ETHICAL REVIEW
ERB/RPC EVALUATION FORM Appendix C

Kindly check your decision on the proposal

- ☐ Approval: Passed the ethical review and can proceed with his/her research but have to revise according to the comments made by the reviewer.
- ☒ Approval without revision.
- ☐ Disapproval: _____

Note: Will wait until the submission of the Informed consent

. Follow the outline. May ask the adviser for the template.

Note: Pls see comments. Just minor revisions. Pls submit after revisions are made

Reviewer:

MARIA CECILIA E. PUNZALAN
May 4~~April-27~~, 2018

Print Name & Signature

Date

Appendix F

Profile of Interviewees

Table 10

Interviewed Profile Representatives (n=17)

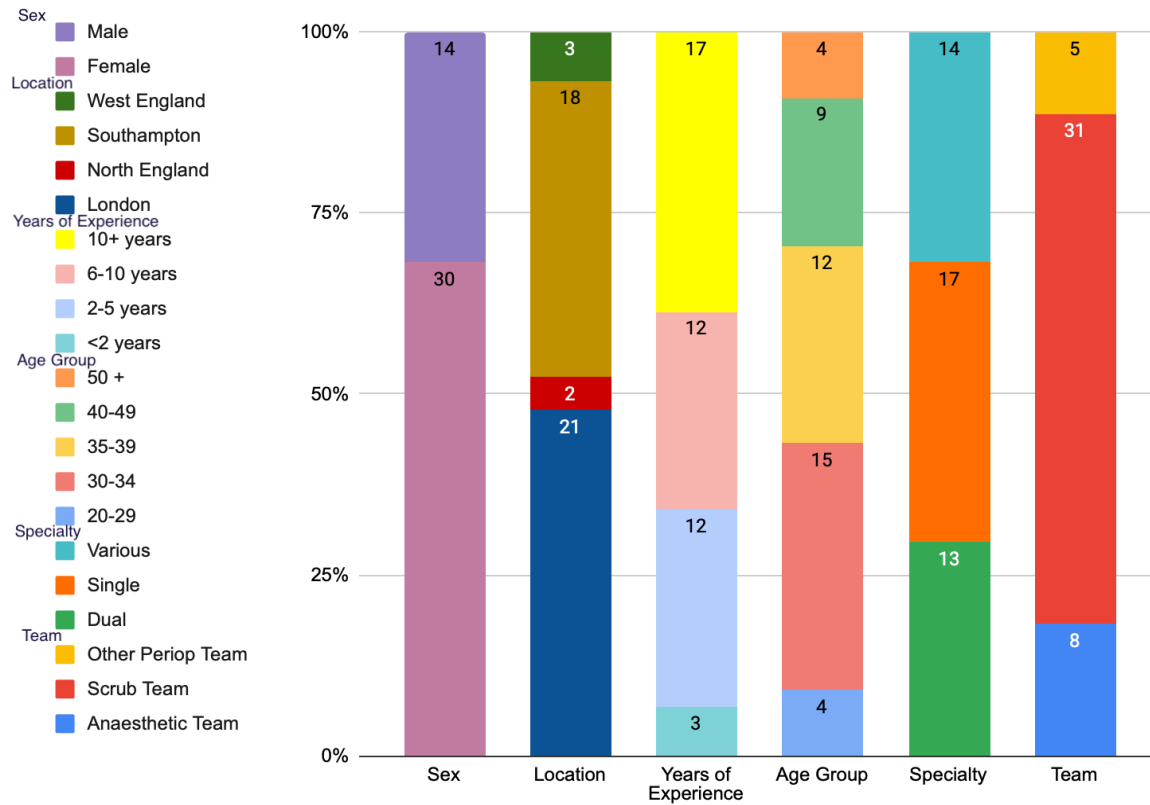
Demographic Profile Groups	Frequency	Percentage (%)
Team*		
Anesthetic Team	4	23.5
Scrub Team	10	58.8
Recovery & Auxiliary Team	3	17.6
Specialty*		
Dual (2 specialties)	2	11.8
Single (1 specialty only)	7	41.2
Various (3 or more specialties)	8	47.1
Age Group		
Under 30 years old	1	5.9
30-34 years old	5	29.4
35-39 years old	8	47.1
40-49 years old	2	11.8
50 years old and older	1	5.9
Experience		
New (Less than 2 years)	4	23.5
Experienced (More than 2 years)	13	76.5
Location		
London	9	52.9
North England	5	29.4
Southampton	2	11.8
West England	1	5.9
Sex		
Female	13	76.5
Male	4	23.5

* Some interviewees may have recently become dual-skilled and may change in profile; interviewee will represent the profile that fits them at the time of the interview but maybe asked about their experience on the difference they see between the profiles (e.g. anesthetic versus scrub, single versus various specialties, new versus experienced at a specific role).

Appendix G

Visual Representation of Results

Figure 4. Respondents per Demographic Profile Groups.



The figure above shows a visual representation of the respondents' demographic profile, with the corresponding the number (frequency) per group and with the total sample of 44.

