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**PRACTICE ENVIRONMENT AND WORK ENGAGEMENT
AMONG NURSES IN SELECTED MINISTRY ACADEMIC HOSPITALS
IN SAUDI ARABIA**

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Practice Environment and Work Engagement among Nurses in Selected Ministry Academic Hospitals in Saudi Arabia

Biographical Sketch

Mr. Mochtar Abdul Ali graduated in 2010 from Liceo de Cagayan University in Cagayan de Oro. As soon as he passed his nurse license exam in 2011, he began working as a staff nurse at a government hospital in Maguindanao to implement what he had learned at university and its affiliated hospitals. After a year as a nurse, he moved abroad to advance his career. In 2012, he worked at Alrafie Hospital, a CBAHI-accredited hospital in Makkah, Saudi Arabia. He was assigned to the emergency department, operation theater, intensive care unit, and medical-surgical nursing. He also served as a clinical instructor to the newly hired staff nurses and in nursing education as an acting nurse educator and nursing office assisting nurse director when the hospital was preparing for CBAHI accreditation, also known as quality accreditation. Mr. Ali passed international exams in the Middle East from Saudi Council for Health Specialties and Health Authority Abu Dhabi. He is a Saudi Arabian License Nurse Specialist and Abu Dhabi RN exam passer.

After four years at Alrafie Hospital in 2016, he resigned to improve his nursing skills, knowledge, attitude, experience, and opportunities and worked in a ministry-affiliated hospital. Ministry hospitals in Saudi Arabia are believed to be more advanced in medical technology than private hospitals. In 2017, he joined King Saud University's King Khaled University Hospital. King Khaled Hospital made Newsweek's list of the world's best hospitals for 2022 and was ranked 29th in the Middle East by Scimago Institutions. Mr. Ali was hired as a staff nurse 2, a second higher Staff Nurse position at KKHU. Due to his work ethic and dedication, he was promoted to staff nurse 1, two years after being hired at KKHU. He was an active member of his unit's EBP committee in 2018 and one of the presenters and speakers. He was the first recipient of the King Khaled University Hospital DAISY Award, an international nursing honor. His institution nominated him for the prestigious Best Teacher Award. Neuro, thoracic, plastic, acute care, gastro, and maxillofacial surgery are under his shift's charge

nurse or team leader.

In February 2023, he moved to Florida, USA and assigned in Tampa General Hospital, a Magnet-accredited hospital, number 1 best hospital in Tampa Bay Florida since 2016, and number 4 highest-ranked hospital in the state of Florida. Mr. Ali has been in the nursing service for 12 years up to the present.

Acknowledgment

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He is also grateful to the Institutional Review Board Committee at King Saud University Medical City-KKUH, KAUH, and DUH for granting his request for ethical clearance or approval.

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He is also indebted to his parents, Hadji Aquil Balindong Tambilawan Ali and Hadja Nabila Montaner Abdul Ali, for their prayers for good health and safety while working abroad, as well as their unending love and support. To her Mamang, thank you for her understanding despite his busy schedule. To his Babang, for all the advice he has given since he was young and for teaching him that success takes hard work and sacrifice.

Furthermore, finally, to Allah Subhanahu Wata'ala, the source of his strength, knowledge, and will to achieve this milestone, and for making him a tool to contribute to the overall welfare in healthcare worldwide.

Dedication

This thesis is dedicated to God Almighty Allah Subhanahu Wata'ala, my creator, a tower of strength and source of inspiration, wisdom, knowledge, and comprehension. He has been my source of strength throughout this journey, and I have only soared by His will and power. To Muhammad Sallallahu Alayhi Wa Sallam (May Allah Honor Him and grant him peace), my great teacher and messenger taught us the meaning of life.

I also dedicate this thesis to my grandfather Ali and grandmother Kadi Monera, who instilled in me the importance of patience, endurance, and diligence. I will never forget how generous amakulay and inakulay were to me when I was young. May Allah grant you the highest position in Jannah or heaven. Amen.

This thesis is dedicated to my parents, who have provided me with moral and spiritual support throughout my life. My cherished siblings and friends inspire and support me.

Importantly, I dedicate my thesis to all nurses and nurse leaders so that a healthy work environment and work engagement of nurses be maintained and accomplished to deliver the highest quality of care, shorten hospital stays for patients, and decrease staff turnover, among other goals.

Thank you to my thesis advisor, Sir Fritz Gerald Jabonete, and Asst. Professor Queenie R. Ridulme, for guiding me through this academic endeavor.

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Abstract

INTRODUCTION: A stressful practice environment may harm the physical well-being and psychological health of nurses, which, in turn, may lead to a reduction in nurses' work engagement level. This study aimed to determine the relationship between practice environment and work engagement among nurses in selected Ministry Academic Hospitals in Saudi Arabia.

METHODS: This cross-sectional study utilized a descriptive, comparative, and correlation research design. Ethical clearance was secured accordingly. Three hundred forty-three (N=343) nurses from the selected Ministry Academic Hospitals in Saudi Arabia participated. Data were gathered systematically using a demographic questionnaire, the Practice Environment Scale of the Nurse Work Index (PES-NWI) of Lake (2002), and the Utrecht Work Engagement Scale-9 (UWES-9). IBM-SPSS Statistics version 27 was used to analyze the data. Frequency counts and percentages were used to characterize the nurses' demographic and work-related profile. The overall PES-NWI "composite" score was computed as the mean of the five subscale scores. Spearman correlation and point-biserial correlation were used to determine the relationships between variables of interest. An alpha level of 0.5 was used to interpret the significance.

RESULTS: There was a statistically significant moderate positive relationship between nurse participation in hospital affairs and work engagement ($r_s=.451$, $p=.000$), a statistically significant weak positive correlation between nursing foundations of quality of care and work engagement ($r_s=.388$, $p=.000$), nurse manager ability, leadership and support of nurses, and work engagement, ($r_s=.378$, p

=.000), staffing and resource adequacy and work engagement, ($r_s=.350$, $p=.000$), and collegial nurse-physician relationships and work engagement, ($r_s=.296$, $p=.000$).

CONCLUSION: There is a statistically significant moderate positive relationship between overall perceived nurses' practice environment and level of work engagement ($r_s=.454$, $p=.000$).

RECOMMENDATIONS: The findings of this study will serve as baseline data to guide hospital and Nurse leaders on where to focus attention in improving the patient care environment. It recommended devising more strategies and activities to improve the practice environment to promote work engagement among nurses.

Keywords: Practice Environment, Work Engagement, Nurse, Ministry Academic Hospital, and Saudi Arabia.

Chapter I

THE RESEARCH PROBLEM

Background of the Study

Recent studies in the Kingdom of Saudi Arabia (KSA) have revealed an alarming increase in the nursing turnover rate in the country's healthcare sector. Variable explanations exist for this phenomenon; however, an unhealthy practice environment affecting nurses' work engagement was a significant cause. Even though the Saudi government has sufficient funds in the healthcare sector, a poor Practice Environment will lead to disengagement, a decline in nursing care quality, and an increase in the turnover rate. Moreover, this will likely lower job satisfaction, employee retention, performance, and productivity.

The nursing practice environment is defined as the organizational features of the workplace that make nursing practice more accessible or challenging (Lake, 2002). The most frequently used instrument that measures the NPE is the Practice Environment Scale of the Nursing Work Index, which consists of five subscales: nurse participation in hospital affairs; nursing foundations of quality care; nurse manager ability, leadership, and support of nurses; staffing and resource adequacy; and collegial nurse-physician relationships. When nurses have autonomy, control over their work environment, and positive relationships with other healthcare team members, the practice environment is deemed positive (Lake, 2002). In contrast, stressful working conditions may harm nurses' well-being and psychological conditions, which, in turn, may reduce nurses' engagement in their jobs (Dempsey & Assi, 2018).

According to Alenazy et al., 2021, a healthy work environment is essential for

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increasing nursing staff recruitment and retention. A high nurse practice environment positively affects patient satisfaction and care outcomes (Borgès Da Silva et al., 2018). Article 5 of the second edition, 2020-2023 A.D. constitution and bylaws of the Saudi Nurses Association states that one of the association's functions is to promote a healthy workplace for all nurses. This legal citation indicates the need for a positive work environment in Saudi Arabia to increase nurse engagement and retention.

Work engagement is a positive, rewarding, work-related state of mind characterized by vigor, commitment, and absorption (Schaufeli & Bakker, 2010; Schaufeli et al., 2002, p. 74). Diverse studies have been conducted on employee work engagement across industries and employee types, but research on nurse work engagement is limited. According to Simpson (2009a), the research addressed the issue of work engagement in various service-based workplaces, such as airlines, hotels, and restaurants. However, similar studies still need to be available in the nursing literature, especially in Saudi Arabia.

Several demographic characteristics have been identified in the literature as having an association with and being measurable for studying the determinants of various outcomes, including job satisfaction, intention to leave, and quality indicators. These factors strongly relate to the concept of work and personal engagement. The most frequently mentioned personal characteristics were education level, age, and nursing experience years (Griffeth et al., 2000; Ingersoll et al., 2002; Tourangeau & Cranley, 2006).

Through experience and literature, the researcher may have determined that certain staff nurses are disengaged from their work owing to their practicing environment, particularly in Ministry academic hospitals in Saudi Arabia. Some

nurses, particularly in ministry-affiliated teaching hospitals, mainly provide bedside care and have no opportunity to participate in hospital affairs and nursing committees to have their views and voices heard. If the nursing department organizes shared governance and nursing committees for a unit project, senior nurses are favored over junior nurses to participate. In addition, although ministry teaching hospitals offer monthly subunit, unit, and core professional development programs, staff nurses see this as more of a contract renewal necessity than a means of bolstering the nursing foundation for quality treatment. Moreover, nurses believe that some managers need to listen and respond to their workplace concerns. Inadequate staffing and resources also contribute to the disengagement of nurses. Understaffed nurses treated more patients than hospital protocol permitted, resulting in inadequate quality patient care, work weariness, and nursing absences or sick leaves. The lack of hospital resources impedes nurses' ability to offer adequate care, resulting in frustration and disengagement. Language and cultural limitations are different elements that impact nurses' commitment to their employment. The lack of connection and cultural diversity divides healthcare stakeholders, affecting the nurses' commitment to their jobs and output. Interaction and communication can positively affect patient results.

In order to develop initiatives to improve registered nurses' work engagement in nursing practice, which would have significant effects within the Saudi nursing workplace and the present global healthcare context, nurse administrators must identify and comprehend the factors that may influence registered nurses' work engagement.

Statement of the Problem

The study aimed to determine the relationship between the nurse practice environment and work engagement among registered nurses in selected Ministry teaching hospitals in Saudi Arabia.

Objectives of the Study

This study aimed to determine Registered Nurses' perceptions of their practice environment and work engagement in selected Ministry University Hospitals in Saudi Arabia. This study specifically addressed the following research objectives and questions:

1. To determine the individual demographic profiles and work-related variables of the respondents in terms of:

1.1 age

1.2 sex

1.3 civil status

1.4 educational background

1.5 length of nursing practice

1.6 job position

1.7 area of assignment

1.8 committee involvement

2. To determine registered nurses' perceptions of the practice environment in ministry teaching hospitals in Saudi Arabia in terms of:

2.1 Nurse Participation in Hospital Affairs,

2.2 Nursing Foundations of Quality Care,

2.3 Nurse Manager Ability, Leadership, and Support of Nurses

2.4 Staffing and Resource Adequacy, and

2.5 Collegial Nurse-Physician Relationships.

3. To determine the level of work engagement among nurses in the tertiary teaching hospitals in KSA concerning:

3.1 Vigor

3.2 Dedication

3.3 Absorption

4. To determine the relationship between practice environment and work engagement among registered nurses in selected Ministry teaching hospitals in KSA.

5. To determine the relationship between work engagement and the following individual

Demographic profiles of registered nurses in selected Ministry teaching hospitals in KSA.

5.1 age

5.2 sex

5.3 civil status

5.4 educational background

5.5 length of nursing practice

5.6 job position

5.7 area of assignment

5.8 committee involvement

Significance of the Study

This study aims to determine the relationship between practice environment and work engagement among registered nurses in selected Ministry Teaching Hospitals in Saudi Arabia. The following are the recipients of the research's benefits:

To Nursing Practice

Identifying the gaps and needs within the current practice environment of nurses is crucial for modifying or enhancing aspects that will increase the nurses' overall work engagement. This study would also enable nurses to articulate their actual perception of what exists beyond the physical layout of their wards or units, such as the interpersonal relationships, leadership, and support essential to their optimal performance as healthcare providers. In addition, the nurses would benefit significantly if the identified weaknesses were programmed with a strategy or enhancement activity that would foster a more favorable practice environment for nurses' satisfaction, higher work engagement, and improved patient outcomes.

To Patients and other Stakeholders

The study's findings would benefit the hospital's clients, patients, and other stakeholders, who are rooting for and aspiring to receive the highest quality care possible by continuously enhancing the practice environment of the first-line care providers, the nurses.

Moreover, patients could benefit from any enhancements to the practice environment of nurses, as it has been demonstrated that a positive practice environment promotes nurses' work engagement, quality nursing care services, patient satisfaction, a healing environment, and a degree of patient-family satisfaction.

To Nursing Students

This study will assist nursing students in remaining current and providing superior patient care in the future. In addition, it may broaden their understanding of the practice environment's role concerning work that substantially impacts engagement.

To Registered Nurses

This study will assist registered nurses in identifying the practice environment that influences their work engagement and, consequently, their job performance. As a result of the concept that the study's findings will assist them in aligning their attitude and behavior towards their work environment, their engagement will increase. The study would also provide evidence-based data on the current nursing practice environment of the institution, including the domains underlying it, such as

nurses' participation, foundations for quality of care, leadership, human and supply adequacy, and collegial relationships, thereby paving the way for practice environment development strategies or programs. Particular findings are advantageous for promoting professional autonomy, genuine relationships with the healthcare team, and control over the nurses' work environment.

To Nurse Managers

In order to develop initiatives and programs that could increase their nurses' work engagement, nurse managers must comprehend the outcomes associated with the registered nurses' practice environment and the gaps in the domains. These findings will also aid in enhancing the nurse practice environment and identifying training and programs to enhance nurse work engagement. The nursing service's existing development plan could also be improved or strengthened. The findings were also advantageous to middle-level nurse administrators or managers, as they play a crucial role in facilitating and influencing the top managers, staff nurses, and first-level managers.

To the Healthcare Industry and Hospital Management

This study will give the HealthCare Industry and Hospital Management an idea of what they will face. It will convince them to assist and support their nurses in maintaining their work engagement. This study's findings can serve as a guide for enhancing organizational strategies to enhance nurses' practice environment and increase their work engagement to ensure the delivery of quality nursing care, reduce hospital stays, lower healthcare costs, and increase hospital revenues.

To Nursing Research, Training, and Education

This study benefits nursing educators and future researchers because it provides empirical literature. This study will provide nurse educators and future researchers with additional information and understanding of registered nurses' perceptions of the practice environment and work engagement in Ministry teaching hospitals in Saudi Arabia due to the discovery of new information. This study will contribute to our understanding of the nursing profession in the Middle East. This study provides assessment results that could be a basis for future studies or research. The findings would also motivate those in the nurse training and education department or academe to consider analyzing the essential elements underlying the strategy for a positive practice environment for future nurses.

To the Hospital's Stakeholders and Human Resources Department

This study may benefit the hospital's stakeholders and HR. It will help them understand the factors contributing to low and high levels of work engagement among staff nurses and the benefits to job satisfaction, productivity, profitability, retention, and communication. This study will assist them in adjusting and becoming aware of how they can contribute to the work engagement of staff nurses and the delivery of quality healthcare.

Scope of and Limitation of the Study

This study examines Registered Nurses' perceptions in KSA's Ministry Teaching Hospitals regarding their practice environment and work engagement level. Given that the study was conducted in the Ministry of Teaching Hospitals in Saudi Arabia, it did not attempt to determine the overall practice environment and work

engagement of nurses, nor will it collect nurses' perspectives or perceptions from Ministry of Health hospitals, private hospitals, private teaching hospitals, or other sectors. In addition, it was completed in a single period.

The study was conducted between 11 November 2022 and 04 December 2022.

Chapter II

THEORETICAL BACKGROUND

Review of Related Literature

This chapter contains a review of the currently available literature pertinent to the study, a synthesis of the literature review, the theoretical and conceptual frameworks, the study's hypotheses, and the operational and conceptual definitions for the study's conduct.

Literature used was obtained from Emerald Insight, Hindawi, Ingenta Connect, MDPI, Proquest, PubMed, Sage Journal, ScienceDirect, Scientific Research Publishing, Springer Link, Taylor and Francis Online, Wiley Online Library, and Google Scholar.

The keywords used are *Practice Environment*, *Work Engagement*, *Nurse*, *Ministry Academic Hospital*, and *Saudi Arabia*. These keywords were all used to refine the search, which was limited to English.

Practice Environment among Nurses and Its Outcome

To improve patient safety and care quality, professional organizations such as the Institute of Medicine (IOM) and the American Nurses Credentialing Center (ANCC) have emphasized fostering nurse work environments. Recognizing the significance of the nurse work environment in patient care, the IOM published *Keeping Patients Safe: Transforming the Work Environment of Nurses* in 2004. Additionally, an International designation called Magnet Designation® is another program that distinguishes hospitals with a healthy work environment and positive nurse and patient outcomes. Magnet Designation® is a performance-based Practice Environment and Work Engagement among Nurses in Selected Ministry Academic Hospitals in Saudi Arabia

recognition for healthcare organizations with excellent nursing care.

According to Article 5 of the second edition, 2020-2023 AD constitution and bylaws of the Saudi Nurses Association, one of the association's functions is to promote a healthy workplace for all nurses. This legal citation underlines the importance of a healthy work environment in Saudi Arabia to enhance nurse engagement and retention.

Much research has already proven that the nurse practice environment is crucial in promoting the quality and safety of hospital care. The individual nurse or hospital level has analyzed the impact of nurses' practice environment on nurses' and patients' results. Alenazy et al., 2021 discovered that a healthy work environment and job satisfaction are crucial for boosting nursing staff recruitment and retention. A high nurse practice environment significantly improves patient satisfaction and care outcomes (Borgès Da Silva et al., 2018). Work involvement partially moderated the association between the work environment and the intention to leave the organization. The work environment was somewhat connected with greater engagement and decreased intention to leave the organization (Wan et al., 2017).

Almuhsen et al. (2017) conducted descriptive research employing a cross-sectional design throughout this investigation. Participants (staff nurses and first-line nurse managers) from King Fahd Medical City in Saudi Arabia were requested to complete the Perceived Environment Scale-Nursing Work Index utilizing quota sampling (PES-NWI). Four hundred sixty-five nurses participated in this study; 364 were registered nurses, and 101 were nurse managers; most participants were female. The study results were a correlation between the characteristics of the Practice Environment and Work Engagement among Nurses in Selected Ministry Academic Hospitals in Saudi Arabia

participants and their evaluations of their workplaces. The current study revealed that nurses' perceptions of the qualities of their work environment were moderately positive.

Ambani (2017) discovered that the nursing practice environment and nurse job outcomes at the teaching hospital were superior to those at the public hospital. 52.7% of the participants experienced high burnout, 38.7% were dissatisfied, and 25.8% expected to quit within the following year. 80.8% of staff at the public hospital were burned out, 64.7% were dissatisfied, and 33.2% intended to leave, compared to 26%, 15.8%, and 19.1%, respectively, at the teaching hospital. The nurse practice environment and hospital type (public versus teaching) significantly influence burnout and job unhappiness, which raise the intention to leave. The sort of hospital has a direct impact on a patient's intent to depart. This study provides an effective model for describing the connection between the nursing practice environment and nurse job outcomes in Saudi hospitals. This knowledge will help nurse leaders and policymakers develop retention measures to improve nursing practice settings and job-related outcomes and reduce turnover.

