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The effect of work environment on the job performance among nurses at Makkah City, Saudi Arabia

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Abstract---Background: Nurses represent the most significant proportion of health care professionals. Nurses work in different healthcare organisations and play a vital role in improving healthcare quality. The healthy nursing practice environments are significant to recruiting and retaining nursing professionals in in Saudi Arabia, because the country facing a critical nursing shortage. Nurses are generally eager to have a healthy work environment that provides them with a sense of worth, and a favourable work environment means better hospital performance. In this regard, it is essential to study the factors influencing nurses' job performance. Aim: To determine the effect of the work environment on the job performance of nurses working in selected hospitals in Makkah, Saudi Arabia. Design: This study employed a quantitative, descriptive, cross-sectional research design to assess the effect of the work environment on nurses' job performance. Sample: The convenience sampling method was chosen to collect and analyse the data from professional nurses who have worked for at least six months in the selected hospitals, from King Faisal Hospital and King Abdulaziz Hospital in the Makkah region of Saudi Arabia. The total resultant sample size equalled 516 global respondents, of which 437, with a response rate =

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(of 84.68%) completed the entire survey as requested. Tools: electronic questionnaire in the English language was used in this study; it was composed of 3 parts; demographic data, the Practice Environment Scale of the Nursing Work Index (PES-NWI) to assess the nursing work environment, and the Individual Work Performance Questionnaire (IWPQ) to examine the nurses' job performance. Results: the result demonstrated a significant positive correlation between the nursing practice environment and nurses' job performance, where r=0.098 and P-value < 0.05. The overall PES-NWI score increased the IWPQ overall score (*r*: 0.098, $p < .05$). Also, the results revealed that two PES-NWI subscales positively correlated with the IWPQ scale; they were 'Staffing and Resource Adequacy' (r=.095, p=.048) and 'Nurse Participation in Hospital Affairs' (r=.105, p=.029). The effects of PES-NWI and its subscales on the IWPQ were investigated using multiple linear regression analysis; the Nurse Participation in Hospital Affairs had a statistically significant effect, F= 4.827, p < .05, and it contributed positively (B = .105) to the overall IWPQ score, and it is accounting for 10.50% of the total variance on the IWPQ. Conclusion: The current study concluded that nurses were working in unfavourable practice environments, and they perceived themselves to have low levels of job performance. In context with the previous literature findings, the current study results indicated that a healthy nursing practice environment had an increasing impact on the nurses' job performance. Recommendations: The current study recommended that hospital administrators and nursing managers pay careful attention to the nursing practice environment to improve job performance among nurses, contributing to the appreciation for the organisation.

***Keywords*---**nursing practice environment, work environment, job performance, PES-NWI, IWPQ.

Introduction

Healthcare is a human right, and people's health is a national priority. The healthcare system comprises organizations, institutions, and resources devoted to producing health actions, saddled with providing quality healthcare services to improve and maintain health (White, 2015). However, to attain these responsibilities of effective healthcare delivery, the performance levels of healthcare professionals play a very crucial role. (Leggat et al., 2011). One member of the healthcare workforce that plays an essential role in achieving these goals is the nurses. Nurses' job performance is like the engine room for attaining successful healthcare delivery in the healthcare system (Tong, 2018) because they directly interact with patients and are forefront in providing medical nursing care (Bhatti et al., 2018). Studies have shown that job performance positively impacts patient care satisfaction and patients' health outcomes in the healthcare sector (Bhatti et al., 2018; Kolawole & Ali, 2013). Therefore, for a healthcare organization to be very successful, it must focus on the importance of healthcare services around patients' needs and the job performance of its healthcare professionals.

An excellent job performance from Nurses will lead to better patients' health outcomes, drastically decrease costs and increase profit. On the other hand, a poor performance will result in several unwanted consequences and an eventual poor healthcare service delivery (Kolawole & Ali, 2013). Therefore, governmental bodies and healthcare management need to ensure that top-quality nurses' performance is top to sustain the quality of healthcare delivery in the healthcare system. Several factors can affect job performance ranging from physical, cognitive, and emotional demands to individual, work-related, and family-related stressors to job, organizational, social, and individual resources (Pandey, 2019). This study will aim to evaluate the effect of the work environment on nurses' job performance.

Research problem

Saudi Arabia's health authorities continue to be challenged with nurse shortages and high turnover rates within healthcare organisations. One of the Ministry of Health's goals is to promote nursing as a viable profession that many individuals can pursue; improving nurse retention rates and patient care requires a healthy practice environment to fulfil Vision 2030 in Saudi Arabia (Alluhidan et al., 2020). According to The World Health Organization, there is a worldwide shortage of health professionals, especially nurses and midwives, who account for more than 50 per cent of the current shortage. WHO estimated that the world would need an extra 9 million nursing and midwifery professionals by 2030 (WHO, 2022). In 2018, the Kingdom of Saudi Arabia employed 184,565 nurses. However, only 70,319 (about 38 per cent) were Saudi nationals (MOH, 2018), which means 5.5 nurses/per 1,000 populations (The Saudi Health Council, 2019), which is almost half that of other high-income countries where the average availability is 8.24 nurses/1,000 people (OECD, 2020). Nurses are the cornerstone of medical care, so nursing leaders should develop and sustain a safe work environment that encourages and enables nurses to reduce turnover and improve organisational participation. Among the factors that have raised the cost of Saudi healthcare is the shortage of health staff (Falatah & Salem, 2018).