Figure 5. Perceived Safety Attitudes.

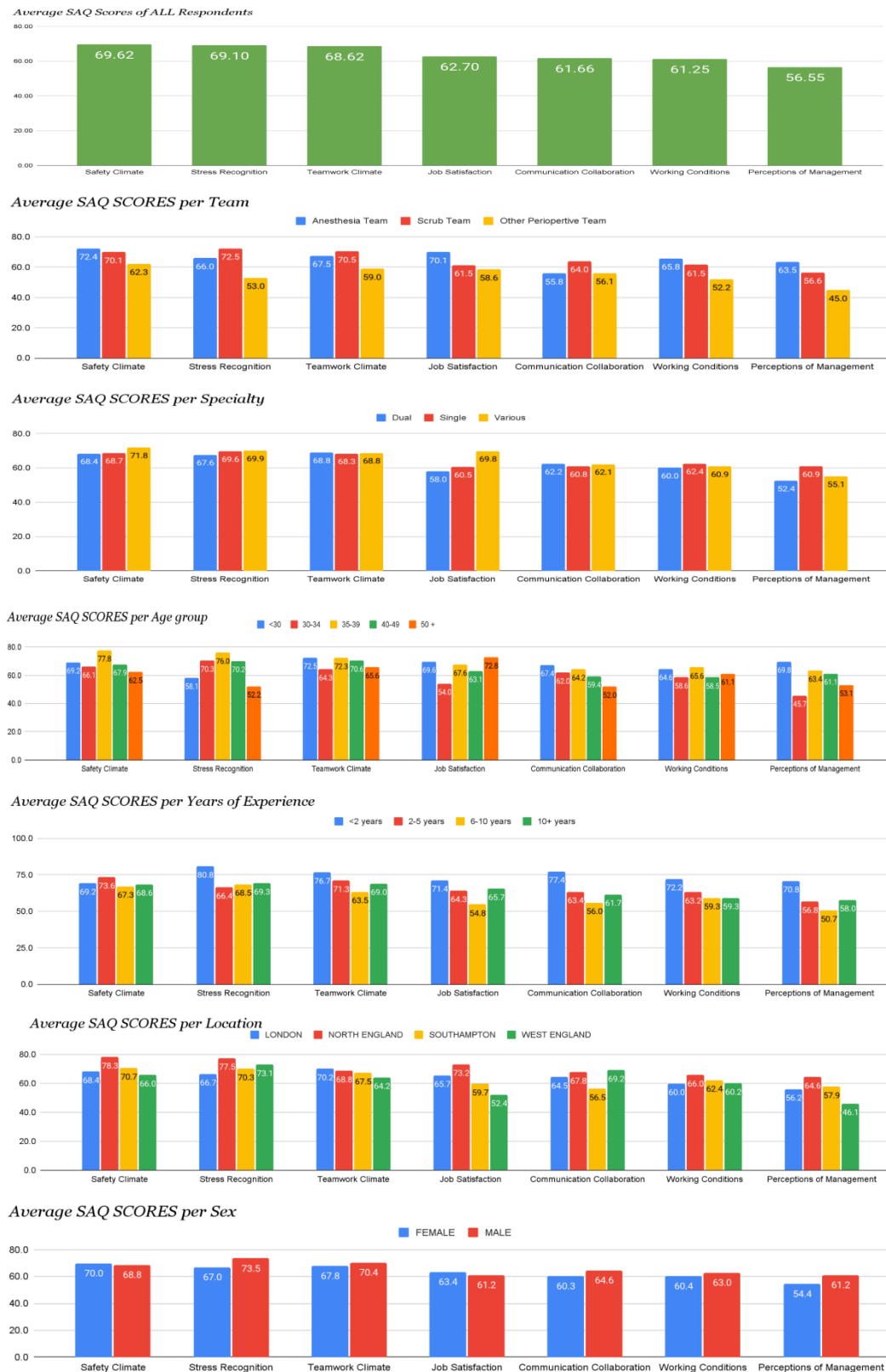


Figure 2 above shows a visual representation of the average SAQ score per domain of all respondents, and per demographic profile group. This represents the Filipino Operating Room and Recovery staff in the UK. It can be seen that the safety climate dominates, followed closely by stress recognition, and then followed by teamwork climate, job satisfaction, communication/ collaboration, and working conditions, respectively. Perceptions of management domain was given the lowest scores.

Appendix H

Normality Test of Data

The Shapiro-Wilk Test is a test of normality and is more appropriate for small sample sizes (e.g. less than 50 samples). Shapiro-Wilk test was used to test the null hypothesis that the sample mean scores per safety-related domain are normally distributed. If the p-value of the Shapiro-Wilk Test is greater than 0.05, the data is normal. If it is below 0.05, then the data significantly deviate from a normal distribution.