Similarly, in their cross-sectional research, Ambani et al., 2020, used path analysis to evaluate a model that ties the nursing practice environment and patient-to-nurse ratio to nurse job outcomes. A sample of 404 Saudi Arabian nurses from public and military hospitals completed a survey that included the Practice Environment Scale of the Nursing Work Index, the Maslach Burnout Inventory, and items regarding job unhappiness and intention to quit. Using a model of nurse turnover, the links between study variables were examined. This study was conducted using the STROBE checklist for cross-sectional research. In military

hospitals, the nursing practice environment and nurse job results were superior to those of public hospitals. 53% of individuals experienced high levels of burnout, 39% were dissatisfied with their professions, and 26% intended to leave their positions. The path analysis revealed that the nursing practice environment and the nurse-to-patient ratio were predictors of burnout and job dissatisfaction, leading to the intention to leave. The evaluated model accounted for the investigated variables' direct and indirect impacts. In Saudi hospitals, poor nursing practice settings and high patient-to-nurse ratios contribute to poor nurse employment outcomes. As retention measures improve nurse job outcomes, nurse leaders may prioritize strengthening practice settings and minimizing patient-to-nurse ratios.

Domains of the Nurses' Practice Environment

Lake identified the five significant subscales of the Practice Environment Scale of the Nurse Work Index (2002). 1) Nurse Participation in Hospital Affairs, 2) Nursing Foundations of Quality Care, 3) Nurse Manager Ability, Leadership, and Support of Nurses, 4) Staffing and Resource Adequacy, and 5) Collegial Nurse-Physician Relationships. In addition to other concepts and terms that represent the dimensions mentioned above, a literature review was conducted to illuminate the following concepts:

Nurse Participation in Hospital Affairs

Improving nurse participation in hospital affairs is essential to establishing healthy work environments, a productive and cost-effective strategy for ensuring nurse satisfaction and retention. Using a descriptive cross-sectional design, Albashayreh et al. (2019) surveyed 454 local and expatriate nurses using a self-administered questionnaire. A positive correlation exists between a favorable work

environment and job satisfaction. Nationality, education, hospital type, staffing, resources, and hospital affairs participation were significant predictors of nurse job satisfaction. The most incredible variation in nurses' job satisfaction was attributable to the work environment. Work environment influences nurse job satisfaction more than nurse characteristics and hospital and unit types.

Al Harbi, 2020 surveyed 497 RNs at a large Riyadh hospital in 2017. Similar to RN4Cast, participants conducted an online survey to assess nurses' work conditions and nursing outcomes. Participation in hospital affairs was linked to all three nurse outcomes, while adequate staffing and resources were linked to emotional fatigue and job satisfaction, but not desire to leave. These two nursing practice environment traits scored lowest. Work satisfaction is linked to nurse manager ability, leadership, and nurse-physician relationships. None of the three outcomes were related to quality nursing care. Emotional weariness and job satisfaction mediated the nurse participation-leave intention relationship. Saudi Arabia's nursing shortage requires attractive work environments. This study examines Saudi Arabian nurses' emotional fatigue, job satisfaction, and quit intentions. The study's findings will help Saudi hospital administrators and nurse leaders improve recruiting and retention strategies by focusing on hospital activities, staffing, and resources.

Alenazy et al., 2021, used a cross-sectional correlational (observational) design and surveyed critical care nurses at King Khalid Hospital (KKH), Ha'il, Saudi Arabia, in July and August 2020. Participants' demographics and NPE, job satisfaction, and intention to leave (ITL) data were collected using validated questionnaires. They ran descriptive, correlation, and multivariable analyses. The

response rate was 98% (152/160). The NPE was largely positive ($M = 2.89$, $SD = 0.44$), with the lowest scores for nurse participation in hospital affairs ($M = 2.83$, $SD = 0.47$) and staffing and resource adequacy ($M = 2.88$, $SD = 0.47$). NPE and ITL correlate negatively ($r_s = 0.277^{**}$, $P.01$). Job satisfaction was linked to ITL ($r_s=.007$, $P=.930$). Intensive care units must maintain a healthy work environment and high job satisfaction to recruit and maintain staff. Critical care and hospital leaders should implement practice-improvement programs to boost nurses' unit and hospital involvement, job satisfaction, and retention.

Al Sabie et al. (2019) conducted an online survey to evaluate nurses' perceptions of the work environment, burnout, job satisfaction, intention to leave, and quality of care. Participation in hospital affairs, a foundation for quality of care, and adequate staffing were predictors of burnout and perceived quality of care among nurses. A logistic regression analysis showed that working in a favorable environment was associated with a lower intention to leave the job, but only when job satisfaction was high.

Nursing Foundations of Quality Care

Although there need to be more specific studies regarding the nursing foundation of quality care in KSA, the researcher found five relevant articles related to this subject while conducting the literature review. Al Moosa et al., 2020, recruited 541 bedside nurses and nursing administrators using a descriptive cross-sectional correlational research design and convenient sampling. Self-report questionnaires include demographic and practice environment scales. The mean score of nurse participants in hospital affairs was 3.0 ($SD= 0.47$), nursing foundation of quality care was 3.1 ($SD= 0.45$), nurse manager ability, leadership, and support of nurse was 2.9

(SD= 0.60), staffing and resources adequacy was 2.6 (SD= 0.70), and collegial nurse-physician relationships was 2.9. (SD= 0.70). (SD 0.57). The scale averaged 2.9%. (SD 0.47). This relatively high mean score indicates that practice environments are likely favorable. This study can help policymakers, administrators, nurse leaders, and educators improve nurses' work environment and patient outcomes.

Feliciano et al., 2021, collected data from 621 Saudi Arabian nurses using a standardized questionnaire (CIRN) in 2019. "Legal/ethical practice" scores the highest, and "critical thinking and research aptitude" scores the lowest. Marriage, graduation year, length of service, duty hours, and nurse-to-patient ratio affect nurses' competency. Nurses' competence and sociodemographics are highly correlated. Medical ward nurses can provide safe care within their legal training.

Alosaimi et al. 2021 used a descriptive exploratory cross-sectional design. The target audience was RNs in specific settings. One hundred ten nurses participated in the study using convenience sampling. A five-part online questionnaire was used to collect data. First is the socio-demographic profile. The second section includes the Practice Environment Scale of the Nursing Work Index (PES-NWI) and other instruments, such as information assessing COVID-19 workload perception and nurses' COVID-19 awareness. Participant characteristics, workload perception, and work environment awareness were linked. This study examined nurses' work environments and the impact of workload awareness and perception during COVID-19. During the pandemic, nurses' job satisfaction and workload correlated. High COVID-19 awareness was associated with a positive work environment perception. Nurses have a moderate view of their participation in

hospital affairs and a high view of the nursing foundation of quality care.

A descriptive correlational study was carried out by Marzuki et al., 2012, to determine the best practice initiative in NPE. Three hundred ninety-five nurses participated in the study, with a participation rate of 94.3 percent. According to this research, the "Nursing Foundations of Quality Care" question received the highest possible mean score of 2.91, and 314 out of 314 (79.5%) nurses strongly agreed that CNE programs are the most important. In conclusion, the CNE program is the best practice initiative, and it is recommended that the CNE encourage transformational and lifelong learning within the nursing profession.

Notwithstanding this, a thorough investigation reveals that nurses, as first-line patient care providers, are the foundation of both patient safety and the quality of care provided. Suppose one wishes to realize a healthy working environment and provide high-quality treatment to patients. In that case, promoting nurse empowerment, engagement, and positive interpersonal interactions in the workplace is essential. Higher levels of job satisfaction are reported by nurses when working conditions are improved to make them healthier. This, in turn, leads to an improvement in job performance and an increase in the quality of patient care, both of which lead to an improvement in the financial viability of healthcare organizations. Constant effort is required to preserve a wholesome environment at one's employment (Wei et al., 2018).

Nurse Manager Ability, Leadership, and Support of Nurses

The Nurse Manager is crucial in improving the nurse practice environment and enhancing employee engagement. In contrast, an incompetent and unsupportive

nurse manager significantly affects employee dissatisfaction and intention to leave. Saleh et al. (2018) interviewed 35 nurses in a major medical city in Saudi Arabia. They carried out open-ended and semi-structured interviews and collected demographic and professional information. The phenomenological and hermeneutic investigation uncovered the primary topics. There was a discussion of relational leadership, preferred leadership, communication chains, and ineffective leadership. The satisfaction of nurses, the rate of staff turnover, and the level of care provided to patients are all impacted by the leadership style of nurse managers.

Al Yami et al. (2018) surveyed to gather information on the leadership and commitment of 219 Saudi Arabian nurses and nurse supervisors. The predominant form of leadership was transformational. After considering factors such as manager/staff rank, nationality, and hospitals, transformational leadership was found to have the most significant impact on organizational commitment. The perceptions of transformative and transactional leadership of nurse managers and nurses improve with age. According to the study findings, the dynamic healthcare system in Saudi Arabia requires a certain kind of leadership. Transformational leaders can improve nursing care.

The study of Al Otaibi et al. 2020, found statistically significant positive correlations between emotional intelligence, empowering leadership, psychological empowerment, and work engagement. The study found that employees with high emotional intelligence and a positive stimulus from an empowering leader exhibit greater psychological empowerment and work engagement.

Suliman et al. (2020) used descriptive, cross-sectional, and correlational methods. The MLQ-5X asked nurses about their nurse supervisors' leadership

styles—the Anticipated Turnover Scale measured nurse turnover. Two hundred eighty nurses in three public hospitals and one teaching hospital in northern Jordan were surveyed. 89% of 250 clinical nurses responded. Most nurse managers' leadership styles were transactional, transformational, and passive-avoidant. Most respondents wanted to quit. Transformational leadership reduces nurse turnover, but passive-avoidant and transactional leadership do not. Leadership styles of nurse managers affect retention. Nurse managers should get leadership training to boost job satisfaction and reduce turnover.

Morsiani et al. (2017) utilized a Multi-factor Leadership Questionnaire and focused groups. Ward nurse managers used a transactional leadership style ('Management by exception active') to monitor and punish errors, which decreased staff nurses' job satisfaction. Nurse managers rarely performed transformational leadership linked to satisfaction ('Idealized Influence Attributed,' which staff nurses perceived as respect,' 'caring for others,' 'professional growth,' and 'appreciation'). Italian nurse managers must be more respectful, compassionate, professional, and grateful. This study could help international nurse managers improve their leadership. Transformational leadership can improve nurse manager leadership and job satisfaction. Complexity and relevance make classroom instruction insufficient; nursing directors should prioritize it.

Alshahrani and Baig (2016) used MLQ-5X and a work survey. MLQ-5X and job satisfaction surveys were completed by 89 staff nurses and eight nurse supervisors. ANOVA, Pearson r, and linear regression were used. Transactional and transformational nurses led. Transformational nurses were happier ($p < 0.05$). Leadership hindered operations. Leadership was not affected by pay, perks, or jobs.

Head nurses' 6 leadership characteristics, including professional support, intellectual motivation, management through correction, and a laissez-faire approach, explain 23% of nurses' job satisfaction. Transformational head nurses boost staff nurses' job satisfaction, a study found. Nurse leaders should learn Transformational leadership and CCU management.

Staffing and Resource Adequacy

It is essential to research how the working environment and the number of staff members affect the standard of medical care and the safety of patients.

According to growing evidence, inadequate nurse staffing in acute care hospitals is associated with adverse events such as patient falls, healthcare-related infections, medication errors, and in-hospital mortality. (Audet LA, Bourgault P, Rochefort CM, 2018 Mitchell BG, Gardner A, Stone PW, Hall L, et al., 2018)

It has been hypothesized that having an adequate number of nurses on staff affects the quality of patient surveillance. This is because having an adequate number of nurses on staff enables nurses to spend more time providing direct care. Rationing of time spent providing care due to insufficient staffing levels significantly affects the rate at which care is skipped altogether (Griffiths P, Recio-Saucedo A, Dall'Ora C, Briggs J, et al., 2018). This may be the missing piece in the puzzle that connects nurse staffing levels and patient outcomes like death in the hospital (Recio-Saucedo A, Dall'Ora C, Mariotti A, Ball J, et al., 2018)

Al Refaei et al., 2022 used a quantitative, descriptive, cross-sectional correlational design for their study. The convenience sample included 330 bedside nurses from five general hospitals in the Al-Madinah region who voluntarily

completed a self-report questionnaire with questions about demographic and professional characteristics, the Nursing Work Index Practice Environment Scale (PES-NWI), and the Innovative Behavior Inventory (IBI). Descriptive statistics and Pearson's correlation were used to analyze the collected data. The NPE was favorable based on the study findings. The overall mean PES-NWI score was 2.62 0.50, and the mean scores of the four subscales were more significant than 2.50. The collegial nurse-physician relations subscale was rated the most positively (2.87 0.59), while staffing and resource adequacy was rated negatively (2.35 0.65).

These findings are also supported by another study done by AL-Dossary, 2022. In his study, which he carried out at 96 hospitals in Saudi Arabia, including 72 public hospitals, 23 private hospitals, and one public-private hospital, with a total of 369 responses received, he discovered that nurses believed that there was a shortage of resources (mean = 1.85), particularly about the number of staff nurses required to meet the demand of providing quality care to the patients. In particular, the nurses were concerned about the availability of enough staff nurses to meet the demand.

Collegial Nurse-Physician Relationships

Elsous, Radwan, and Mohsen (2017) strongly proposed that a teamwork approach should be recognized in professional practice. This recognition should consider the interaction between nurses and physicians and the fact that nurses are complementary partners in patient care. This acknowledgment must take place.

Almuhsen et al. (2017) used cross-sectional descriptive research. Participants (staff nurses and first-line nurse managers) from King Fahd Medical City in Saudi

Arabia completed the Perceived Environment Scale-Nursing Work Index (PES-NWI). Most study participants were female (364 nurses and 101 nurse managers). Participants' perceptions of their work environments were moderately positive, and participant characteristics correlated with perceptions. The study found that nurses' perceptions of the work environment were positive. Nurses viewed Collegial Nurse-Physician Relationships positively.

Gasparino et al. utilized a Cross-sectional and correlational study using SEM. From November 2017 to July 2018, 1,773 Brazilian nurses were recruited using convenience sampling. Structural equation modeling was used to assess the relationship between the characteristics of the nursing work environment and patients (climate of safety and quality of care), nursing professionals (job satisfaction and emotional exhaustion), and institutions (intention to leave the job) outcomes. The model was tested using partial least squares and bootstrapping. Calculated were path coefficients and 95% CIs. R², Q², and effect size were used to assess the model's fit (f²). For patients, Nurse manager ability, leadership, and support of nurses (=0.27) and staffing and resource adequacy (=0.26) were the most affected outcomes; for nursing professionals, Staffing and resource adequacy (=0.19) and Collegial nurse-physician relationships (=0.19); and institutions, Nurse manager ability, leadership, and support of nurses (=0.10) and Collegial nurse-physician relationships (=0.10). Nurse manager ability, nurse leadership, support, adequate staffing and resources, and collegial nurse-physician relations contribute most to better outcomes. This study helped us prioritize nursing practice strategies for better results. Investing in leadership, resources, and physician-nurse relationships will benefit patients, nurses, and institutions.

The Arabic Jefferson Scale of Attitude toward Physician-Nurse Relationships was used in a cross-sectional study of 414 nurses and physicians in two Gaza Strip referral hospitals. $p < 0.05$ was considered statistically significant for descriptive statistics, mean differences, proportions, and correlations using Student's t-test, one-way ANOVA, and Pearson correlation. 42.8% responded (75.6% nurses, 24.4% doctors). Nurses had more positive attitudes toward collaboration than physicians (M SD on a four-point scale: 3.40 0.30 and 3.01 0.35, respectively), and experience had no effect. The relationship between physicians and nurses is complementary; nurses are partners in patient care (Elsous et al., 2017).

Patient Environment Scale of the Nurse Work Index (PES-NWI)

The Practice Environment Scale (PES) has been widely used to assess the quality of nurses' work environments in a variety of settings (Pallant et al., 2015), and it is the only measure endorsed by several U.S. organizations promoting quality healthcare (Warshawsky & Havens, 2011). Lake created it in 2002 to assess nurses' perceptions of their working environment. The PES was created using information from the Nursing Work Index survey, designed to identify the organizational characteristics of hospitals that successfully attract and retain nurses.

According to Lake (2002), the PES-NWI is comprised of five subscales derived from factor analysis of 48 NWI-R items collected from 16 original Magnet hospitals between 1985 and 1986: Nurse Participation in Hospital Affairs; Nursing Foundations of Quality Care; Nurse Manager Ability, Leadership, and Support of Nurses; Staffing and Resource Adequacy; and Collegial Nurse-Physician Relationships (Lake, 2002). Two subscales address facility-level phenomena (Nursing Foundations of Quality Care and Nurse Participation in Hospital Affairs). In comparison, three subscales address unit-level phenomena (Staffing and Resource

Adequacy, Nurse Manager Ability, Leadership and Support of Nurses, and Collegial Nurse-Physician Relationships). However, the PES-scope NWIs must still be completed (Lake, 2007).

In 2006, the National Database of Nursing Quality Indicators (NDNQI) made the PES-NWI available for inclusion in participating hospitals' annual Registered Nurse (RN) survey. The vast majority of these hospitals are either Magnet hospitals designated by the American Nurses Credentialing Center (ANCC) or those in the process of becoming Magnet hospitals (ANCC, 2009).

The PES-NWI was included as a screening parameter for hospital staffing effectiveness after being incorporated into the accreditation requirements for hospitals by the Joint Commission. In addition, the PES-NWI was recognized by the National Quality Forum (NQF) in 2014 as a structure-based nursing care performance measure applicable at the facility level.

Swiger and colleagues (2017) used the Practice Environment Scale of the Nurse Work Index (PES-NWI) to conduct an updated narrative review of forty-six quantitative studies. This review aimed to determine how well this tool could measure nurses' practice environment (2017). The available literature was searched using the databases PubMed, EMBASE, and the Cumulative Index to Nursing and Allied Health Literature from 2010 to 2016. According to Roche et al. (2011), which was cited in the same paper, the majority of the findings suggest that there is a significant relationship between the practice environment of nurses and outcomes such as nurse (52 percent), patient (30 percent), and organizational (17 percent) outcomes, with reported effect sizes ranging from very small to large. This suggests that there is a significant relationship between the practice environment of nurses and outcomes such as nurse (52 percent), patient (30 percent), and organizational

(17 percent) outcomes.

Studies that Used PES-NWI

Since its inception, the PES-NWI has garnered considerable international interest. In 2011, Warshawsky and Havens identified 37 articles that examined nurses' practice environment. The scale has been utilized in numerous nations (the United States, Canada, Australia, Iceland, Taiwan, and Israel) and translated into numerous languages (Chinese, French, and Spanish). Surgical, cardiac, orthopedic, oncology, intensive care, dialysis, and psychiatric wards have all utilized the PES. The PES-NWI has been used in the United States, Australia, Canada, Iceland, and Taiwan to evaluate the quality of practice environments. Using the PES, researchers have examined its association with various organizational characteristics (size, staffing ratios, location, and teaching status) and its influence on outcomes such as quality of care, patient safety, and patient satisfaction. Many studies have also investigated the relationship between the PES-measured aspects of the work environment and nurse well-being, burnout, job satisfaction, and resignation intent. Significant negative associations exist between PES subscale scores and nurses' burnout, job dissatisfaction, and reported intention to leave their job or the nursing profession.

In a descriptive-correlational study conducted in Malaysia, Ahmad, Hassan, Wichaikhum, and Nantsupawat (2012) evaluated the nursing practice environment of 395 nurses. Using the Practice Environment Scale of the Nursing Work Index (PES-NWI), the authors have determined the best practice initiative in NPE. Findings suggest an unfavorable nursing practice environment with a mean of 2.44 0.36; however, the highest scoring domain was 'Nursing Foundations for Quality of Care'

with a mean of 2.91 and a standard deviation of 0.50. Moreover, within this domain, the statement 'active staff development or continuing education programs for staff nurses' received the highest agreement and satisfaction from 314 (79.5%) nurses.

Work Engagement among Nurses

Scientists have defined work engagement as ". . . a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). Vigor is characterized by "high levels of energy, an experience of mental resilience while working, a willingness to invest effort in one's endeavor, and persistence in the face of difficulties" (Schaufeli & Bakker, 2004, p. 295). Dedication is a "strong involvement in one's vocation, characterized by feelings of significance, enthusiasm, and pride" (Schaufeli & Bakker, 2004, p. 295). Absorption characterizes a "state of full concentration and happy engross in which time seems to pass quickly, and individuals often experience difficulty detaching themselves from the endeavor" (Schaufeli & Bakker, 2004, p. 295).