Staff reductions have also led to significant human resources management and public health problems (Alshareef et al., 2020). There is a rising concern in Saudi Arabia about nurses leaving the profession due to the Saudi health system's lack of personnel and expertise (Falatah & Salem, 2018). Concerning the shortage of nurses, the current issues facing healthcare facilities require managers and leaders to learn from various leadership styles and employee empowerment strategies in order to build a work environment that encourages the commitment of nursing staff to patients and their organisation (Asiri et al., 2016). However, Healthy nursing practice environments are significant to recruiting and retaining nursing professionals in Saudi Arabia because the country facing critical nursing shortages (Alluhidan et al., 2020). Nurses are generally eager to have a healthy work environment that provides them with a sense of worth, and a positive organisational environment means better hospital performance (Berberoglu, 2018). With the current health challenges, the present study may allow policymakers to understand the relationship between nurses' work environment and job performance. In accordance with the Saudi Ministry of Health's plans, the project to improve the health sector's working environment has a significant

impact on addressing one of the nurses' obstacles to improving patient care quality: the low ratio of nurses to rising population levels (Almadani et al., 2020). Therefore, there is a need to establish a healthy work environment in the current global health care settings to enhance nurses' satisfaction, productivity and performance (Kowalski et al., 2020).

Significance of the study in general

This study will provide literature knowledge and more understanding of the effect of the work environment on the job performances of nurses in general. This study will shed light on the nursing profession and its working conditions in Saudi Arabia. It will discuss challenges nurses face while working to furnish healthcare management with the needed information on the variable that affects their employees' working environment to devise ways to solve them, thereby improving the healthcare workers' productivity and consequently revitalizing the healthcare system in the country. However, there is insufficient evidence in the literature regarding the effect of the work environment on nurses' job performance. Also, according to prior knowledge, there was a lack of recent evidence in Saudi Arabia about the relationship between the work environment and nurses' job performance. The high nurse turnover is one of the threatening problems the administration faces nowadays.

Significance of the study to nursing practice

The result of the present study will provide a better understanding of the effect of the work environment on the job performances of nurses. This knowledge can be obtained and executed within healthcare systems to improve the work environment for nurses leading to better management and upgrade of the nursing work environment and facilities and lower levels of job dissatisfaction and burnout, which will subsequently improve the productivity of the nursing practice. Assessing the current nurses' levels of job performance and its related factors could help policymakers in health organizations to develop strategies to improve nurses' performance and develop a magnet work environment to retain and recruit Saudi nurses. This study will enable Saudi Arabia to achieve "The Gold Standard" in nursing practice, as stated in Saudi Vision 2030, to improve the nursing working environment to retain and encourage nurses to provide their best performance at work.

Aim and objectives

- Research question: What is the effect of the work environment on nurses' job performance in the governmental hospitals in Makkah city?
- Aim of the study: The present study aims to determine the effect of the work environment on the job performance of nurses working in selected hospitals in Makkah, Saudi Arabia.

Study objectives

- To identify the factors that affect nurses' job performance in King Faisal Hospital and King Abdulaziz hospital in Makkah, Saudi Arabia, during the time of the study.
- To examine the perceptions of the work performance among Registered Nurses.
- To explore the correlation existing between hospital environment and nurses' job performance.

Definition of Research Keywords
Work environment

Lake (2002) defined work environment as "the organisational characteristics of a work setting that facilitate or constrain professional nursing practice" (Lake, 2002) p. 178).

Healthy work environment

A healthy workplace for nurses is safe, empowering, and fulfilling (Wei et al., 2018). A safe and healthy environment is favourable to consistent peak performance and is continuously enhanced (Hassan, 2005).

Nursing practice environment

The nursing practice environment is described as the organisational elements of a work environment that enable or restrict professional nursing practice (Lake, 2002). The nursing practice environment is challenging to describe and quantify. Sociology of organisations, occupations, and work is its theoretical basis (Weber, 1952).

Job performance

Employee performance is the predicted value to the organisation of the individual behavioural actions in which an employee engages over a specific period (Mereish, 2020).

Individual work performance

Campbell (1990) defined individual work performance as "*behaviours or actions that are relevant to the goals of the organisation*" (Campbell, 1990)

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

A practice environment scale with subscales representing diverse nursing practice environment domains. It aims to provide reference values for the organisational elements of a work environment that either facilitate or restrict the professional nursing practice. In addition, to provide measurements appropriate for outcomes research models connecting the nursing practice environment with nurse and patient outcomes (Lake, 2002).