Table 11

Normality Test of the sample mean score per safety-related domain

Safety-related Domain Scores	Shapiro-Wilk	
	Statistic	p-value
Communication / Collaboration	.966	.217
Teamwork Climate	.980	.652
Safety Climate	.962	.158
Job Satisfaction	.988	.918
Stress Recognition	.914	.003
Perceptions of Management	.966	.212
Working Conditions	.974	.418

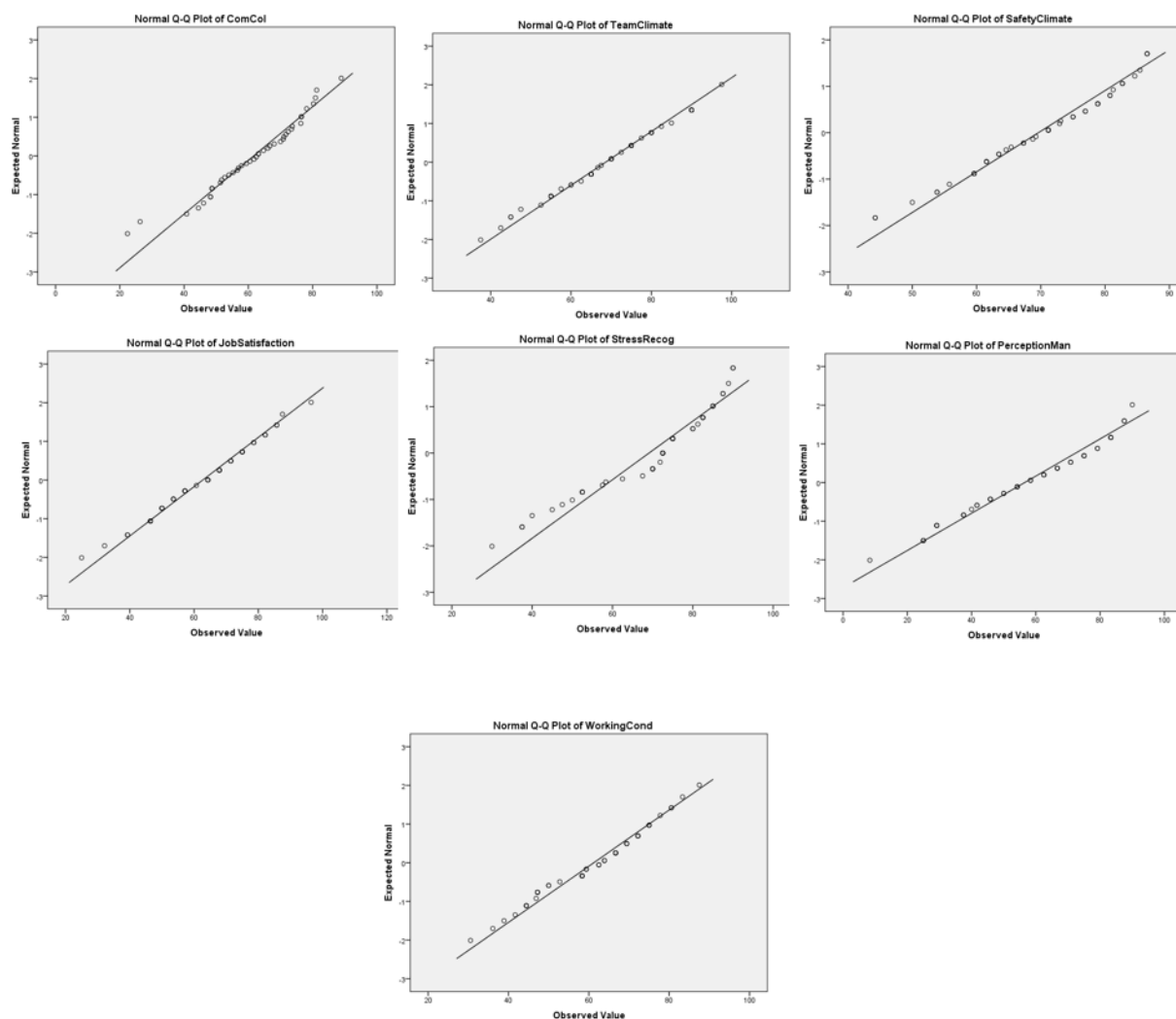
* **significant p-values** are those less than or equal to 0.05 (non-normal)

Since most p-values are greater than 0.05, there is sufficient evidence to conclude that the majority mean scores do come from a normal distribution. However, one of the domains (Stress Recognition) has a p-value of less than 0.05, which may mean that distribution may not come from a normal distribution. Graphical representation of the data was then needed for further verification. To further support the use of parametric tests, the normal Q-Q plot was then generated to determine if the distributions of the sample mean scores come from a normal distribution. It is a scatterplot created by plotting two sets of quantiles against one another, forming a

roughly straight line. If the data is normally distributed, the points in the QQ-normal plot lie on a straight diagonal line.

Figure 6:

Normal Q-Q Plot of Mean Scores per Safety-related Domain



If all the points plotted on the graph lie perfectly on a straight line, then this distribution is normally distributed. Looking at normal Q-Q plots, most data points are relatively around or on the normal distribution line. Hence, a parametric test is more appropriate to use for this type of data.