According to some researchers, disengaged employees will exhibit withdrawal symptoms and defensiveness, resulting in behaviors that reduce time, effort, earnings, and morale (Du Plessis & Boshoff, 2018). In contrast, engaged employees will allegedly perform their work proactively (Alessandri et al., 2018). The correlational study conducted by Nas et al. in 2020 at the Syekh Yusuf Regional Hospital of Gowa Regency revealed that work engagement characterized by vigor, dedication, and absorption could contribute to the performance of nurses. Their vitality mediated the relationship between nurses' work engagement and performance. Job satisfaction also contributed to nurses' enhanced performance.

Work engagement manifests itself through achieving multiple positive outcomes for workers and organizations. It enhances extra-role performance and increases job satisfaction (Orgambdez-Ramos & de Almeida, 2017). In recent years, healthcare organizations have sought employees committed to their jobs and thriving in adversity (Wang, Liu et al., 2017). Such characteristics indicate work engagement and are likely to result in favorable outcomes (Othman & Nasuridin, 2019). In many instances, the quality of services provided to patients by a healthcare organization is determined by the performance of its nurses. Therefore, it is essential to achieve high levels of nursing staff engagement.

The study found that job satisfaction, self-efficacy, and work engagement are positively correlated in Southern Italy. Work engagement fully mediates the association between self-efficacy and the intention to leave the organization (Simone et al., 2018). The research was also conducted in Sichuan Province, China. The results confirmed that professional identity, job satisfaction, and work engagement strongly predicted the intention to leave the workplace. The results indicate that a desirable work environment, quality facilities, fair compensation, and sufficient advancement opportunities should be emphasized to increase job satisfaction. Enhancing professional identity, job satisfaction, and engagement could reduce the intention to leave the organization (Zhang et al., 2018).

Tomietto et al. (2019) confirmed a relationship between work engagement and workability, job satisfaction, and intention to leave the workplace. Platis et al. (2021) discovered a correlation between job rotation, job satisfaction, and occupational engagement and demonstrated that job rotation is positively associated with nurses' occupational engagement and job satisfaction. The overall attitude of

the nursing staff toward job rotation is neutral, and they report moderate to neutral professional satisfaction, moderate vigor and concentration, and moderate to high commitment.

Bhatti et al., 2018, used a sample of 364 nurses and their supervisors. Structural equation modeling with Amos-17 was also used to obtain model fit with path significance of work engagement as a mediator between personal resources and job performance. The results confirmed that work engagement with a two-factor model (vigor and dedication) mediates the relationship between job resources (job characteristics, supervisor and coworker support, participation in decision-making, and job security) and a multidimensional construct of job performance (task and contextual performance, as rated by the supervisor). This research's findings will assist human resource managers and professionals in developing the working environment and providing job security and opportunities for employees to participate in decision-making that enhances employee work engagement and, ultimately, employee job performance.

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supervisor-rated job performance.

Alotaibi (2020) distributed 500 questionnaires to staff nurses at five private hospitals in Riyadh, Saudi Arabia. One hundred questionnaires were sent to each hospital and achieved a response rate of 34.8%. His findings showed a correlation between emotional intelligence, empowering leadership, psychological empowerment, and work engagement and are statistically significant. The relationship between emotional intelligence and work engagement was insignificant, as was the relationship between psychological empowerment and work engagement. The study discovered that employees with high emotional intelligence and a positive stimulus of empowering leadership exhibit greater psychological empowerment and work engagement. A better understanding of the role of emotional intelligence (E.I.) and empowering leadership (EL) in enhancing psychological empowerment and work engagement could aid hospitals in reducing turnover among nurses, enhancing their relationships with patients, and maintaining their competitive edge.

Alsadah 2017, conducted a study in the eastern province of Saudi Arabia and examined the relationship between three dimensions that may be associated with nurses' work engagement in hospitals in the eastern province. These factors are (a) the demographic characteristics of nurses, (b) the quality of nurses' work lives, and (c) the intention to leave the profession. The population size is 21,722, which includes the private sector and Ministry of Health nurses (MOH). The management of private and MOH hospitals was sent links to online and paper surveys, with instructions to distribute to participants. Using SPSS, the descriptive statistics and degree of correlation between research variables and work engagement were determined based on the results of this correlational descriptive study. The survey

was distributed to 600 respondents. After adjusting for preliminary surveys, the response rate decreased to 34.5 percent. 171 (82.6%) of the 207 participants were female, while only 36 (17.4%) were male. Forty-four percent of the sample comprised individuals between the ages of 21 and 29; 45.6% of the participants held a bachelor's degree or higher; 83.1% were Saudi nationals; 64.3% were married. The results of the study revealed a significant correlation between the three components of work engagement and the four dimensions of nurses' work-life quality. The work environment has the strongest correlation with devotion. There was a negative correlation between the vigor of the work engagement dimensions and the intention of nurses to leave their positions.

Baghdadi et al., 2021, recruited 636 nurses from a Saudi Arabian hospital. Six hundred and eight (95.6%) completed self-administered online questionnaires. The questionnaire assessed the participants' socio-demographic information, job crafting, and work engagement. The relationship between job crafting and work engagement was analyzed using structured equation modeling (SEM). Five hundred forty-nine nurses' data were analyzed. It was found that most participants (85.1%) were female, and their mean scores for job crafting and work engagement were 3.54, 0.5, and 4.56, 1.1, respectively. The structural equation model revealed that job crafting accounted for 57% of the variance in employee engagement. Job design is an essential factor in determining nurses' work engagement. Supporting staff nurses in adopting job-creating behaviors would improve their engagement at work. This may include but is not limited to, assisting nurses in negotiating a sense of purpose in their work, reorganizing the work pattern to align with organizational goals, and employing an innovative management style.

Balay-odao et al., 2022, conducted an online survey containing the Multidimensional Work Ethic Profile–Short Form, Conditions for Work Effectiveness Questionnaire-II, and Utrecht Work Engagement Scale and completed it by 250 Saudi nurses of the millennial generation. The study found that the highest mean the subscales for the 'delay of gratification' dimension of work ethics ($M = 4.38$, $SD = 0.66$), the 'access to opportunity' dimension of structural empowerment ($M = 4.28$, $SD = 0.78$) and the 'dedication' dimension of work engagement ($M = 5.02$, $SD = 1.10$). In addition, according to regression analysis, millennial Saudi clinical nurses' work engagement was influenced by their marital status, employment status, hospital type, structural empowerment, and work ethics. Furthermore, personal and organizational factors, work ethics, and structural empowerment contributed to the emergence of Saudi clinical nurses in the millennial generation.

Practice Environment and Work Engagement

Surprisingly, no study has yet been conducted on the Practice environment and its effect on work engagement among nurses in Saudi Arabia. Worldwide study conduction on this topic is also minimal based on a review of related literature.

Nurses working in better environments had significantly less job dissatisfaction, intention to leave, and burnout (Nantsupawat et al., 2017). A stressful work environment can lead to multiple negative consequences, and work-related strains can lead to many negative consequences, including high nurse turnover rates (Milegi et al., 2019).

Hegazy et al., 2022, recruited a simple random sample of 400 staff nurses from Menoufia University Hospital at Shebin El-Kom. Their study was conducted in

selected units at Menoufia University Hospital. The researchers utilized the Perception of Work Environment Factors Questionnaire and the Level of Work Engagement Questionnaire. The findings showed that two-thirds of studied nurses had a poor perception of work environment factors. Moreover, more than half of them had low work engagement. There was a high statistical significance between total work environment dimension-related factors and a high statistical significance between total work engagement dimensions score of the studied subjects at $p \leq 0.001$. It was concluded that there was a highly statistically significant positive correlation between nurses' perception level of work environment factors and their level of work engagement. They recommend that to facilitate nurses' job engagement. We must establish a supportive, fair, and impartial work environment, provide job autonomy, and maintain effective communication with nurses.

Wan et al. 2017 study findings showed that 35.9% of experienced nurses had high-level turnover intention. The final model explained 50% of the variance in experienced nurses' turnover intention and demonstrated that (1) work environment was positively associated with higher work engagement, and lower turnover intention and work engagement partially mediated the relationship between work environment and turnover intention, and (2) job characteristics were positively related to higher work engagement and lower turnover intention and work engagement fully mediated the relationship between job characteristics and turnover intention. The study confirmed the intrinsic and extrinsic motivators for work engagement posited by the job demands-resources model. Theory-driven strategies to improve the work environment, enhance job characteristics, and promote work engagement are needed to address the nursing shortage and high turnover among experienced nurses.

Pan et al., 2017, conducted a study in three first-class tertiary hospitals in Changsha City in China, and 161 male nurses participated. Data were collected using the Practice Environment Scale of the Nursing Work Index, the Psychological Capital Questionnaire, and the Utrecht Work Engagement Scale. Scores of male nurses' practice environment (2.88 ± 0.31), psychological capital (4.42 ± 0.62), and work engagement (3.17 ± 1.39) were all above the midpoint; however, the subscales "the nursing staffing and resources adequacy" (2.72 ± 0.48), "hope" (4.33 ± 0.72), and "dedication" (2.96 ± 1.61) scored lowest. Nurses' practice environment and psychological capital positively predicted nurses' work engagement; psychological capital fully mediated the influence of nurses' practice environment on work engagement. A supportive nursing practice environment can increase male nurses' work engagement by developing their psychological capital. Nurse Managers can then provide reasonable workloads and pathways for male nurses to achieve goals, fostering their hope.

Nnatsupawat et al., 2016, used a cross-sectional survey to collect data from 1351 nurses working in 43 inpatient units in five university hospitals across Thailand. The participants completed the Practice Environment Scale of the Nursing Work Index, the Maslach Burnout Inventory, and job dissatisfaction and intention to leave measures. Logistical regression models assessed the association between work environment and nurse-reported job dissatisfaction, burnout, and intent to leave. Nurses working in university hospitals with better work environments had significantly less job dissatisfaction, intention to leave, and burnout.

Relationship between Nurse Demographic or Work-related Profiles and Work Engagement

Several demographic characteristics have been identified in the literature as having an association with and being measurable for studying the determinants of various outcomes, including job satisfaction, intention to leave, and quality indicators. These factors strongly relate to the concept of work and personal engagement. The most frequently mentioned personal characteristics were education level, age, and nursing experience years (Griffeth et al., 2000; Ingersoll et al., 2002; Tourangeau & Cranley, 2006). Ingersoll et al. (2002) reported that nurses with a higher level of education were happier with their jobs and organization. In Addition, Schaufeli and Bakker (2003) discovered a correlation between age, years of experience, and work engagement. A study demonstrates that age and years of experience impact the job satisfaction of nurses. Yaktin et al. (2003) found that older nurses in Lebanon were more satisfied than their younger counterparts. Al-Aameri (2000) conducted a study in public hospitals in Riyadh, Saudi Arabia, and discovered a correlation between the age of nurses and their job satisfaction and dedication. Al-Ahmadi (2002) also discovered a correlation between job satisfaction and years of experience.

A correlation study was conducted between nurses' job satisfaction, occupational engagement, and demographic characteristics. It was discovered that the gender and years of experience of nurses do not influence job satisfaction, occupational engagement, or job rotation. Consequently, it was determined that the age of nurses is a factor that only influences their job satisfaction. Nursing education is a factor that only influences nurses' occupational engagement (Platis et al., 2021). In contrast, a 2017 study by Tarcan et al. determined that gender significantly affects job satisfaction.

According to Hind I. Al-Haroon et al. (2019), in their study findings, 48% percent of the participants were satisfied with their jobs, while only 22 percent were dissatisfied. Greater job satisfaction is associated with demographic factors, including gender, nationality, and age (i.e., older). Almalki (2012) found in a cross-sectional study conducted in Saudi Arabia that male nurses were likelier to leave than female nurses. In addition, men reported lower job satisfaction than women. Almalki, FitzGerald, and Clark (2012) stated that the caring nature of the nursing profession is suitable for women rather than men in Saudi Arabia. Therefore, in many healthcare organizations, male Saudi nurses hold managerial or non-clinical positions unrelated to nursing despite constituting 36.4% of the country's total nursing workforce. Further, According to research conducted in Saudi Arabia by Almalki, FitzGerald, and Clark (2012) and Almalki (2012), married nurses had a lower intention to quit their jobs than single nurses.

Construction of the Short Version of the UWES

Iteratively analyzing samples from each country reduced the number of UWES items as much as possible. First, we chose the item that best characterized each scale's face validity. This item was then compared to the rest of the scale's items. Then, the highest-valued component was added. In the next step, the sum of these two items was regressed on the remaining scale items, and the highest-valued item was added. The total of these three factors was then regressed on the remaining scale factors, etc. This iterative procedure ended when no subsequent item added significant variance or no additional item was similar across all ten countries. "I am so energized at work" best characterized the VI scale (VI1). This item had the highest values overall, so it was followed by "At my job, I feel strong

and vigorous" (VI2) (ranging from 0.21 to 0.59, with a median value of 0.42). Both items were added together and then regressed on the remaining four VI items; however, "When I get up in the morning, I feel like going to work" (VI3) showed the highest values in almost all countries (ranging from 0.12 to 0.71; median =0.39). Only Spain and Finland had slightly higher values for VI6. Regressions on the total of the three items (VI1, VI2, and VI3) on the other three VI items did not produce any additional information for the condensed version. The final VI scale consists of VI1, VI2, and VI3. "I am enthusiastic about my job" is a typical DE item (DE2). This item was replaced with "My job inspires me" (DE3) because it was found to be lacking in two countries. DE4 was slightly above average in Belgium and Canada. After adding DE2 and DE3, we regressed against the other DE items. "I am proud of my work" (DE4) scored highest overall (ranging from 0.12 to 0.48, with a median value of 0.27). Running a regression on the total of the three items (DE2, DE3, and DE4) on the other two DE scale items did not produce any additional items for the condensed version. DE2, DE3, and DE4 complete the short DE scale.

"I am immersed in my work" best describes AB scale users (AB4). This item was replaced with "I get carried away when I am working" (AB5), with higher values in all countries except two and a median of 27. In Belgium and Spain, AB3 had slightly higher values. Then, AB4 and AB5 are added and regressed against the other four AB components. "I am happy when I am working hard" (AB3) scored highest in almost all countries (.20 to .62; median =.37). This was true worldwide. In Canada and Spain, item AB6 had slightly higher values. The three items (AB3, AB4, and AB5) were regressed on the other three AB items, but this did not produce an additional item for the short version. The short AB scale ends with AB3, AB4, and AB5.

Studies that used UWES-9

Tran et al., 2020, report that UWES-9 was conventionally translated into Vietnamese. In 2018, a large tertiary general hospital in Hanoi, Vietnam, surveyed 949 registered nurses using a self-administered questionnaire that included the Vietnamese UWES-9, other scales measuring health status, work performance, job demand, job control, and workplace social support, as well as demographic variables. Cronbach's alpha and ICC were used to test reliability. Explanatory and confirmatory factor analyses were used to determine factorial validity. Convergent validity was examined based on UWES-9-V subscales and other scales. Cronbach's alpha coefficients for the UWES-9-V and its subscales were 0.93, 0.86, 0.77, and 0.90. UWES-9-V subsample ICC was 0.48 after three months. One-factor and three-factor structures fit adequately, with the three-factor model fitting better. The UWES-9-V and its subscales were linked to depression, anxiety, stress, health-related quality of life, job performance, and psychosocial work environment. The UWES-9-V is a valid and reliable instrument for measuring job engagement among hospital nurses in low- and middle-income Vietnam. Future research should show UWES-9-V's validity and reliability across occupations.

Othman et al., 2019 used self-administered questionnaires to collect data from 856 Malaysian nurses. A nine-item Utrecht Work Engagement Scale was used to measure work engagement (UWES-9). The UWES-9 measures energy, commitment, and concentration. Job autonomy, feedback, skill diversity, task identity, and task significance were measured using JDS subscales—three items per subscale. Hypotheses were evaluated using hierarchical regression. Age, marital status, education, organizational tenure, and job tenure were unrelated to work engagement. Also positively associated with work engagement were job autonomy

(= 0.19, P 0.01), job feedback (= 0.10, P 0.01), task identity (= 0.13, P 0.01), and task significance (= 0.08, P 0.05). Skill variety did not affect work engagement (= 0.03, P > 0.05). Job autonomy, feedback, task identity, and relevance predict work engagement. This study found that incorporating these basics into nursing administration increases employee engagement

Synthesis

Literature shows that the nurse practice environment promotes hospital care quality and safety. Individual nurses and hospitals have analyzed the impact of nurses' practice environment on patient outcomes. Better work environments reduce job dissatisfaction, intention to leave, and burnout. Conversely, a stressful work environment can have many adverse effects, including high nurse turnover.

The nursing practice environment includes organizational features that make nursing easier or harder. Favorable practice environments exist when nurses have autonomy, control over their work environment, and positive relationships with other healthcare team members.

The Practice Environment Scale of the Nurse Work Index has five primary subscales: Nurse Participation in Hospital Affairs, Nursing Foundations of Quality Care, Nurse Manager Ability, Leadership and Support of Nurses, Staffing and Resource Adequacy, and Collegial Nurse-Physician Relationships. A literature review sheds light on the following concepts and others that denote the above dimensions.

Although there is a limited amount of research studies regarding practice environment linking to work engagement, a better work environment provides favorable outcomes to nurses, patients, and hospitals, as increasing nurse

participation in hospital affairs is a cost-effective way to ensure nurse satisfaction and retention. In Saudi Arabia, nurse managers' leadership style affects nurse satisfaction, turnover, and patient care. Adequate staffing, resources, and collegial nurse-physician relationships contribute most to improved outcomes. Demographic and work-related variables were also considered potential practice environment influences, but the literature review found few such studies.

Article 5 of the Saudi Nurses Association's 2020-2023 AD constitution and bylaws states that the association promotes a healthy workplace for all nurses. This legal citation indicates that Saudi Arabia needs a positive work environment to retain nurses.

Work engagement is characterized by vigor, commitment, and absorption. Vigor is a high level of energy and a willingness to work harder; dedication is a substantial investment in one's work along with pride, enthusiasm, and being challenged; absorption is a complete interest and immersion in one's work to the point where time seems to evaporate.

Work engagement boosts job satisfaction, reduces stress, and improves extra-role performance. A healthcare organization's patient care quality is often determined by its nurses. Therefore, nurse engagement is crucial. Constant pressures to improve healthcare quality and reduce costs require examining ways to retain qualified staff through work engagement. Most healthcare workers, including nurses, in Saudi Arabia are expensive ex-pats. Increasing job satisfaction and motivation may help retain nurses.

Literature links several demographic factors to work engagement. Education,

age, and nursing experience were frequently mentioned. More educated, senior, and experienced nurses reported job and organization satisfaction. Age, education, experience, and work participation are correlated. There are contradictory findings about age, experience, and job satisfaction in the nursing literature. According to a study, more experienced nurses were less satisfied with their jobs. Age and job satisfaction are unrelated, according to a Chinese study. This study found a difference between less-experienced and more-experienced nurses.

Theoretical Framework

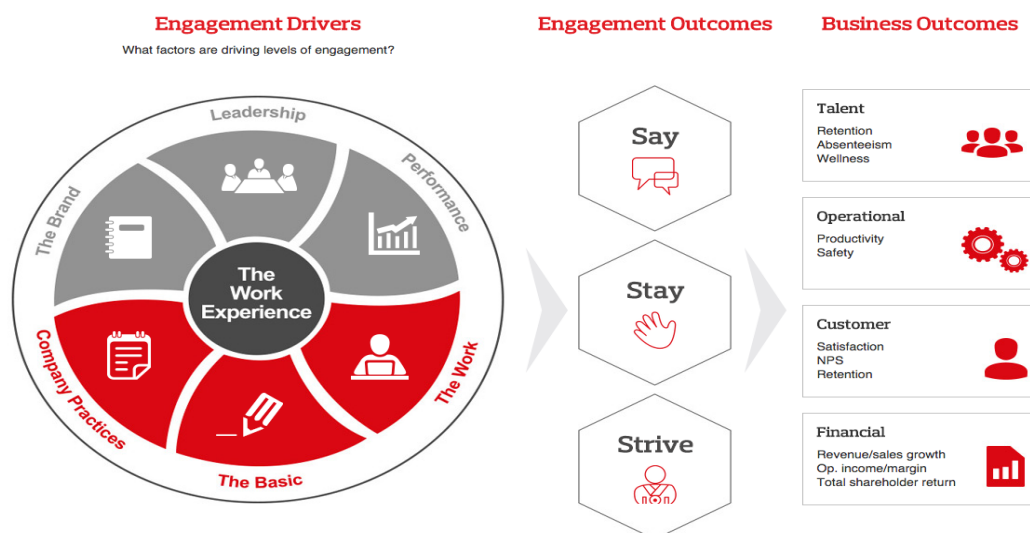


Figure 1. Aon Hewitt's Model of Employee Engagement

The researcher will employ Aon Hewitt's Model of Employee Engagement theory. Aon Hewitt developed it to study both organizational drivers of engagement and the individual outcome, engagement itself. The AON-Hewitt model of engagement considers a combination of performance and productivity-enhancing factors. These consist of logical thought, emotions, intentions, and actions. The model comprises six employee engagement drivers (the employer-controllable

factors) and three outcomes. 1. Fundamentals such as a conducive work environment or a work-life balance, 2. Work such as collaboration and Nurse-Doctor Relationships, 3. Company practices include diversity and inclusion or communication, talent, enabling infrastructure, Staffing and Resource Adequacy, and Talent Management. 4. Brand characteristics such as reputation, corporate social responsibility, employee value proposition, Nursing Foundations of Quality Care, etc. 5. Leadership – accessibility, guidance, or Nurse Manager Capability, Leadership, and Support of Nurses and 6. Performance - career opportunities, learning and development, performance management, people management, rewards and recognition, and Participation of Nurses in Hospital Affairs.

According to this theory, the Engagement outcomes, dependent on the drivers' success, are 1. Say or dedication – will speak positively about the organization to colleagues, potential employees, and customers. 2. Remain or absorption – feel a sense of belonging and are reluctant to leave the organization. 3. Strive or vigor- Determined to exert effort and achieve success at work. As applied in this research, this theory assumes that the independent variable, Nurse Practice Environment, will influence the dependent variable, work engagement, as nurse engagement cannot be achieved unless the drivers mentioned above are satisfied.

Conceptual Framework

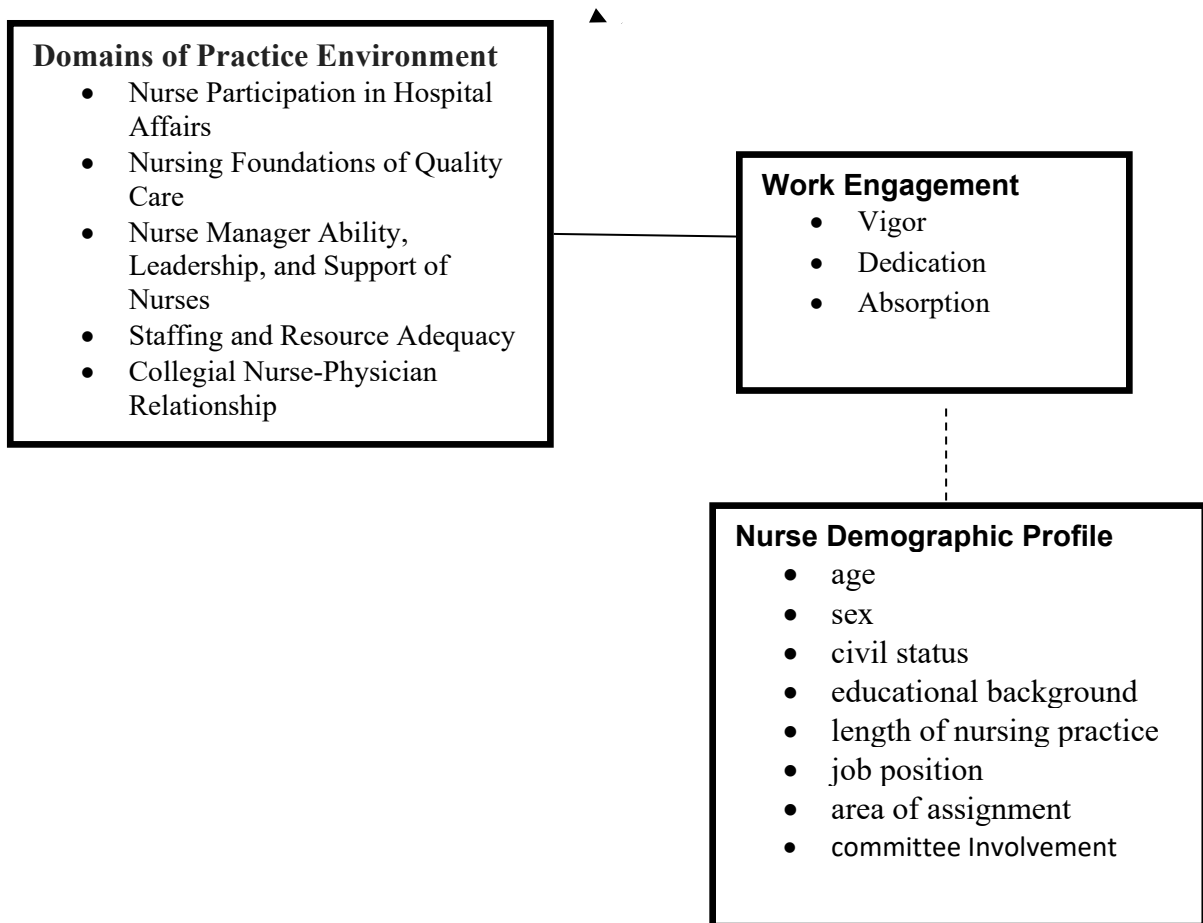


Figure 2. *Relationship of Practice Environment and Nurse Demographic Profiles and Work-Related Profile Variables towards Work Engagement*

Figure 2 illustrates the study's conceptual framework, which consists of two variables: Nurse Practice Environment as Independent Variables, Nurse Demographics, Work-related profile as Intervening variables, and Work engagement as the dependent variable.

Lake (2002) defines nurses' practice environment as "organizational features of a work setting that facilitate or restrict the professional nursing practice." She identified subscales within this definition, including Nurse Participation in Hospital Affairs, Nursing Foundations for Quality of Care, Nurse Manager Capability, Leadership and Support of Nurses, Staffing and Resource Adequacy, and Collegial Nurse-Physician Relations. The conceptual framework of this study is based on the premise that demographic and work-related profile variables of nurses, such as age, civil status, sex, educational background, length of nursing practice, position, area of assignment, committee involvement, and type of hospital, are related and significant to nurses' work engagement level. The literature has identified several demographic characteristics. These factors strongly relate to the concept of work and personal engagement. The most prevalent individual characteristics were level of education, age, and nursing experience. These are the variables that intervene.

Based on a review of relevant literature, Figure 2 depicts the straight lines or arrows connecting the five domains of nurses' practice environment with their demographic and work-related profile characteristics that influence nurse work engagement.

Operational Definition of Terms

The following operational terms have been defined to enhance the reader's comprehension of this paper and to assist them in learning unfamiliar words and their context.

Nurses' Practice Environment (NPE)- refers to the organizational characteristics of a work setting that facilitate or restrict professional nursing practice, which was measured collectively and by its subscales, including:

a. Nurse Participation in Hospital Affairs (NPHA)- the participation and esteem of nurses in a broad hospital context, such as the opportunity for staff nurses to participate in policy decisions.

b. Nursing Foundations for Quality of Care (NFQC)- an all-encompassing nursing philosophy, a nursing (rather than a medical) model of care, and nurses' clinical competence and development.

c. Nurse Manager Ability, Leadership, and Support of Nurses (NMALS)- the nurse manager's vital role and essential qualities and how the nurse manager supports nurses.

d. Staffing and Resource Adequacy (SRA)- having sufficient personnel and support resources to deliver quality patient care

e. Collegial Nurse-Physician Relations (CNPR)- the current working relationships or typical practice pattern between physicians and nurses.

Work engagement- refers to a worker's enthusiasm for his or her position. In this study, it will be evaluated according to the following:

- **Vigor**- denotes being physically and mentally active while performing one's duties.
- **Dedication**- a solid commitment to someone or something that produces high-quality results at work.
- **Absorption**- refers to the state of total concentration and happy engrossment in which time seems to pass quickly, and individuals have difficulty disengaging from the activity (Schaufeli & Bakker, 2004, p. 295).

Age- the number of years that elapsed since the respondent's birth date. Civil status refers to the civil status to which respondents belong: single, married, widow/er, or separated.

Sex- either 'Male' or 'Female' is specified.

Educational background refers to the nurses' current or highest level of education. It can be a bachelor's, master's (with units), master's-completed, doctoral-in-progress, or doctoral-completed degree.

Length of Nursing Experience: indicates the number of years with the current employer.

Assignment Area refers to the hospital unit to which the respondent is assigned. The categorized assignment areas are medical-surgical, pediatrics, orthopedics, intensive care unit, outpatient, emergency, and other subspecialties.

Position: refers to the nurse's current designation as determined by the human resource office of the healthcare facility, which is categorized as Staff Nurse I (Senior et al./Charge Nurse/Team Leader), Staff Nurse II (Junior et al.), or Staff Nurse III (Junior Staff Nurse but lower than staff nurse II).

Type of Hospital refers to the nurse's current place of employment, which is categorized as either

a) Ministry of Health hospitals – refers to a hospital managed by the Ministry of Health of the Kingdom of Saudi Arabia.

b) Ministry Teaching/University Hospitals- refers to hospitals under the Ministry of Education of KSA.

c) Private hospital-owned, established and operated privately with funds raised or contributed through donations, or by private capital or other means, by private individuals, associations, corporations, religious organizations, firms, companies, or joint stock associations.

Committee Involvement: refers to the nurses' membership in any hospital or nursing service committee recognized by their agency or hospital where they are currently employed (e.g., Shared Governance, Quality Improvement Committee,

Infection Control Committee).

Statement of Hypotheses

Based on the conceptual model, the following hypotheses were formulated for testing:

Ha 1- There is a significant relationship between the practice environment and work engagement of nurses in selected Ministry teaching hospitals in KSA in terms of:

- a. Nurse participation in Hospital Affairs,
- b. Nursing Foundations for Quality of Care,
- c. Nurse Manager Ability, Leadership, and Support of Nurses,
- d. Staffing and Resource Adequacy, and
- e. Collegial Nurse-Physician Relationship?

Ha 2- There is a significant relationship between nurses' work engagements and the demographic and work-related profile of nurses in selected Ministry teaching hospitals in KSA in terms of:

- a. age
- b. sex
- c. civil status
- d. educational background
- e. length of nursing experience
- f. current position
- g. area of assignment
- h. committee involvement

Chapter III

RESEARCH METHODOLOGY

This chapter describes the research design, sampling techniques, setting, data collection methods, research instrument, data analysis strategy, and ethical considerations.

Research Design

This cross-sectional study used descriptive, comparative, and correlational design to investigate the impact of practice environment on work engagement among nurses in selected ministry university hospitals in Saudi Arabia. Correlational studies do not necessarily imply cause and effect bond. Still, they could provide a sound basis to incur relationships, while Descriptive design provides an overview of compiled data and a straightforward representation of distinctions between variables or categories (Polit & Beck, 2012). The who, what, where, when, and how questions are answered in descriptive survey research. It describes the data and characteristics of the investigated phenomenon. It is a scientific method that involves observing and describing the behavior of a subject without affecting it and collecting data through inquiry. Having a cross-sectional design to represent the duration of the measurement phase (Sousa et al., 2007) allows for an understanding of the respondents' current nursing practice environment and work engagement at a specific time. In this method, participants answer online survey questions to collect the necessary profile data and nurses' opinions.

In this study, nurses' demographic and work-related characteristics, nurses' perceptions of the five domains of the practice environment and the level of three domains of work engagement, as well as the relationship between the practice

environment and the nurses' demographic and work-related profiles and work engagement, are described. No manipulations were performed to modify or enhance the nurses' perceptions of the practice environment and its effect on work engagement.

Sampling Technique

To be more specific, total enumeration was employed by King Saud University Medical City's Staff Nurses. Moreover, this study's sample will be chosen based on the following specific criteria:

Inclusion Criteria:

- (1) At least a Diploma in Nursing and a Bachelor of Science in nursing graduate
- (2) Employed as a nurse in the selected hospital for at least six months onwards
- (3) Working within any unit with direct patient care
- (4) Works at least 40 hours per week
- (5) On Full-time contract of service

Exclusion criteria:

- (1) Nurses employed in nursing administration, management, and education unit
- (2) Nursing students, Nurse Interns, and Preceptee on a month probationary period.

Sample Size

In this study, all eligible participants were invited to participate, including a) Nurse I (other terms include Senior Nurse, Charge Nurse, Team Leader), b) Nurse II

and III, or Staff Nurse – Permanent or Regular staff. A total or complete enumeration sampling, a purposive sampling technique, was chosen due to respondents' proximity to anticipate possible refusal to participate and to reduce the possibility of a high attrition rate resulting from poor survey return and rejection of incomplete survey responses.

A total of 348 responses was computed using total enumeration sampling. After removing the incomplete responses, all 343 responded to the survey.

This number of participants is already high compared to previous studies conducted by Alrefaei et al., 2022 in five general hospitals in Al-Madinah, KSA, where only 330 bedside nurses participated in the convenience sampling method.

Study Setting

The study participants are registered nurses within its three academic hospitals of King Saud University Medical City. These are the King Khaled University Hospital (800 beds), the Dental University Hospital (40 beds), and the King Abdulaziz University Hospital (104 beds). These teaching hospitals were selected based on their service type (i.e., outpatient, medical-surgical, critical care units, etc.), proximity, and the researcher's convenience. These non-profit teaching hospitals are affiliated with the Ministry of Education and were selected for this study. The three selected tertiary teaching hospitals had outpatient departments, medical-surgical units, emergency units, operating theatres, and intensive care units, and they all provided comprehensive services. King Khaled University Hospital and King Abdulaziz University Hospital are nationally and internationally recognized for providing the highest quality services. The Saudi central board accredits both teaching hospitals for accreditation of healthcare institutions (CBAHI), and the

Canadian Accreditation Body has awarded the "Diamond Degree" Certificate to King Khalid University Hospital and King Abdulaziz University Hospital for their compliance with quality standards as determined by the Canadian Accreditation Panel. King Khaled University and King Abdulaziz University Hospital were recently included on the American magazine Newsweek's annual list of the best hospitals in the world for 2022. Dental University Hospital is the first full-fledged teaching hospital in the Kingdom and is affiliated with the KSU College of Dentistry. The hospital offers patients comprehensive, evidence-based teaching, training, surgical, in-patient, and consulting services.

King Saud University Medical City (KSUMC) is a tertiary care academic medical center with decades of experience in multi-facility and multi-disciplinary administration. Academic hospitals within KSUMC were chosen for the study because their services and the qualifications of physicians, nurses, and other healthcare professionals are comparable. The world-class healthcare complex includes more than 1,300 full-time physicians, 853 resident fellows, and approximately 2,072 allied health personnel who collectively provide care to more than 1,229,628 outpatients, admit 45,966 patients, and perform around 14,231 procedures yearly.

Data Collection Method and Procedures

The researcher developed a proposal accepted by the UPOU thesis committee or panelists. After the research proposal was officially approved, the researcher obtained good clinical practice from NIDA and certification from KACST before e-mailing the academic hospitals' IRB committees and inquiring about the remaining approval requirements. After certification and other requirements were e-

mailed, and IRB approval was obtained, the researcher submitted the IRB approval to the Hospital's Nursing Research and Innovation service manager and the Deputy Director of Corporate Nursing Affairs and obtained a Research endorsement form for the final execution of the study. After acquiring a Research Endorsement Form, the researcher introduced the study to the Nursing Director of each academic hospital during a courtesy visit. The Nursing Directors requested that their secretaries assist the researcher in distributing the online questionnaire survey link to all service managers in each hospital department. The service managers then disseminated the online questionnaires to the head nurses. The head nurses of each unit then sent the URLs for the Online Survey questionnaire to participants who met the inclusion criteria via WhatsApp group chat. On the first page of the questionnaires was an information sheet informing potential participants of the purpose of the study and requesting their consent and anonymity. The researcher ensures he is the only individual accessing the respondent's data. Respondents were instructed to complete the surveys anonymously during their free time at their preferred private location within three weeks, with completion time ranging from five to ten minutes. The head nurses followed up with respondents who still needed to respond to questionnaires to remind and encourage them to participate. The head nurse of each unit confirmed that staff members had completed the online survey link sent to them. The researcher then began the data analysis and interpretation, findings/results presentation, and narrative writing processes. The data were collected on November 11 to December 4, 2022.

Research Instruments

A survey was used to gather the data. This study utilized three necessary instruments:

Demographic Questionnaire

This self-report online survey asked about demographic and work-related characteristics. Age, sex, civil status, and educational background will be asked of the participants as part of their demographic profile. Included were the name of the hospital they are currently working, their area of assignment, length of nursing practice, job position, area of assignment, and Committee involvement as part of their work-related characteristics.

Practice Environment Scale – Nurse Work Index (PES-NWI)

The Practice Environment Scale of the Nurse Work Index (PES-NWI) by Eileen Lake (2002) is the most commonly used tool to gauge the quality of the nurses' practice environment by several organizations and countries, such as the United States because of its satisfactory psychometric properties, low respondent burden, and opportunity for comparison across studies, and high discriminant ability (Lake, 2002; Warshawsky & Havens, 2011). The discriminant ability of the PES-NWI demonstrates that the instrument is sensitive enough to detect variances in the nursing practice environment between known cohorts such as non-Magnet and Magnet® hospitals (Bonnetterre et al., 2008). Furthermore, the tool is free since it is in the public domain. Permission to use the tool was still sought from the author through e-mail correspondence, and it was granted.

PES-NWI identified five (5) significant subscales in the practice environment of nurses, which are 1) **Nurse Participation in Hospital Affairs** that emphasizes the participatory role and valued status of nurses in a broad hospital context, such as the opportunity for staff nurses to participate in a policy decision, 2) **Nursing**

Foundations of Quality Care that encompasses the pervasive nursing philosophy, the nursing (rather than a medical) model of care, and nurses' clinical competence and development, 3) **Nurse Manager Ability, Leadership, and Support of Nurses** which is the critical role and essential qualities of the nurse manager and ways the nurse manager supports the nurse, 4) **Staffing and Resource Adequacy** that having adequate staff and support resources to provide quality patient care, and 5) **Collegial Nurse-Physician Relationships** that denotes the existing working relationships or typical practice pattern between nurses and physicians. According to Lake (2002), two subscales (Nursing Foundations of Quality Care and Nurse Participation in Hospital Affairs) are used to speak of facility-level phenomena, while three subscales (Staffing and Resource Adequacy, Nurse Manager Ability, Leadership and Support of Nurses, and Collegial Nurse-Physician Relationship) denote unit-level phenomena. The scope of the PES-NWI is not all-inclusive (Lake, 2007).

Initially, a 31-item comprised the five empirically derived subscales above (Lake, 2002). However, Warshawsky and Havens (2011) presented several modifications and scoring variations by other researchers that considered the applicability of each item, and some even added evolved subthemes. According to Swiger and colleagues (2017), the reported reliability analysis of the tool varies across nations, with the lowest reported Cronbach's alpha for a subscale (nursing foundations for quality care) being 0.53. Nevertheless, other studies report subscale or composite Cronbach's alphas equal to or greater than 0.70 (Boev, 2012, as cited by Swiger et al., 2017). The PES-NWI was valid in construct, content, and criterion validity and even reliable in ambulatory care settings in Spain and the United States. However, for this study, one statement under the Nursing Foundations for Quality of

Care, the 'Use of nursing diagnoses,' was included as it is not generally used in the hospitals under this study. Fortunately, removing this item, making up the 30-item revised questionnaire as modified by Parker et al. (2010), still demonstrated high-reliability properties as evidenced by an internal consistency with a Cronbach's alpha = 0.95 of the full scale. When loaded onto five subscales, it explained 57.7% of the variance. Each subscale had a Cronbach's alpha > 0.7, indicating high internal consistency; for each corrected item, the total correlation is > 0.3. The Cronbach's alpha did not increase significantly if any items were removed. Per its construct validity, the 30 items were subjected to principal component analysis (PCA) using SPSS version 14.0.

Dela Cruz and colleagues (2017) validated the PES-NWI in the Philippine setting. They found that the tool is highly reliable based on a Cronbach's alpha of 0.98 obtained from the responses of bedside nurses and nurse administrators with an S-CVI (Content Validity Index) of 0.96. However, the researchers revealed some issues unique to the Filipinos that need to be addressed by the tool. Ferrer and Conde (2015) also found that the reliability coefficient of the PES-NWI based on their pilot test was 0.95.

The PES-NWI uses a 4-point Likert scale with scores from 1=*strongly disagree*, 2=*disagree*, 3=*agree*, and 4 = *strongly agree*. The higher score denotes a more desirable nurse's practice environment. The Practice Environment Scale – Nurse Work Index (PES-NWI) data were collated per item. Once the coding was specified and encoded, nurse-specific subscale scores were computed as the mean of the items in the subscale. The mean permits easy comparison across subscales. The item-level means at the hospital level were calculated for hospital-level scores,

then the standard computation for subscale scores. This approach permits all nurse responses, including responses of nurses who did not answer all items, to be included in the hospital score. The overall PES-NWI "**composite**" score was computed as the mean of the five subscale scores. This approach gives equal weight to the subscales rather than to the items. A **favorable** environment receives scores of >2.5 on all or four out of 5 subscales, mixed receives scores of >2.5 on two or three out of 5 subscales, and unfavorable receives scores of >2.5 on one or none of the five subscales (Lake & Friese, 2006). This scoring system was adapted for the study using the tool Lake (2002) provided.

Table 1
Variables in the Study

Variable	Description	Variable Type
Age	Numerically obtained but regrouped into the following workforce generations: 21-22 = 0 23-36 = 1 37-52 = 2 53 and above= regrouped to 2 during analysis	<i>Independent.</i> Treated as an ordinal variable
Sex	Male = 0 Female = 1	<i>Independent.</i> Treated as nominal-dichotomous
Civil Status	Single = 0	<i>Independent.</i> Treated

	Married = 1	as the nominal level
	Separated/Widowed = 2	
Educational Background	Diploma in Nursing=0	<i>Independent.</i> Treated
	Bachelor's Degree = 1	as ordinal level
	Master's Degree-ongoing = 2	
	Master's Degree-completed = 3	
	Doctoral Degree-ongoing& completed = <i>regrouped to 3 during analysis</i>	
Length of Nursing Practice	Numerical but presented as groups:	<i>Independent.</i> Treated as ratio level
	>6 months to under 1 year	
	1 – 5 years,	
	6 – 10 years,	
	11 – 15 years,	
	16 – 20 years,	
	21 years and above	
Job Position	Nurse I: Senior/ Charge Nurse = 3	<i>Independent.</i> Treated
	Nurse II: Staff Nurse= 2	as ordinal level
	Nurse III: Staff Nurse = 1	
	Entry Level Nurse = 0	
Area of Assignment	1. Medicine (In-Patient Care and Day Care)-	<i>Independent.</i> Treated as a nominal variable
	2. Surgery (In-Patient Care and	

- Day Care)
3. Women's Health and Pediatrics
 4. King Fahad Cardiac Center
 5. Oncology Center
 6. Department of Emergency Medicine
 7. Intensive Care Units/ Critical Care
 8. Operating Theatres and Procedural Areas
 9. Clinics/OPD/Ambulatory Care Services
 10. Support Services

Committee Involvement	Without Involvement = 0 With at least one Involvement = 1	<i>Independent.</i> Treated as nominal-dichotomous
Hospital Type	Ministry of Health hospital = 0 Ministry of Education Hospital or University Hospital = 1	<i>Independent.</i> Treated as nominal-dichotomous
Subscale 1: Nurse Participation in Hospital Affairs	Nine items scored on a 4-point Likert scale ranging from strongly disagree to agree strongly.	<i>Independent.</i> Treated as a continuous variable based on the mean of the nine

(NPHA)	<i>Component Items include 5, 6, 11, 15, 17, 21, 23, 27, 28</i>		indicators
Subscale 2: Nursing Foundations of Quality Care (NFQC)	Nine items scored on a 4-point Likert scale ranging from strongly disagree to agree strongly.	<i>Independent.</i> Treated as a continuous variable based on the mean of the nine indicators	
	<i>Component Items include 4, 14, 18, 19, 22, 25, 26, 29, 30</i>		
Subscale 3: Nurse Manager Ability, Leadership, and Support of Nurses (NMALS)	Five items scored on a 4-point Likert scale ranging from strongly disagree to agree strongly.	<i>Independent.</i> Treated as a continuous variable based on the mean of the five indicators	
	<i>Component Items include 3, 7, 10, 13, 20</i>		
Subscale 4: Staffing and Resource Adequacy (SRA)	Four items were scored on a 4-point Likert scale ranging from strongly disagree to agree strongly.	<i>Independent.</i> Treated as a continuous variable based on the mean of the four indicators	
	<i>Component Items include 1, 8, 9, 12</i>		
Subscale 5: Collegial Nurse-Physician Relationships (CNPR)	Three items scored on a 4-point Likert scale ranging from strongly disagree to agree strongly.	<i>Independent.</i> Treated as a continuous variable based on the mean of the three indicators	
	<i>Component Items include 2, 16,</i>		

and 24.

Nurses' Practice Environment (NPE) 30 items in 5 subscales of PES- Main Independent. NWI scored on a 4-point Likert scale, ranging from strongly disagree to agree (1 to 4) strongly. NPE will be treated as a continuous variable based on the composite score (the mean of the five subscales)

Utrecht Work Engagement Scale or UWES-

Table 2

Utrecht Work Engagement Scale or UWES-9 (Schaufeli et al., 2006), three dimensions and its items on the instrument.

Dimensions (3)	Item on Instrument
Vigor (3)	UWES-9: Q1, Q2, Q5
Dedication (3)	UWES-9: Q3, Q4, Q7
Absorption (3)	UWES-9: Q6, Q8, Q9

It is a 7-point Likert scale ranging from never (0), almost never (1), rarely (2), sometimes (3), often (4), very often (5), and always (6). Between 0 and 6, the mean score for each dimension and the mean total score are reported. Higher scores indicate greater work engagement. Less than 1.93 represents shallow work engagement, 1.94 to 3.06 represents low engagement, 3.07 to 4.66 represents average engagement, 4.67 to 5.53 represents high engagement, and 5.54 represents very high work engagement (Hosseinpour-Dalenjan et al., 2017).

The UWES-9 was used to measure nurses' work engagement; its 7-point Likert scale ranged from 0 (never) to 6 (very often) (always). Schaufeli and Bakker developed the Utrecht Work Engagement Scale (UWES) in 2002 as a self-report questionnaire to measure the three dimensions of work engagement: vigor, dedication, and absorption. Seven items were eliminated from the original 24-item questionnaire to create a 17-item survey. The number of items on the most recent version of the questionnaire was reduced to nine (Schaufeli et al., 2006) after a study in 10 countries to reduce instrument items as much as possible was completed. The three dimensions of the UWES-9 consist of three items: vigor, commitment, and absorption (Schaufeli et al., 2006b). The nine-item scale's Cronbach's alpha varies between 0.85 and 0.92 across all ten countries. Cronbach's alpha ranges between 0.60 and 0.88 for the three dimensions of vigor (median = 0.77), between 0.75 and 0.90 for dedication (median = 0.85), and between 0.66 and 0.86 for absorption (median = 0.78). The UWES-9 was used to measure nurses' work engagement; its 7-point Likert scale ranged from 0 (never) to 6 (very often) (always). The short UWES scales share more than 80% of their variance with the more extended versions of the same scales.

Data Analysis and Interpretation

The data were obtained through the use of online survey questionnaires. The survey was the most appropriate instrument due to its ability to collect in-depth information. It also guaranteed the confidentiality of the source of information through a careful process. The questions were done in simple language to remove ambiguity. The survey was structured to be answered through a scale. The survey was intended to generate responses that assisted the researcher in addressing the research problem, objectives, questions, and hypotheses.

The complete-scale scores for the UWES was used in the correlation and regression analyses. Data analyses was completed at the individual level. A conventional alpha level of .05 was adopted as the standard for all one-tailed significance testing.

Table 3

Data Analysis Plan

Research Question	Tool/Instrument	Level of Measurement	Statistical Test
1. To determine the individual demographic profiles and work-related variables of the respondents in terms of:	Part 1- Demographic and Work-Related Profiles	Age- ordinal Sex- nominal-dichotomous Civil status- nominal Educ. Background- ordinal Length of nursing practice- ratio Job position- ordinal	Descriptive Statistics Frequency Percentages Skewness, kurtosis, and bar charts showed that the data for the independent variable demographic and work-related profile comes from a non-normal population and is moderately skewed with skewness of .621 (SE=.132) and
1.1 age			
1.2 sex			
1.3 civil status			
1.4 educational background			
1.5 length of nursing practice			
1.6 Job position			

1.7 area of assignment		kurtosis of .802
1.8 committee involvement?	Committee involvement-nominal-dichotomous	(SE=.263). The use of non-parametric tests for hypothesis testing is most appropriate.

Note: We cannot apply Shapiro-Wilk's and Levene's tests as normality tests since our data is of nominal and ordinal type. We do not test for normality of a Likert scale data such as the variables NPE and WES since they are of ordinal type.

2. What is the perception of the practice environment among registered nurses in ministry teaching hospitals	Practice Environment Scale of the Nursing Work	3.51-4.00(Strongly agree); 2.51-3.50 (Agree); 1.51-2.50	Descriptive Statistics Means Standard Deviation
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in Saudi Arabia in terms of:	Index (PES-	(Disagree);	
2.1 Nurse Participation in	NWI)	1.00-1.50(Strongly	
Hospital Affairs,		disagree)	
2.2 Nursing Foundations of		(Ordinal)	
Quality Care,			
2.3 Nurse Manager Ability,			
Leadership, and Support of			
Nurses			
2.4 Staffing and Resource			
Adequacy, and			
2.5 Collegial Nurse-			
Physician Relationship			
3. To determine the level of	Utrecht Work	5.54-7.07	Descriptive Statistics
work engagement	Engagement	(Very high	Means
among nurses in the	Scale or UWES-	engagement)	
tertiary teaching	9		Standard Deviation
hospitals in KSA in		4.67-5.53	
terms of:		(High engagement)	
3.1 Vigor		3.07-4.66	
		(Average	

3.2 Dedication	engagement)
3.3 Absorption	1.94-3.06 (Low engagement)
	0.00-1.93 (Very low engagement)
	Interval

4. To determine the relationship between practice environment and work engagement among registered nurses in selected ministry teaching hospitals in KSA.	Practice Environment Scale of the Nursing Work Index (PES-NWI) and Utrecht Work Engagement Scale or UWES-9	IV: Nurse participation in Hospital Affairs (ordinal) Nursing Foundations for Quality of Care (ordinal) Nurse Manager Ability, Leadership, and Support of Nurses (ordinal)	Inferential Statistics Spearman's rho correlation coefficient.
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		Staffing and Resource Adequacy (ordinal)	
		Collegial Nurse- Physician Relationship (ordinal)	
		DV:	
		Work engagement (interval)	
5. To determine the relationship between work engagement and the following demographic and work- related profiles of registered nurses in selected ministry teaching hospitals in KSA.	Demographic Profiles and Utrecht Work Engagement Scale or UWES- 9	DV: Work engagement IV: Age- ordinal Sex- nominal- dichotomous Civil status- nominal Educ. Background- ordinal	Inferential Statistics Spearman correlation point biserial correlation, Chi-Square test of association
5.1 age			
5.2 sex			

5.3 civil status	Length of nursing practice- ratio
5.4 educational background	Job position- ordinal
5.5 length of nursing practice	Area of assignment- nominal
5.6 job position	Committee involvement-
5.7 area of assignment	nominal-
5.8 committee involvement?	dichotomous

Data Management

These were evaluated correctly after gathering and consolidating all survey responses in a Microsoft Excel® 2016 spreadsheet. The datasets were reviewed rigorously for missing or improperly encoded data. Eventually, IBM-SPSS Statistics version 27 was used to analyze the data. After data testing, Excel and SPSS files were password-protected to prevent unauthorized or inadvertent data alteration or modification.

Ethical Considerations

This research was submitted to the institutional review boards of the King Saud University Medical City Research Unit for clearance.

All participants were given informed consent. The anonymity of the respondent was ensured. Since respondents were instructed to complete the survey

via the provided link, administrators and supervisors could not view the surveys. In addition, an alphanumeric coding system was employed to safeguard the identity of responders, which also served as a tracking method for the researcher. The agreement and responses of respondents did not influence their performance evaluations. In this study, participation was entirely voluntary. Respondents cannot participate in the study and can revoke participation at any time. If individuals elected not to participate or rescinded their consent at any point throughout this study, they were not penalized in any way. The researcher protected the anonymity of the completed online survey questionnaires by placing electronic records in a USB (Universal Serial Bus) drive for at least three years, which will be deleted after.

Chapter IV

RESULTS AND DISCUSSIONS

This chapter describes the response rate, participants' demographics, and work-related profiles within the study setting. The demographic profile includes the participants' age, sex, civil status, and educational background. In contrast, the work-related profile consists of the participant's length of nursing practice, job position, area of assignment, and committee involvement. The second part involves determining registered nurses' perceptions of the practice environment in Saudi ministry teaching hospitals using Lake's (2002) Practice Environment Scale - Nurse Work Index instrument and the level of work engagement among nurses in KSA tertiary teaching hospitals using the Utrecht Work Engagement Scale or UWES-9 (Schaufeli et al., 2006). The results were interpreted based on each item's favorability level classification, subscale, and overall or composite score. The third part includes determining the level of work engagement among nurses in the tertiary teaching hospitals in KSA concerning vigor, absorption, and dedication. The fourth part discussed the relationship between practice environment and work engagement among registered nurses in selected ministry academic hospitals in Saudi Arabia. Finally, the relationship between work engagement and the demographic and occupational profiles of registered nurses in selected ministry teaching hospitals in Saudi Arabia was discussed.

Response Rate

A total of 348 responses were derived using total enumeration sampling. After removing the incomplete responses, all 343 responded to the survey.

This number of participants is already high compared to previous studies

conducted by Alrefaei et al., 2022 in five general hospitals in Al-Madinah, KSA, where only 330 bedside nurses participated in the convenience sampling method.

Table 4

Demographic and Work-Related Profiles of the Respondents

Characteristics	Frequency	Percentage
	(N=343)	%
Age		
23-36	183	53.3
37-52	145	42.3
53	15	4.4
Sex		
Male	36	10.5
Female	307	89.5
Civil Status		
Single	106	30.9
Married	233	67.9
Separated/Widowed	4	1.2
Educational Background		
Diploma in Nursing	82	23.9
Bachelor's degree	239	69.7
Master's degree (ongoing)	14	4.1
Master's degree (completed)	8	2.3

Length of Nursing Practice

6 months to under 1 year	27	7.9
1 – 5 years	77	22.4
6 – 10 years	119	34.7
11 – 15 years	49	14.3
16 – 20 years	53	15.5
21 and above	18	5.2

Job Position

Staff Nurse I/Charge Nurse/Team Leader	146	42.5
Staff Nurse II	99	28.9
Staff Nurse III	98	28.6

Area of Assignment

Medicine (In-Patient Care and Day Care)	34	9.9
Surgery (In-Patient Care and Day Care)	52	15.2
Women's Health and Pediatrics	33	9.6
King Fahad Cardiac Center	23	6.7
Oncology Center	15	4.4
Department of Emergency Medicine	35	10.2
Intensive Care Units/ Critical Care	22	6.4
Operating Theatres and Procedural Areas	26	7.6
Clinics/OPD/Ambulatory Care Services	75	21.9
Support Services	28	8.2

Committee Involvement

Without involvement	123	35.9
With at least one involvement	220	64.1

The characteristics of the respondents, including age, sex, civil status, and educational background, are presented in the table above. According to the table above, more than half of the respondents, 183 (53.3%), were between the ages of 23 and 36, while nearly half, 145, were between the ages of 37 and 52. The age group of 53 and above had the fewest respondents, accounting for 15 (4.4%). The number of nursing workers in the age group of 53 and above is decreasing due to the recent mandatory retirement age in Saudi Arabia set in Article 74 of the Saudi Labor Law, which is 60 years of age for men and 55 years of age for women. This also indicates that most respondents in the selected ministry academic hospitals are from the ages of 23 and 36, with 37 and 52 coming in second. It was discovered that there were no respondents among those aged under 23 in the selected ministry academic hospitals. This is because local and expatriate nurses must have at least 2-5 years of nursing experience after graduating from college and being hired in Saudi Ministry academic hospitals. According to the sex breakdown, most respondents (89.5%) were female, while only 10.5% were male. Due to Saudi cultural considerations when recruiting nurses abroad, the Saudi Ministry of Health and Ministry of Academic Hospitals prefer female nurses over male nurses because they can care for both patient sexes at the bedside.

Regarding respondents' civil status, it was discovered that 233 (67.9%) of the staff nurses from the selected ministry academic hospitals were married, while 106 (30.9%) were single. Only four (1.2%) staff nurses were divorced or widowed. Most married staff nurses, mainly expatriates, migrate abroad to support their children's education or provide a better life for their families back home. Staff nurses who are married and working in Saudi Ministry academic hospitals are permitted to bring their families to the Kingdom, which explains why the majority of expatriate staff nurses in

the study setting are married. Currently, married registered nurses prefer to work in healthcare facilities overseas that allow them to bring their families.

Regarding educational background, registered nurses with a Bachelor of Science degree in nursing (69.7%) have the highest proportion of respondents, followed by registered nurses with a Diploma in Nursing (23.9%). Nowadays, selected academic hospitals in the Kingdom prefer something other than diploma-holding nurses from India. According to their current recruitment qualifications, at least a BSN staff nurse is one of their requirements. Surprisingly, 4.1% of respondents have a master's degree, and 2.3% have a master's degree currently being pursued. One of the reasons why many nurses do not pursue a master's degree in nursing is that working as a nurse abroad is arduous, and other universities offering online master's courses, particularly private universities, are expensive for them, particularly for staff nurses who are married and have families to support.

Respondents' Profile

Table 4 reports the demographic and work-related profile of 343 nurses in selected Ministry Academic Hospitals in Saudi Arabia. It also shows the composition of respondents based on selected demographic and work-related characteristics to provide a summary of the respondents' profiles. Their age, gender, civil status, highest educational attainment or education background, current position, area of assignment, length of nursing experience, and even hospital committee involvement are all discussed. The average respondent was 38, female, and a bachelor's degree holder.

The respondents range from Staff Nurse III to Staff Nurse I (Charge Nurse or Team Leader). Almost half of the respondents (42.5%) are Staff Nurses I.

Surprisingly, Staff Nurse II and Staff Nurse III had nearly identical percentages of 28.9% and 28.8%, respectively. To be qualified as Staff Nurse I (Team Leader, formerly known as a Charge Nurse in the study's setting) in ministry teaching hospitals in Saudi Arabia, a nurse should have more than six years of nursing experience. As shown in the table above, 119 staff nurses have at least 6-10 years of nursing experience, and 120 staff nurses have more than 11 years of experience, which makes sense why many staff nurses are in the study setting.

Regarding the length of nursing practice or work experience in the selected ministry teaching hospitals to which the respondents belong, only 27 (7.9%) have more than six months and less than 1 year of working experience. In comparison, 18 (5.2%) have 21 or more nursing experience. The number of respondents increased and decreased, and vice versa, as their years of experience increased. For example, there were 77 (22.4%) respondents with 1-5 years of experience, which increased to 119 (34.5%) with 6-10 years of experience, 49 (14.3%) with 11-15 years of experience, which showed an apparent decline in the number of respondents, and 53 (15.5%) with 19-20 years of nursing experience, which increased from the former.

There are various units in Saudi Arabia's selected academic ministry hospitals. As a result, ten regrouped departments represent the respondents' area of assignment, with the majority of them working in Clinics/OPD/Ambulatory Care Services (75 (21.9%)), followed by the Surgery Department (In-Patient and Day Care) (52 (15.2%)). This is because clinic staff have more time to participate in the study than in other assignment areas. With 15 (4.4%), 22 (6.4%), 23 (6.7%), 26 (7.6%), and 28 (8.2%) nurses work in the Oncology Center, Intensive Care Units/Critical Care, King Fahad Cardiac Center, Operating Theatres, and Support Services, respectively. Women's Health and Pediatrics, Medicine (In-Patient Care and Day

Care), and Emergency Medicine all have nearly the same number of respondents, with 33 (9.6%), 34 (9.9%), and 35 (10.2%), respectively.

In terms of nurses' committee involvement, there were 220 (64.1%) respondents were involved, and 123 (35.9%) who are not. This suggests that nurses in the study's chosen settings are more involved in hospital or nursing committees. Because the selected ministry teaching hospitals are aiming for and preparing for magnet accreditation, the highest certification or standard in healthcare, they have begun to implement one of the magnet components, which is to involve nurse staff in shared governance or any committees for staff to appreciate their practice environment, improve their decision-making skills, and contribute to the provision of quality nursing care and services.

Perceived Practice Environment among Nurses in Selected

Ministry Teaching Hospitals in Saudi Arabia

In this study, five (5) nurses practice environment subscales or dimensions from Lake's (2002) Practice Environment Scale - Nurse Work Index (PES-NWI) were considered: a) Nurse participation in hospital affairs; b) Nursing Foundations of Quality Care; c) Nurse Ability, Leadership, and Support of Nurses; d) Staffing and Resource Adequacy; and e) Collegial Nurse-Physician Relationship. The weighted mean of each dimension was used to calculate the overall composite score of the nurses' practice environment.

Table 5

Registered nurses' perception of the practice environment in selected ministry teaching hospitals in Saudi Arabia

Subscale in the Practice Environment of Nurses	Mean	SD	Interpretation
Nurse Participation in Hospital Affairs	2.62	0.55	Agree

Nursing Foundations of Quality Care	2.93	0.45	Agree
Nurse Manager Ability, Leadership, and Support of Nurses	2.64	0.65	Agree
Staffing and Resource Adequacy	2.29	0.68	Disagree
Collegial Nurse-Physician Relationships	3.06	0.50	Agree
<i>Overall</i>	2.71	0.47	Agree

Practice Environment Scale of the Nursing Work Index (PES-NWI)

Legend: 3.51-4.00 (Strongly agree);

2.51-3.50 (Agree);

1.51-2.50 (Disagree);

1.00-1.50 (Strongly disagree)

On Nurse Participation in Hospital Affairs

Table 5 depicts the overall assessment of the subscale Nurse Participation in Hospital Affairs as perceived by nurses in Saudi Arabia's selected ministry teaching hospitals. This subscale contains nine items: Staff nurses are involved in the hospital's internal governance, Staff nurses have the opportunity to participate in policy decisions and opportunities for advancement, the administration listens to and responds to employee concerns and a chief nursing officer who is visible and accessible to employees' opportunities for improvement/clinical ladder, Nursing administrators discuss daily problems and procedures with staff, Staff nurses are eligible to serve on hospital and nursing committees, and a chief nursing officer has the same power and authority as other hospital executives.

The above table shows that the mean score of nurse respondents in hospital affairs was $M=2.62$ ($SD=.55$), indicating that participants agree on this subscale to a

perceived desirable nurse environment. Nurse involvement in hospital affairs has been found to have a variety of positive and negative outcomes. Improving nurse participation in hospital affairs is essential to establishing healthy work environments, a productive and cost-effective strategy for ensuring nurse satisfaction and retention. In his study, Albashayreh et al. (2019) discovered that hospital affairs participation was a significant predictor of nurse job satisfaction. Although involvement in hospital affairs was associated with job satisfaction, it was also associated with emotional exhaustion and intention to leave (Al Harbi, 2020).

In contrast, Alenazy et al., 2021 discovered that, while the overall NPE was largely positive ($M = 2.89$, $SD = 0.44$), the lowest scores for subscale's nurse participation in hospital affairs ($M = 2.83$, $SD = 0.47$) were discovered. Hospital leaders should implement practice-improvement programs. Nurses' involvement in their units and hospitals should increase, as will their job satisfaction, retention, and emotional health.

On Nursing Foundations of Quality Care

The overall assessment of the subscale 'Nursing Foundations of Quality Care' can be seen in Table 5. This subscale includes ten items: the use of nursing diagnoses, an active quality assurance program, a preceptor program for newly hired nurses, nursing care based on a nursing rather than medical model, patient care assignments that foster continuity of care, a clear nursing philosophy that pervades the patient care environment, and a clear nursing philosophy that pervades the patient care environment, all patients must have written, up-to-date care plans, the administration expects high standards of nursing care, active nurse staff development or continuing education programs, and working with clinically competent nurses.

The mean score of nurse respondents in the Nursing Foundation for Quality of Care subscale was $M=2.93$ ($SD=0.45$), indicating that participants agree on a perceived desirable nurse environment in the Nursing Foundation for Quality of Care subscale.

While there is a need for more recent and limited research on the nursing foundation of care, Alosaimi et al. (2021) examined nurses' work environments and the impact of workload awareness and perception on respondents during Covid 19. Nurses' job satisfaction and workload were related during the pandemic. A positive work environment perception was associated with high COVID-19 awareness. Nurses have a moderate view of their participation in hospital affairs and a high view of the nursing foundation for quality care. This is consistent with a study by Marzuki et al. (2012), which found that the highest mean score on 'Nursing Foundations for Quality of Care' was 2.91, with 314 (79.5%) nurses agreeing that CNE programs are the most important. Continuous Nursing Education is a best practice initiative to increase the nursing foundation for quality care, and it is recommended that CNE encourages lifelong and transformational learning in the nursing profession.

On Nurse Manager Ability, Leadership, and Support of Nurses

Table 5 displays nurses' mean overall perception scores in selected Saudi ministry teaching hospitals in Nurse Manager Ability, Leadership, and Nurse Support. This domain includes five items: a nurse manager who is a good manager and leader, a nurse manager who supports the nursing staff in decision-making, even if the conflict is with a physician, supervisors who view mistakes as learning opportunities rather than criticism, a supervisory staff that is supportive of the nurses, and praise and recognition for a job well done.

The mean score of nurse respondents in nurse manager ability, leadership, and nursing support was $M=2.64$ ($SD=0.65$), as shown in the table above. This means that the participants in this domain agree to a perceived desirable nurse environment.

Nurse Manager ability, Leadership, and Support of Nurses (NMALS) is the nurse manager's vital role and essential qualities and how the nurse manager supports nurses. Nurse ability, leadership, and support of nurses have been linked to job satisfaction (Alharbi, 2020). This study's mean score is lower than that of Al Moosa et al. (2020), whose mean score for nurse manager ability, leadership, and support of nurses was 2.9. (SD 0.60). On the contrary, the leadership style of nurse managers impacts staff turnover and even the level of care provided to patients (Saleh et al., 2018). Moreover, the leadership styles of nurse managers affect staff retention. Therefore, Nurse Managers should get competencies (Choi et al., 2022) and leadership training to boost job satisfaction and reduce turnover (Suliman et al., 2020).

On Staffing and Resource Adequacy

Table 5 depicts nurses' overall attitudes toward staffing and resource adequacy. This domain consists of four items: sufficient staff to complete the work, sufficient registered nurses to provide quality patient care, adequate support services to allow the nurse to spend time with his patients, and sufficient time and opportunity to discuss patient care and problems with other nurses.

In all four subscales, participants agree on a perceived desirable nurse environment, except for staffing and resource adequacy, where the mean was $M=2.29$ ($SD=.68$), with which they have low perception. The mean of this finding is

slightly lower than that of the Al-Refaei et al. (2022) study in the Madina Region, KSA. According to their findings, the overall PES-NWI mean score was 2.62 ± 0.50 , and the mean scores of four of the five subscales were >2.50 , except staffing and resource adequacy, which was perceived as unfavorable (2.62 ± 0.50).

These findings are supported by the results of another study conducted by AL-Dossary (2020). In his study, which he conducted at 96 hospitals in Saudi Arabia, including 72 public hospitals, 23 private hospitals, and one public-private hospital, he discovered that nurses believed there was a shortage of resources (mean = 1.85), particularly about the number of staff nurses required to meet the demand for providing quality care to patients. The nurses were particularly concerned about the availability of enough staff nurses to meet the demand.

According to a growing body of evidence, inadequate nurse staffing in acute care hospitals is associated with adverse events such as patient falls, healthcare-related infections, medication errors, and in-hospital mortality (Mitchell et al. A, Stone PW, Hall L et al., 2018 and Audet LA, Bourgault P, Rochefort CM, 2018)

On Collegial Nurse-Physician Relationship

Table 5 shows how the nurses perceived their working relationships with the physicians. This dimension consists of three items: a high level of teamwork between nurses and physicians, good working relationships between physicians and nurses, and collaboration (joint practice) between nurses and physicians.

As shown in the table above, the mean score of nurse respondents in the Collegial Nurse-Physician relationship was $M=3.06$ ($SD=.50$). The participants in this domain agreed to a perceived desirable nurse environment. As shown in the table above, the collegial nurse-physician relations subscale was highly perceived, with a score of $M=3.06$ ($SD=.50$), while staffing and resource adequacy was perceived to

be the lowest, with a score of $M=2.29$ ($SD=.68$). This is similar to the study of Alrefei et al. (2022). According to their findings, the collegial nurse-physician relations subscale was rated the most positively $M=2.87$ ($SD=0.59$), while staffing and resource adequacy was rated negatively $M=2.35$ ($SD=0.65$). Another study by Al Muhsen et al. (2017) discovered that the nurse-physician relationship was regarded as the most critical aspect of the work environment, while staffing and resource adequacy were regarded as the least important.

In a cross-sectional study of 414 nurses and physicians in two Gaza Strip referral hospitals, another tool, the Arabic Jefferson Scale of Attitude toward Physician-Nurse Collaboration, was used, but the results were still promising. Using the Student's t-test, one-way ANOVA, and Pearson correlation, $p < 0.05$ was considered statistically significant for descriptive statistics, mean differences, proportions, and correlations. 42.8% responded (75.6% were nurses, and 24.4% were doctors). Nurses were more enthusiastic about collaboration than physicians. Physicians and nurses have a complementary relationship and are partners in patient care (Elsous et al., 2017).

Elsous, Radwan, and Mohsen (2017) argue that a collaborative approach to professional practice should be recognized. This acknowledgment should consider the interaction between nurses and physicians and the fact that nurses are complementary partners in the care they provide to patients. This acknowledgment must occur.

Summary of Perceived Practice Environment of Nurses

Table 5 displays the results of the Nursing Work Index Practice Environment Scale assessment (PES-NWI). The mean score of nurse respondents in hospital affairs was 2.62 ($SD=0.55$), the nursing foundation for quality of care was 2.93

(SD=0.45), nurse manager ability, leadership, and nurse support was 2.64 (SD=0.65), staffing and resource adequacy were 2.29 (SD=0.68). Collegial nurse-physician relations were 3.06 (SD=0.50). The overall mean score of the scale was 2.71 (SD=0.47). In all four subscales, participants have a high perception of a desirable nurse environment, except for staffing and resource adequacy, where they have a low perception. The descriptive statistics of the data, using an arbitrary scale for interpretation, reveal that the respondents generally agree to a perceived desirable nurses' practice environment, with a computed overall mean score of $M=2.71$ (SD=0.47).

Level of Work Engagement among Nurses

Table 6

Level of work engagement among nurses in the selected ministry teaching hospitals in the Kingdom of Saudi Arabia

Dimension	Mean	SD	Interpretation
Vigor	3.62	1.25	Average Engagement
Dedication	4.40	1.34	Average Engagement
Absorption	3.78	1.32	Average Engagement
Overall	3.93	1.16	Average Engagement

Utrecht Work Engagement Scale or UWES-9 (Schaufeli, Bakker, & Salanova, 2006)

Legend: (Hosseinpour-Dalenjan, Atashzadeh-Hoorideh, Hosseini, 2017)

5.54-7.07 (Very high engagement)

4.67-5.53 (High engagement)

3.07-4.66 (Average engagement)

1.94-3.06 (Low engagement)

Work engagement is a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). In this study, three (3) domains from the Utrecht Work Engagement Scale or UWES-9 (Schaufeli et al., 2006) were considered: a) Vigor, b) Dedication, and c) Absorption. Each domain consists of 3 subscales, with nine items used in the instrument. The weighted mean of each domain was used to calculate the overall composite score of the nurses' work engagement.

Vigor is characterized by "high levels of energy, an experience of mental resilience while working, a willingness to invest effort in one's endeavor, and persistence in the face of difficulties" (Schaufeli & Bakker, 2004, p. 295). Table 6 depicts nurses' perceptions of work engagement in terms of vigor. This domain is divided into three subscales, which are as follows: 1) I am bursting with energy at work. 2) I feel strong and vigorous at work. 3) When I wake up, I want to go to work. According to Table 6, the mean vigor score of nurses was $M=3.62$ ($SD=1.25$). According to the descriptive statistics of the data, respondents reported an average level of work engagement.

Dedication is a "strong involvement in one's vocation, characterized by feelings of significance, enthusiasm, and pride" (Schaufeli & Bakker, 2004, p. 295). Table 6 depicts nurses' perceptions of their work engagement regarding dedication. This domain has three subscales: 1) I am enthusiastic about my job. 2) My job inspires me. 3) I am proud of the work I do. According to Table 4, the mean score of nurse respondents for their Dedication was $M=4.40$ ($SD=1.34$). This means that the descriptive statistics of the data show that respondents reported an average level of

work engagement.

Absorption characterizes a "state of full concentration and happy engrossing in which time seems to pass quickly, and individuals often experience difficulty detaching themselves from the endeavor" (Schaufeli & Bakker, 2004, p. 295). Table 6 depicts nurses' perceptions of their job engagement regarding absorption. According to Table 6, the mean absorption score of nurse respondents was $M=3.78$ ($SD=1.32$). This means that the data's descriptive statistics show that respondents reported average work engagement. This domain is divided into three subscales, which are as follows: 1) I am happiest when I am working hard. 2) I am completely absorbed in my work. 3) When I am working, I get carried away.

A review of related literature shows that studies on nurse work engagement in Saudi Arabia are scarce and limited. This study's finding is similar to Aboshaiqah et al. (2016), in which the element of dedication was high among nurse respondents, with a mean score of $M=4.40$ ($SD=1.32$). However, the findings of Aboshaiqah et al. (2016), which were conducted among nurses in multiple hospital sectors with various affiliations in Saudi Arabia, disagree with the overall assessments of work engagement shown above because the findings of their study indicate generally high levels of work engagement. The work engagement levels in their study are very close to those found in magnet hospitals.

However, according to Alfifi et al. (2019), in a related study conducted in two MOH hospitals in Najran City, Saudi Arabia, with participants ($N = 289$) completing a questionnaire, nearly 5% of the nurses had a very low level of engagement in work, and 20.1% had a low level of engagement in work. Furthermore, nearly half (49%) of the nurses had an average level of engagement, with only 20.8% having a high level of engagement. This is consistent with the descriptive statistics of the overall data

shown above, which show that most respondents reported the same result as an average work engagement, with a computed overall mean score of $M=3.93$ ($SD=1.16$). In another study matching the current research results, in Iran, the nurses who participated had an average level of work engagement (Dalenjan., et al., 2017).

Work engagement manifests itself through achieving multiple positive outcomes for workers and organizations. It enhances extra-role performance and increases job satisfaction (Orgambdez-Ramos & de Almeida, 2017). In recent years, healthcare organizations have sought employees committed to their jobs and thriving in adversity (Wang, Liu et al., 2017). Such characteristics indicate work engagement and are likely to result in favorable outcomes (Othman & Nasuridin, 2019). In many instances, the quality of services provided to patients by a healthcare organization is determined by the performance of its nurses. Therefore, it is essential to achieve high levels of nursing staff engagement.

Summary of Work Engagement Level among Nurses

Table 6 displays the results of the Utrecht Work Engagement Scale or UWES-9 assessment (Schaufeli et al., 2006). The mean vigor score of nurse respondents was $M=3.62$ ($SD=1.25$), their dedication score was $M=4.40$ ($SD=1.34$), and their absorption score was $M=3.78$ ($SD=1.32$). The overall mean score of the scale was $M=3.93$ ($SD=1.16$). The descriptive statistics of the data reveal that the respondents reported an average level of work engagement, with a computed overall mean score of $M=3.93$ ($SD=1.16$).

Relationship between Practice Environment and Work Engagement

Table 7

Relationship of practice environment and work engagement among registered nurses

in selected ministry teaching hospitals in KSA

Subscale in the Practice Environment of Nurses	Spearman's rho	Strength of Correlation	Sig.
Nurse Participation in Hospital Affairs	0.45	Moderate	.000
Nursing Foundations of Quality Care	0.38	Weak	.000
Nurse Manager Ability, Leadership, and Support of Nurses	0.37	Weak	.000
Staffing and Resource Adequacy	0.35	Weak	.000
Collegial Nurse-Physician Relationship	0.29	Weak	.000
<i>Overall</i>	0.45	Moderate	.000

Note: Correlation is significant at 0.05 level (2-tailed)

Spearman's rho correlation coefficient was computed to assess the relationship between the practice environment, each subscale, and work engagement among registered nurses in selected ministry teaching hospitals in KSA. There is a statistically significant moderate positive relationship between nurse participation in hospital affairs and work engagement ($r_s=.451$, $p=.000$); a statistically significant weak positive correlation between nursing foundations of quality care and work engagement ($r_s=.388$, $p=.000$), nurse manager ability, leadership and support of nurses, and work engagement, ($r_s=.378$, $p=.000$), staffing and resource adequacy and work engagement, ($r_s=.350$, $p=.000$), and collegial nurse-physician relationship and work engagement, ($r_s=.296$, $p=.000$). There is a statistically significant moderate positive relationship between overall perceived nurses' practice environment and level of work engagement, ($r_s=.454$, $p=.000$).

Unfortunately, research has yet to be conducted in the Kingdom of Saudi

Arabia on the relationship between the practice environment and work engagement, and there is little research on this topic worldwide. This study's findings and results contradict Hegazy et al. (2022). They used a simple random sample of 400 to recruit 400 staff nurses from Menoufia University Hospital in Shebin El-Kom, Egypt. According to the findings, two-thirds of the nurses studied negatively perceived work environment factors and more than half had low work engagement. At $p < 0.001$, there was a high statistical significance between the total work environment dimensions related factors and total work engagement dimensions score of the investigated subjects using another form of inferential statistics. Overall, the study found a highly statistically significant positive relationship between nurses' perceptions of work environment factors and their level of work engagement.

Gehan Mohammed Diab and Mona A. El Nagar (2019) conducted another related study on nurses' work environment and work engagement. Using a descriptive-correlation research design, they concluded that there was a highly statistical difference between moderate work engagement and moderate psychosocial stress. There was no statistical difference in mean work engagement and work stressor scores between nurses working at the university hospital and those working at the teaching hospital, with the only statistically significant difference found between the absorption parameter of work engagement and nurses working at the two hospitals. According to them, hospital administrators should create an appealing work environment to reduce work-related stress among the nursing staff and increase their work engagement.

According to Nnatsupawat et al. (2016), nurses working in university hospitals with better work environments had significantly lower job dissatisfaction, intention to

leave, and burnout. Nurse administrators significantly impact increasing work engagement by making nurses' work environments more satisfying and exciting. Assessing nurses' practice environment domains and subscales will help raise the workplace engagement level, reducing turnover and improving job satisfaction.

Relationship between Work Engagement and Demographics with Work-Related profile

Table 8

Relationship between work engagement and demographic with the work- related profiles of registered nurses in selected ministry teaching hospitals in KSA

Variable	Point-biserial correlation	Spearman's rho	Chi-Square Tests of Association	Strength of Correlation	Sig.
Age		0.31		Weak	.000
Sex	0.05			Very weak	.146
Civil Status			198.723	Moderately strong	.003
Educational Background		-0.15		Very weak	.002
Length of Nursing Practice		0.20		weak	.000

Job Position	190.781	Moderately strong	.010
Area of Assignment	695.286	Not Moderately strong	.209
Committee Involvement	0.07	Very weak	.079

Note : Correlation is significant at the 0.05 level (1-tailed)

Table 5 presents the results of the point biserial correlation, Spearman correlation, and Chi-square association tests for the demographic and work-related variates.

A point-biserial correlation was run to determine the relationship between the work engagement of registered nurses and sex and committee involvement. There was a very weak positive correlation between work engagement and sex, but no significant ($r_{pb}=.057$, $p=.146$). There was a positive but weak correlation between work engagement and committee involvement, but no significant ($r_{pb}=.077$, $p=.079$).

Spearman's rho correlation coefficient was computed to assess the relationship between the level of work engagement of nurses in selected ministry teaching hospitals in KSA and their demographic and work-related profile. There was a statistically significant but weak positive relationship between work engagement and age group ($r_s=.312$, $p=.000$) and with the length of nursing practice in years ($r_s=.208$, $p=.000$). There was a statistically significant very weak relationship

between work engagement and civil status, ($r_s=.125$, $p=.010$), as well as work engagement and area of assignment, ($r_s=.154$, $p=.002$). There was a statistically significant but very weak negative relationship between work engagement and education background ($r_s=-.155$, $p=.002$), and similarly, work engagement and current job position ($r_s=-.114$, $p=.017$).

The Chi-Square Test of Association was also used to determine the relationship between Job position, civil status, area of assignment, and work engagement. Pearson's chi-square association test for job position and work engagement is $\chi = 190.781$, $p = .010$, and Cramer's V coefficient = .527. This tells us that there is a statistically significant moderately strong relationship between job position and work engagement; that is, staff nurses 1, 2, and 3 differ in work engagement. Pearson's chi-square test of the relationship between civil status and work engagement is $\chi = 198.723$, $p = .003$, and Cramer's V coefficient is = .538. This tells us that there is a statistically significant moderately strong relationship between marital status and work engagement; that is, single, married, and separated nurses differ in the level of work engagement. Lastly, Pearson's chi-square relationship test for assignment and work engagement is $\chi = 695.286$, $p = .209$, and Cramer's V coefficient = .475. This tells us that there is no statistically significant moderately strong relationship between area of assignment and work engagement; that is, staff nurses exhibit an average work engagement regardless of area of assignment.

The study findings above are similar to those of Aboshaiqah et al. (2016), particularly regarding gender and work factors, which discovered that the relationship between engagement and gender is insignificant and that work factors have no significant influence on engagement. Another study by Platis et al. (2021) discovered

that the gender of nurses does not affect occupational engagement. According to Aboshaiqah et al. (2016), having more years of experience increased nurses' dedication and engagement scores. However, Platis et al. (2021) discovered that nurses' years of experience do not affect occupational engagement. Aboshaiqah et al. (2016) discovered that nurses with a higher educational degree and qualification were a positive predictor of absorption ($r^2 = .05$, $p = .026$) and vigor scores ($r^2 = .06$, $p = 0.24$). This is supported by Ghazawy et al. (2019), who found that holding specialty certification was significantly associated with a high level of engagement. According to their findings, nurses with a specialty certification have a 66% higher chance of being engaged at work. Similarly, it was determined that nursing education is a factor that only influences nurses' occupational engagement (Platis et al., 2021).

This study indicated that age, civil status, and educational background significantly relate to work engagement. On the other hand, only nursing practice length and area of assignment have statistically significant correlations with work engagement.

Chapter V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Compared to other countries, the relationship between practice environment and work engagement among Saudi nurses has not been studied profoundly. This study aims to determine the demographic and work-related profile of nurses in selected ministry teaching hospitals in Saudi Arabia regarding age, sex, civil status, educational background, length of nursing practice, job position, area of assignment, and committee involvement. The purpose of this study is also to assess registered nurses' perceptions of the practice environment in Saudi Ministry teaching hospitals across five subscales: Nurse Participation in Hospital Affairs, Nursing Foundations of Quality Care, Nurse Manager Ability, Leadership, and Support of Nurses, Staffing and Resource Adequacy, and Collegial Nurse-Physician Relationship.

Summary of Findings

A total of 348 survey questionnaires were distributed to the qualified sample on a consideration of total enumeration. Propitiously, 343 out of 348 were accomplished and returned the survey, thus achieving an overall response rate of 98.56%. This number of participants is already high compared to previous studies conducted by Alrefaei et al., 2022 in five general hospitals in Al-Madinah, KSA, where only 330 bedside nurses participated in the convenience sampling method. This study utilized a self-report online survey and asked about the demographic and work-related characteristics of the respondents. Age, sex, civil status, and educational background were asked of the participants as part of their demographic profile. Also included were the name of the hospital they are currently working, their department or area of assignment, the nurses' length of nursing practice, job

position, area of assignment, and Committee involvement as part of their work-related characteristics.

After considering total enumeration sampling, which invited all eligible staff nurses from selected ministry teaching hospitals in Saudi Arabia, 343 nurses participated. According to the findings, more than half of the respondents, 183 (53.3%), were between the ages of 23 and 36, while nearly half, 145 (42.3%), were between the ages of 37 and 52. The age group of 53 and above had the fewest respondents, accounting for 15 (4.4%). As per the sex breakdown, most respondents (89.5%) were female, while only 10.5% were male. Regarding respondents' civil status, it was discovered that 233 (67.9%) of the staff nurses from the selected ministry academic hospitals were married, while 106 (30.9%) were single. Only four (1.2%) staff nurses were divorced or widowed. Regarding educational background, registered nurses with a Bachelor of Science degree in nursing (69.7%) have the highest proportion of respondents, followed by registered nurses with a Diploma in Nursing (23.9%). Regarding educational background, registered nurses with a Bachelor of Science degree in nursing (69.7%) have the highest proportion of respondents, followed by registered nurses with a Diploma in Nursing (23.9%). Surprisingly, 4.1% of respondents have a master's degree, and 2.3% have a master's degree currently being pursued.

This study also utilized the Practice Environment Scale of the Nurse Work Index (PES-NWI) by Eileen Lake (2002) to determine the nurses' perception of their practice environment. The tool consisted of five (5) subscales or domains, which include: 1) Nurse Participation in Hospital Affairs, 2) Nursing Foundations of Quality Care, 3) Nurse Manager Ability, Leadership, and Support of Nurses, 4) Staffing and Resource

Adequacy, and 5) Collegial Nurse-Physician Relationships.

The interpretation was based on each dimension's mean scores and Standard deviation.

Almost all the subscales from selected ministry teaching hospitals in Saudi Arabia were identified as high perception ($M \geq 2.5$) except for Staffing and Resource Adequacy with $M=2.29$ ($SD=0.68$). The mean score of nurse respondents in hospital affairs was $M=2.62$ ($SD=0.55$), the nursing foundation of quality care was $M=2.93$ ($SD=0.45$), nurse manager ability, leadership, and support of nurses was $M=2.64$ ($SD=0.65$), staffing and resources adequacy was $M=2.29$ ($SD=0.68$). The mean score of collegial nurse-physician relationships was $M=3.06$ ($SD=0.50$). The scale's overall mean score was $M=2.71$. ($SD=0.47$) which means that the participants have a high perception of a desirable nurse environment in the four subscales, except for staffing and resource adequacy, in which they have a low perception. Using an arbitrary scale for interpretation, the descriptive statistics of the data disclosed that the respondents generally have a high perception of a desirable nurses' practice environment, with a computed overall mean score of $M=2.71$ ($SD=0.47$).

It can also be noticed that scores in the different dimensions of the practice environment are close compared to the responses from other participants. This is manifested in negligible standard deviations. Standard deviation measures the dispersion of the data set relative to its mean, so the lower the standard deviation, the better. Based on the statistical results, the subscale nursing foundations of quality care has the lowest score ($SD= 0.45$), followed by Collegial Nurse-Physician Relationships ($SD=0.50$), Nurse participation in hospital affairs ($SD=0.55$), while Nurse Manager Ability, leadership, and Support of nurses ($SD=0.65$) and Staffing and Resource

Adequacy (SD=0.68) have almost the same scores. The over standard deviation was SD=0.47.

This study also used the Utrecht Work Engagement Scale or UWES-9 to measure the three dimensions of work engagement: vigor, dedication, and absorption among nurses in the selected study settings. It is a 7-point Likert scale ranging from never (0), almost never (1), rarely (2), sometimes (3), often (4), very often (5), and always (6). Between 0 and 6, the mean score for each dimension and the mean total score are reported. Higher scores indicate greater work engagement. Less than 1.93 represents very low work engagement, 1.94 to 3.06 represents low engagement, 3.07 to 4.66 represents average engagement, 4.67 to 5.53 represents high engagement, and 5.54 represents very high work engagement (Hosseinpour-Dalenjan, Atashzadeh-Hoorideh, Hosseini, 2017). These study findings show that the mean score of nurse respondents in terms of vigor was $M=3.62$ ($SD=1.25$), for their dedication was $M=4.40$ ($SD=1.34$), and for absorption was $M=3.78$ ($SD=1.32$). The scale's overall mean score was $M=3.93$. ($SD=1.16$). Using an arbitrary scale for interpretation, the descriptive statistics of the data disclosed that the respondents reported an average work engagement, with a computed overall mean score of $M=3.93$ ($SD=1.16$).

The main aim of this study is to determine the relationship between practice environment and work engagement among nurses in selected ministry academic hospitals in Saudi Arabia. Spearman's rho correlation coefficient was computed to assess the relationship between the practice environment and each subscale of practice environment and work engagement. There was a statistically significant moderate positive relationship between nurse participation in hospital affairs and work engagement ($r_s=.451$, $p=.000$); a statistically significant weak positive correlation

between nursing foundations for quality of care and work engagement ($r_s=.388$, $p=.000$), nurse manager ability, leadership and support of nurses, and work engagement, ($r_s=.378$, $p=.000$), staffing and resource adequacy and work engagement, ($r_s=.350$, $p=.000$), and collegial nurse-physician relationships and work engagement, ($r_s=.296$, $p=.000$). There is a statistically significant moderate positive relationship between overall perceived nurses' practice environment and level of work engagement, ($r_s=.454$, $p=.000$).

Finally, the objective of the study is to identify if there is a relationship between work engagement and the following individual demographic profiles of registered nurses in selected ministry teaching hospitals in KSA in terms of age, sex, civil status, educational background, length of nursing experience, job position, area of assignment, and committee involvement. A point-biserial correlation was run to determine the relationship between the work engagement of registered nurses and sex and committee involvement. There was a very weak positive correlation between work engagement and sex, but no significant ($r_{pb}=.057$, $p=.146$). There was a positive but weak correlation between work engagement and committee involvement, but no significant ($r_{pb}=.077$, $p=.079$).

Spearman's rho correlation coefficient was computed to assess the relationship between the level of work engagement of nurses in selected ministry teaching hospitals in KSA and their demographic and work-related profile. There was a statistically significant but weak positive relationship between work engagement and age group ($r_s=.312$, $p=.000$) and with the length of nursing practice in years ($r_s=.208$, $p=.000$). There was a statistically significant very weak relationship between work engagement and civil status, ($r_s=.125$, $p=.010$), as well as work engagement and area of

assignment, ($r_s=.154$, $p=.002$). There was a statistically significant but weak negative relationship between work engagement and educational background ($r_s=-.155$, $p=.002$), and similarly, work engagement and job position ($r_s=-.114$, $p=.017$).

The Chi-Square Test of Association was also used to determine the relationship between Job position, civil status, area of assignment, and work engagement, and the results tell us that there is no statistically significant moderately strong relationship between Job position, civil status, area of assignment and work engagement; that is, staff nurses exhibit an average work engagement regardless of Job position, civil status and area of assignment.

Conclusions

With the findings and discussions related to the study, the following conclusions were made:

1. The majority of nurses in Saudi Arabia are female. Due to cultural considerations, the Ministry of Health in Saudi Arabia preferred to hire female nurses from abroad who can care for male and female patients. In addition, most Saudi Arabian nurses hold a Bachelor of Science in nursing.
2. Except for staffing and resource adequacy, nurses in selected ministry teaching hospitals in Saudi Arabia highly perceive a desirable nurse environment on the four subscales. Using an arbitrary scale for interpretation, the data's descriptive statistics reveal that respondents generally have a high perception of a desirable practice environment for nurses.
3. In selected Saudi Arabian teaching hospitals, nurses reported an average level of work engagement. The dedication subscale has the highest score, followed by the absorption and vigor subscales.

4. There is a statistically significant, moderately positive relationship between the overall perception of the nurses' practice environment and their level of work engagement in selected Saudi Arabian academic ministry hospitals. There was a statistically significant moderate positive correlation between nurse participation in hospital affairs and work engagement, but only a statistically significant weak positive correlation between nursing foundations for quality of care and work engagement, nurse manager ability, leadership, and support, and work engagement; staffing and resource adequacy, and work engagement; and collegial nurse-physician relationship and work engagement.
5. The nurse's demographic characteristic, such as sex, and work-related profile, such as Committee involvement, have a very weak positive correlation with work engagement among Saudi nurses in selected ministry teaching hospitals that has no significance.
6. The demographic profiles of nurses, such as age and work-related shape, such as length of nursing practice, have a statistically significant but weak positive relationship with work engagement among nurses in selected ministry teaching hospitals in Saudi Arabia.
7. The demographic profiles of nurses, such as civil status and work-related profile, such as job position and area of assignment, have statistically significant moderately strong relationship with work engagement among Saudi nurses in selected ministry teaching hospitals.
8. The work-related profile such as area of assignment has no statistically significant moderately strong relationship with work engagement.

9. The demographic profile of nurses, such as educational background have a statistically significant but weak negative relationship with work engagement among nurses in selected ministry teaching hospitals in Saudi Arabia.
10. To sum up, age and civil status are the demographic profile variables that have statistically significant correlations with work engagement. Regarding the work-related profile, it is the length of nursing practice and job position that have statistically significant correlation with work engagement.

Recommendations

Based on the findings of the current study, the following recommendations are suggested:

1. The Ministry of Health, Ministry of Teaching Hospitals, and others should not restrict hiring expatriate nurses based on gender, particularly in light of the global nursing shortage. Male staff nurses have been shown to contribute to the healthcare system significantly. Furthermore, healthcare facilities should encourage and support nurses pursuing higher education, as most nurses hold a Bachelor of Science degree, particularly in the Kingdom of Saudi Arabia.
2. Administrators of hospitals may increase their efforts to enhance and provide opportunities for their nurses, particularly in terms of trainings, professional development, and continuing education programs, and not just as a contract renewal requirement. Their nursing administrations should equip their nursing workforce in accordance with required competency standards to achieve their strategic objectives and foster an environment in which nurses are confident in their roles and responsibilities while working as members of the healthcare team alongside physicians.

3. All Nurse Managers or Directors, as well as Nursing Quality Improvement Managers, should assess nurses' perceptions of their practice environment using the Nursing Work Index's Practice Environment Scale (PES-NWI) to identify areas for improvement to achieve a highly agreeable, perceived desirable practice environment for nurses.
4. Nurse Managers or Directors should ensure that Practice environment subscales or domains are met in the workplace because this can significantly positively impact nurses' work engagement and vice versa.
5. Since staffing and resource adequacy is perceived to be the lowest indicator in the selected study settings, hospital human resources and nursing leadership may need to plan or revise their recruitment and retention plan and implement their own deliberated or studied nursing or staffing complement responsive to the ideal patient-to-nurse ratio. Administrators and managers must always consider the quality and quantity of nurse staffing for each unit's patients.
6. It is recommended that junior staff nurses have opportunities to serve on hospital and nursing committees, particularly those relevant to their practice or specialty, with careful consideration of their capacity and dedication.
7. Additional research is required to determine the influence of other work environment factors on nurses' work engagement. This study's findings only apply to the hospital settings under consideration. It is possible to conduct large-scale research to generalize the findings in a broader context.
8. Due to certain needs, the Ministry of Health, Ministry of Teaching Hospitals, and others examine gender equality in recruiting nurses from a broader perspective. Some hospitals, units, and patients prefer male nurses for lifting

and positioning assistance. Male staff nurses have been shown to contribute significantly to the healthcare system. In addition, healthcare facilities should encourage and support nurses pursuing higher education, as most nurses hold a Bachelor of Science degree, especially in the Kingdom of Saudi Arabia.

9. The KSUMC can utilize the work environment scale as one of its criteria for determining adequate staffing. They can return to the study results and develop a recruitment strategy based on what they observe in the work environment results for each study setting.
10. Improve the preceptorship program by providing more senior nurses with mentoring and coaching opportunities. Studies show that this can ensure consistency in the care new staff nurses supply.
11. Based on the study findings, senior nurses are highly work-engaged, and developing a retention plan for them would avoid turnover and bring more positive patient and hospital outcomes.
12. Re reinforces the bond between nurses and physicians. Developing solid relationships with the physicians with whom nurses collaborate can improve patient safety, care quality, and overall job satisfaction. According to research, enhancing nurse-physician relationships requires collaboration, cooperation, and team problem-solving and decision-making.
13. The nursing administration ensures assessment of the nursing skill mix, which includes the number, educational preparations, or level of nurses and their clinical experience. This can contribute to the equal distribution of acuity or workload among nurses and omits other care staff (e.g., nursing assistants) working in the ward during the same shift and many other benefits that can impact a positive work environment.

14. Other factors not mentioned in the subscale of practice environment need to be addressed and considered to promote a more appealing positive work environment for staff nurses in ministry academic hospitals in the Kingdom of Saudi Arabia.
15. Recommendations for future studies include introducing an interventional program or strategies to assess pre- and post-perceptions of the practice environment and level of nurse work engagement and possibly assessing other stakeholders' perceptions of the practice environment and level of nurse work engagement, such as patients. In addition, future studies can examine the impact of practice environment on nurse work engagement, organization, and patient outcomes in selected ministry teaching hospitals, as well as the role of organizational and national culture in enhancing nurse practice environment and work engagement.
16. The findings of this study will serve as baseline data to guide hospital leaders on where to focus attention and what strategies and activities are required to improve the practice environment to increase the work engagement level of nurses in selected Saudi ministry teaching hospitals.
17. Investigate other factors that could improve the practice environment for nurses that influence their level of work engagement

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Appendices

APPENDIX A

Study Timeline

Period	Year	2022												2023			
	Months	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3-9	10
STEPS/ACTIVITIES																	
PLANNING																	
Preparation of Thesis Proposal																	
Thesis Proposal Defense																	
Revised Paper Completion																	
Ethical Clearance Application																	
Application for Data Collection																	
IMPLEMENTATION																	
Distribution of Questionnaires																	
Data Collection																	
Data Processing																	
ANALYSIS																	
Data Analysis																	
Interpretations & Discussion																	
Conclusion & Recommendations																	
Preparation of Draft Manuscript																	
Adviser's Review of Thesis Manuscript																	
PRESENTATION																	
Oral Thesis Defense																	
Preparation of Final Thesis Paper																	
Submission of Final Manuscript with Copies																	
DISSEMINATION																	
Dissemination to Target Hospitals																	
Submission to Journals																	

APPENDIX B

Letter Seeking Permission to Use PES-NWI from Author

July 12, 2022

Eileen T. Lake, Ph.D., RN, FAAN

Associate Professor, Nursing

Associate Professor Department of Sociology

Associate Director of the Center for Health Outcomes and Policy Research

University of Pennsylvania School of Nursing

Philadelphia, PA 19104-6096

Re: Letter Seeking Permission to Use Survey/Questionnaire Tool

Dear Dr. Lake:

I'm Mr. MOCTHAR ABDUL ALI, from the Philippines and a Master of Arts in Nursing major in Nursing Administration student, currently enrolled in the University of the Philippines – Open University. I am currently writing my thesis entitled '*Practice Environment and Work Engagement among Nurses in selected Ministry University Hospitals in Saudi Arabia*', with my thesis adviser, Mr. Fritz Gerald Jabonete, RN, MAN.

I would like to request permission to use your Practice Environment Scale – Nurse Work Index or PES-NWI current edition (questionnaire/instrument) in my research study, as I have determined it to be the most suitable instrument for this endeavour

I am grateful to hear your feedback on my request. I can be reached at my email address- mmali@up.edu.ph. Thank you very much.

Sincerely,

Mocthar Abdul Ali, RN

MAN Student

University of the Philippines – Open University

Los Baños, Laguna, Philippines

APPENDIX C

Approval to use PES-NWI from Author



Mochtar Ali <maali@up.edu.ph>

Letter Seeking Permission to Use Survey/Questionnaire Tool

Barol, Andrea L. <ajb@nursing.upenn.edu>
To: "maali@up.edu.ph" <maali@up.edu.ph>

Tue, Jul 12, 2022 at 4:11 PM

Dear Mochtar Abdul Ali,

Thank you for your email to Dr. Lake. Enclosed, please find the instrument, scoring instructions, an article containing PES-NWI scores for ANCC Magnet hospitals from 1998 in Table 1, and a Warshawsky & Haven article you may find useful. These materials are sent to everyone who makes the request.

Dr. Lake's permission is not needed as the instrument is in the public domain due to its endorsement by the National Quality Forum in 2004 and re-endorsement in 2009: <http://www.qualityforum.org/QPS/QPSTool.aspx?m=1129&e=3>. However, if you prefer to have Dr. Lake's permission, this email serves as her permission.

Please direct any reply to Dr. Eileen Lake at elake@nursing.upenn.edu. If you need anything else, feel free to write to us again.

All the best,

Andrea Barol

Research Center Coordinator

[Quoted text hidden]

4 attachments

01_PES-NWI subscales and scoring.doc
28K

02_Practice Environment Scale of the Nursing Work Index.doc
68K

APPENDIX D

Letter Seeking Permission to Use UWES-9 from Author

July 12, 2022

Prof. Wilmar B. Schaufeli, PhD
Utrecht and Leuven University
Department of Psychology
3508 TC Utrecht

Re: Letter Seeking Permission to Use Survey/Questionnaire Tool

Dear Dr. Schaufeli:

I'm Mr. MOCTHAR ABDUL ALI, from the Philippines and a Master of Arts in Nursing major in Nursing Administration student, currently enrolled in the University of the Philippines – Open University. I am currently writing my thesis entitled '*Practice Environment and Work Engagement among Nurses in selected Ministry University Hospitals in Saudi Arabia*', with my thesis adviser, Mr. Fritz Gerald Jabonete, RN, MAN.

I would like to request permission to use your Utrecht Work Engagement Scale (UWES-9) current edition (questionnaire/instrument) in my research study, as I have determined it to be the most suitable instrument for this endeavor.

I am grateful to hear your feedback on my request. I can be reached at my email address- maali@up.edu.ph. Thank you very much.

Sincerely,

Mochtar Abdul Ali, RN
MAN Student
University of the Philippines – Open University
Los Baños, Laguna, Philippines

APPENDIX E

Approval to Use UWES-9 from Author



Mochtar Ali <maali@up.edu.ph>

Letter Seeking Permission to Use Survey/Questionnaire Tool

Schaufeli, W.B. (Wilmar) <w.schaufeli@uu.nl>
To: Mochtar Ali <maali@up.edu.ph>

Tue, Aug 2, 2022 at 3:47 PM

Dear Ali,

Thank you very much for your interest in my work.

You may use the UWES free of charge, but only for non-commercial, academic research. In case of commercial use, we should draft a contract.

Please visit my website (address below) from which the UWES can be downloaded, as well as all my publications on the subject.

Good luck with your research.

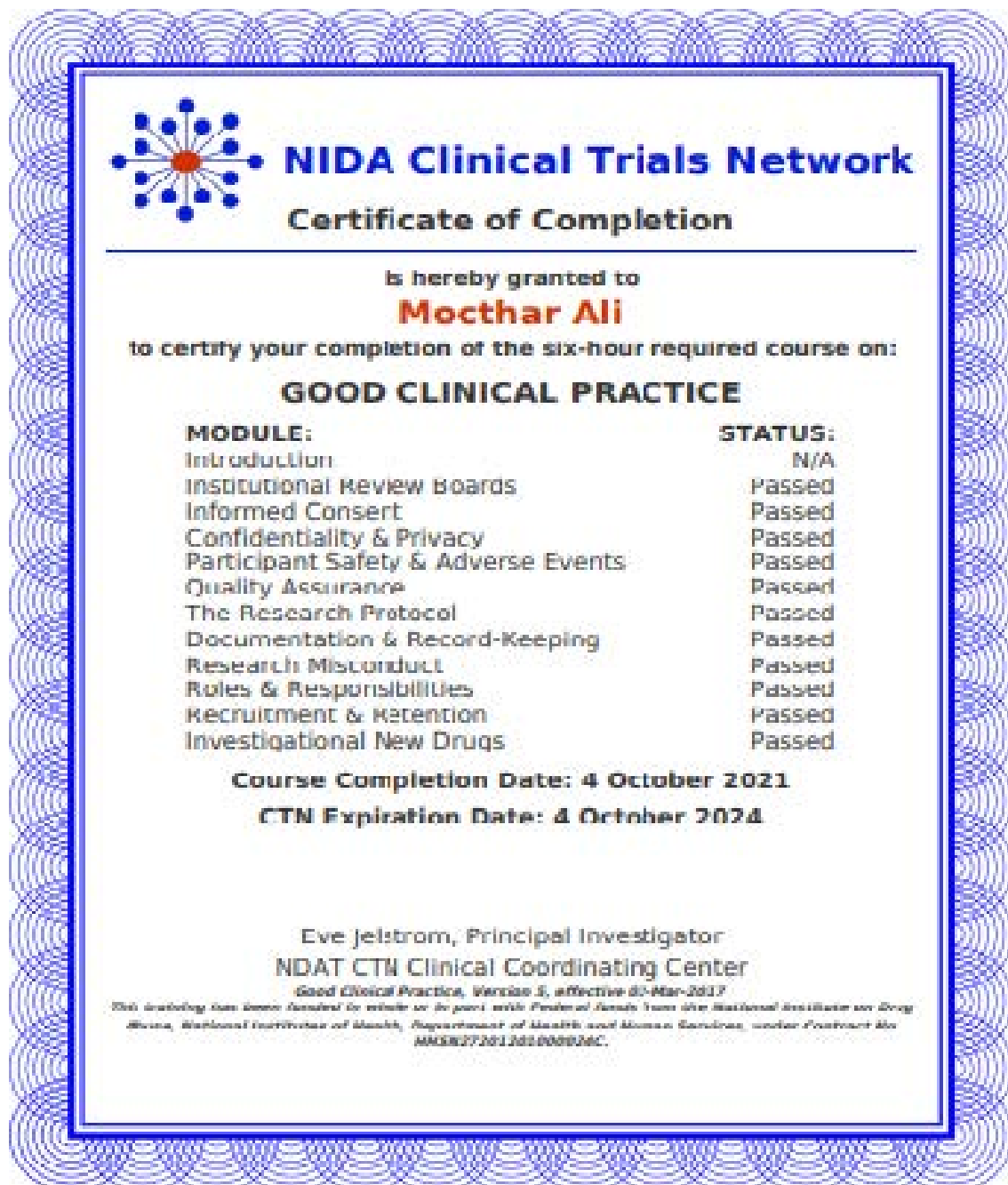
With kind regards,

Wilmar Schaufeli

Wilmar B. Schaufeli, PhD | Full Professor of Work and Organizational Psychology | *Social, Health & Organizational Psychology* | Utrecht University | P.O. Box 80.140, 3508 TC Utrecht, The Netherlands | Phone: (31) 6514 75784 | Site: www.wilmarschaufeli.nl | [citations](#)

APPENDIX F

Good Clinical Practice Certification from NIDA



APPENDIX G

KACST BIOETHICS CERTIFICATION



APPENDIX H

Letter Seeking Request for KSUMC-
KKUH, KAUH, and DUH IRB Approval

August 02, 2022

To: **King Saud University Medical City
Institutional Review Board Committee
Riyadh City, KSA**

Re: IRB Approval

To whom it may Concern:

I, MOCTHAR ABDUL ALI, currently enrolled in N300 (Thesis) in the Master of Arts in Nursing program of the University of the Philippines – Open University, would like to seek your IRB approval or ethical clearance prior to the conduct of my research data gathering among the nurses of our academic hospitals. The summary details of the research study are hereby presented:

Research Details

Study Title:	Practice Environment and Work Engagement among Nurses in Selected Ministry Academic Hospitals in Saudi Arabia.
Statement of research purpose:	1. to determine the relationship between nurse practice environment and work engagement among registered nurses in selected ministry teaching hospitals in Saudi Arabia and the role of demographic and work-related variables 2. In order to develop initiatives to improve registered nurses' practice environment and work engagement in nursing practice, which would have significant effects in Saudi Arabia and the present global health care context, nurse administrators must identify and comprehend the factors that may influence registered nurses' work engagement. 3. to be able to use the data for further study or research
Methodologies:	Descriptive, Cross-sectional, and Correlational Self-report / Survey-type – online survey based questionnaire (<i>copy attached</i>)
Participant Recruitment:	Total Enumeration of nurses from the THREE (3) selected academic hospitals who are staff nurses / senior nurses spending at least 40 hours per week in direct patient care and should provide consent to participate.
Data Collection Period:	September 01 – September 14, 2022; Questionnaire completion: 2 weeks Questionnaires will be distributed and collected during nurses' vacant time to avoid interference of services.

The survey results will be pooled and analyzed for the thesis output while individual results of this study will remain confidential and anonymous. The undersigned and the adviser will guarantee that the respondents will not be harmed nor exploited in any manner with their participation and that information gathered will not be used against them. Should this study be published, only summarized results will be documented with distribution of final

report to the study sites.

Attached with this letter are the copies of the KSUMC IRB forms, supposed survey tool questionnaires, letters addressed to the Authors of the tools to be used and their approval, Research Bioethics Certificate granted by KACST, and Good Clinical Practice Certificate granted by NIDA Clinical Trials Network.

If there are other vague conditions and matters, I would be glad to answer your queries through personal appearance or through my contact details indicated below. I would be very glad for any response. Thank you very much for your support.

Very Respectfully yours,

MOCTHAR ABDUL ALI

*Master of Arts in Nursing, Major in Nursing Administration Student
University of the Philippines - Open University
maali@up.edu.ph;*

Noted by:

FRITZ GERALD V. JABONETE, RN, MAN

Thesis Adviser

Faculty of Management and Developmental Studies

University of the Philippines - Open University; fjabonete@gmail.com

APPENDIX I

Approval Letter from KSUMC IRB/ ETHICAL CLEARANCE

Kingdom of Saudi Arabia
King Fahd University of Petroleum & Minerals
P.O. Box 3805 Dhahran 31472
Tel: +966 (11) 467 00 11
Fax: +966 (11) 467 10 00
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الموقع الإلكتروني: www.kup.edu.sa



Institutional Review Board

11 September 2022 (15 Safar 1444)

Ref. No. 22/0675/IRB

To: Mr. Mochtar Abdul Ali
Master Student
Department of Surgery Nursing
College of Nursing, King Saud University
Email: mali@ksu.edu.sa, Malib@ksu.edu.sa
Principal Investigator

Cc: Prof. Fritz Gerald V. Labonte: fabonte@gmail.com
Co-Investigator

Subject: IRB Approval of Research Project No. E-22-0668

Study Title: "Practice Environment and Work Engagement among Nurses in Selected Ministry Academic Hospitals in Saudi Arabia."

Type of Review: Expedite

Date of Approval: 11 September 2022

Date of Expiry: 11 September 2023

Dear Mr. Mochtar Abdul Ali,

I am pleased to inform you that your above-mentioned research project submitted to the IRB was reviewed and approved on 11 September 2022 (15 Safar 1444). You are now granted permission to conduct this study as approved by the IRB. Please note that this approval is for the research ethics perspective only.

As principal investigator, you are required to abide by the rules and regulations of the Kingdom of Saudi Arabia and the research policies and procedures of the KSU IRB. If you make any changes to the protocol during the period of this approval, you must submit a revised protocol for IRB approval prior to implementing the changes. This approval is only for one (1) year and shall remain valid until the expiry date noted above assuming timely and acceptable responses from the IRB's periodic requests for surveillance and monitoring information. To renew approval, please submit your request at least 30 days before the expiry date. Failure to receive approval for continuation before the expiration date will result in automatic suspension of the approval of this protocol on the expiration date. Personal identifying data should only be collected when necessary for research. Secondary disclosure of personal identifiable data is not allowed. Data should be stored securely so that a few authorized users are permitted access to the database.

We wish you success in your research and request you to keep the IRB informed about the progress of the study on a regular basis by submitting a Study Progress Report annually and a Final Report when the study has been completed. Please quote the project number and project title above in any further correspondence related to this study.

Thank you!

Sincerely yours,

Prof. Ahmad Al-Abdulmomen
Chairman IRB Sub-Committee
Health Sciences Colleges Research on Human Subjects
King Saud University – College of Medicine
Email: ahmed@ksu.edu.sa

APPENDIX J

Informed Consent

Dear **Participant**,

You are invited to participate in this survey and your contribution is greatly valued as it will help us to achieve the intended purpose of this study. The study title is Practice Environment and Work Engagement among Nurses in Selected Ministry Academic Hospitals in Saudi Arabia.

The purpose of this online survey is to determine the relationship between the practice environment and nurses' work engagement in selected ministry academic hospitals in Saudi Arabia. It will take approximately 5 minutes of your time to be completed. Your participation is completely voluntary, and you can withdraw from the research at any time.

The responses are completely anonymous and confidential, and researcher will not be able to identify participants. You will not be asked for your name or any other identifying information. We will use this collected information for the research purpose only.

Please feel free to call +96655425107 to answer your questions. Thank you very much for your time.

Respectfully yours,

Ali, Mochtar Abdul (Researcher)

Agreement on participation in this study

☐ I agree to participate in this study and I know that my response will be completely anonymous.

☐ I don't agree to participate in the study.

If you are willing to participate in this online questionnaire-based survey, please click "**Next**" to begin.

APPENDIX K

Questionnaires

PART 1 – General Characteristics

RESPONDENT'S BACKGROUND INFORMATION: Put a check mark or fill-in the necessary spaces. Please do not leave any blank entries:

Date: _____

Age: _____ (actual in years)

Sex: ☐ Male ☐ Female

Civil Status: ☐ Single ☐ Married ☐ Widowed ☐ Separated

Educational Background: ☐ Diploma in Nursing
☐ Bachelor's Degree
☐ Master's Degree (ongoing)
☐ Master's Degree (completed)
☐ Doctoral Degree (ongoing)
☐ Doctoral Degree (completed)

Name of Hospital: ☐ KCUH
☐ KAUH
☐ DUH

Length of Nursing Experience ☐ more than 6 months to under 1 year
☐ 1-5 years
☐ 6-10 years
☐ 11-15 years
☐ 16-20 years
☐ 21 years and above

Current Position: ☐ Staff Nurse I / Charge Nurse/ Team Leader
☐ Staff Nurse II
☐ Staff Nurse III

Department/ Area of Assignment: ☐ Medicine (In-Patient Care and Day Care)- e.g. General Medicine Ward, Infectious Disease, Psych, etc
☐ Surgery (In-Patient Care and Day Care)- e.g. General Surgery Ward, Pain Management, Trauma, etc
☐ Women's Health and Pediatrics (e.g. General Pediatrics, Ante and Post Natal, Labor and Delivery Room, etc)
☐ King Fahad Cardiac Center (e.g. Cardiology and Cardiac Surgery, Cath Lab, ECG, Echo, etc.)
☐ Oncology Center (e.g. Adult & Pediatric Oncology, Radiotherapy, Apheresis, etc)

- ☐ Department of Emergency Medicine (e.g. Acute Care, DEM, Resus and Pedia, Optha Emergency, etc)
- ☐ Intensive Care Units/ Critical Care (e.g. PICU, CCU, CICU, MICU, SICU, HDU/AICU, LSCC, etc)
- ☐ Operating Theatres and Procedural Areas (e.g. Main OR, ESWL, PACU, Endoscopy, Bronchoscopy, DSU, etc)
- Clinics/OPD/Ambulatory Care Services
- ☐ Support Services (e.g. Radiology, IV therapy, Wound Management, Stoma Care, Trach Care etc.)
- ☐ Others

Are you presently involved (member/officer) in any hospital, shared governance such as unit based council, specialty based council or nursing committee?

- ☐ NO
- ☐ YES

PART 2 – PRACTICE ENVIRONMENT OF NURSES

Practice Environment Scale of the Nursing Work Index (PES-NWI)

Source: Eileen T. Lake. "Development of the Practice Environment Scale of the Nursing Work Index." *Research in Nursing & Health*, May/June 2002; 25(3): 176-188.

Instruction: For each item, please indicate the extent to which you agree that the item is **PRESENT IN YOUR CURRENT JOB**. Indicate your degree of agreement by **clicking** the appropriate number.

Scoring Scale

- 1= Strongly Disagree
- 2= Disagree
- 3= Agree
- 4= Strongly Agree

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Adequate support services allow me to spend time with my patients.	1	2	3	4
2. Physicians and nurses have good working relationships	1	2	3	4
3. A supervisory staff that is supportive of the nurses.	1	2	3	4
4. Active staff development or continuing education programs for nurses.	1	2	3	4

	Strongly Disagree	Disagree	Agree	Strongly Agree
5. Career development/clinical ladder opportunity.	1	2	3	4
6. Opportunity for staff nurses to participate in policy decisions.	1	2	3	4
7. Supervisors use mistakes as learning opportunities, not criticism.	1	2	3	4
8. Enough time and opportunity to discuss patient care problems with other nurses	1	2	3	4
9. Enough registered nurses to provide quality patient care.	1	2	3	4
10. A nurse manager who is a good manager and leader.	1	2	3	4
11. A chief nursing officer who is highly visible and accessible to staff	1	2	3	4
12. Enough staff to get the work done	1	2	3	4
13. Praise and recognition for a job well done.	1	2	3	4
14. High standards of nursing care are expected by the administration	1	2	3	4
15. A chief nursing officer equal in power and authority to other top-level hospital executives	1	2	3	4
16. A lot of team work between nurses and physicians.	1	2	3	4
17. Opportunities for advancement.	1	2	3	4
18. A clear philosophy of nursing that pervades the patient care environment.	1	2	3	4
19. Working with nurses who are clinically competent.	1	2	3	4
20. A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician.	1	2	3	4
21. Administration that listens and responds to employee concerns.	1	2	3	4
22. An active quality assurance program.	1	2	3	4
23. Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).	1	2	3	4
24. Collaboration (joint practice) between nurses and physicians.	1	2	3	4
25. A preceptor program for newly hired RNs	1	2	3	4
26. Nursing care is based on a nursing, rather than a medical, model.	1	2	3	4
27. Staff nurses have the opportunity to serve on hospital and nursing committees.	1	2	3	4
28. Nursing administrators consult with staff on daily problems and procedures	1	2	3	4

APPENDIX L

Financial Summary and Line-Item Budget

PARTICULARS	Unit	Cost	Quantity	TOTAL
General Personal Services				
Statistician	service	₹5,000.00	1	₹ 5,000.00
Grammarian	service	₹6,500.00	2	₹6,500.00
Operating and Other Expenses				
Travelling Expenses	Back & forth	₹6,660.00		₹ 6,600.00
Internet (Mobily Fiberoptic)	monthly	₹1,690.50	3	₹ 5,071.50
Printer (Canon Pixma)	MG2540S	₹2,205.00	1	₹ 2,205.00
Canon Printer Ink (Color and Black XL)	Cartridge	₹2,131.20	1	₹ 2,131.20
Bond Papers A4 (ROCO)	sheets	₹ 584.60	1	₹ 584.60
Other Incidental Expenses				₹ 3,500.00
GRAND TOTAL				₹ 31,592.3