Individual Work Performance Questionnaire (IWPQ)

It is a brief measurement designed to measure individual work performance in a broad working population ultimately. Thus, it is appropriate for research projects involving either workers from a particular type of occupation or workers from several occupations (Koopmans, 2015).

Methodology

- Introduction: This chapter intends to address the method used to determine the effect of the work environment on the job performance of nurses working in selected hospitals in Makkah, Saudi Arabia. This study emphasized gaps in research related to the factors related to nurses' job performance and the impact of the work environment on job performance. In the present study, the target population is professional nurses in the different departments of King Faisal Hospital and King Abdulaziz Hospital, all located in Makkah, Saudi Arabia.
- Research Approach: This study aimed to determine the effect of the work environment on the job performance of nurses working in selected hospitals in Makkah, Saudi Arabia. The research addresses the research problem and purpose through the quantitative method. The research objectives which directed this study were as follows:
  - To identify the factors that affect nurses' job performance in King Faisal Hospital and King Abdulaziz hospital in Makkah, Saudi Arabia.
  - To examine the perceptions of the work performance among Registered Nurses.
  - To explore the correlation between hospital environment and nurses' job performance.

Bryman (2017) stated that quantitative research involves numerical data or transforming numerical data into statistical numbers, subsequently utilised to evaluate an issue. Also, the quantitative approach analyses and formulates conclusions and hypotheses using quantitative data (Bryman, 2017). The researchers used a deductive methodology in this approach. This scientific technique follows a predetermined series of steps, beginning with a problem description and concluding with its resolution. (Boswell & Cannon, 2017). A quantitative design was used to collect data in this study to answer the research question 'What is the effect of the work environment on nurses' job performance in the governmental hospitals in Makkah city?'.

However, Boswell & Cannon (2017) indicated that quantitative designs could be experimental, non-experimental, or quasi-experimental. The current research design is the non-experimental design used to "observe, describe, and document features of a scenario as they occur naturally, and occasionally provide a starting point for hypothesis formation or theory construction" (Polit & Beck, 2017). The significant distinction for both qualitative and quantitative researchers is between cross-sectional and longitudinal designs (Polit & Beck, 2017). The cross-sectional design measures the present situation; it does not investigate the past or the future. (Boswell & Cannon, 2017). According to Polit & Beck (2017), "Cross-

sectional studies are appropriate for describing the status of phenomena or for describing relationships among phenomena at a fixed point in time."

Strength and Weakness of Quantitative studies

Quantitative studies commonly contain a larger, randomly selected sample collected on a large scale, resulting in a more accurate representation of population data (McCusker & Gunaydin, 2015). Studies in the quantitative approach are often using surveys to collect data to assess a particular phenomenon. Most survey research is cross-sectional, which indicates that all data are collected and measured simultaneously (Melnyk & Fineout-Overholt, 2019). Rapid data gathering and adaptability are significant advantages of quantitative research utilising surveys. Also, quantitative studies can use various variables (Préfontaine et al., 2016). Furthermore, the data gathering can be managed using digital or mobile surveys, allowing broad interviews to be conducted simultaneously across several nations, making them quicker and simpler to conduct (Mander, 2017).

Furthermore, it is likely that the quantitative results can be generalised to a whole population or subpopulation. In addition to sampling, data analysis requires less time because it utilises statistical tools like Statistical Package for the Social Sciences (SPSS) (Rahman, 2020), and the results are represented in charts, tables, and other graphical methods (McCusker & Gunaydin, 2015). Also, it is more cost-effective, as the cost of doing a quantitative survey is frequently much less than conducting a qualitative interview (Mander, 2017). Despite the advantages as mentioned above, quantitative research has disadvantages too. The research paradigm perspective does not reveal deeper meanings and explanations (Bouwer et al., 2015). Furthermore, the quantitative approach has the drawback of data changing over time (Bryman, 2017). Limited response rates and superficial data collection are two of the disadvantages of this type of study design (Melnyk & Fineout-Overholt, 2019).

Research Design

This study employed a quantitative, descriptive, cross-sectional research design to assess the effect of the work environment on nurses' job performance. Descriptive research provides a reasonably accurate representation of the current state of affairs. Allows for the formulation of new research topics. In addition, cross-sectional research enables the testing of hypothesised correlations between variables and the development of predictions. Moreover, cross-sectional designs allow the rapid discovery of many relationships between variables (Bryman, 2017; McCusker & Gunaydin, 2015). In cross-sectional designs, data are gathered at a single time point. Therefore, the cross-sectional design is suitable for characterising occurrences at a fixed place, and it is cost-effective and straightforward to manage (Polit & Beck, 2017).

Instrument of Data Collection

A descriptive modified online questionnaire in the English language was used in this study. The questionnaire takes between 15-20 minutes to complete and comprises three parts with standardized measuring scales.

Demographics Questionnaire

The researchers developed the first tool to collect demographic data about the nurses**.** The demographics questionnaire included typical demographic questions such as (age, gender, marital status, education level, total experience, department/unit, and work institution).

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

The second part was adopted from Lake 2002, who developed the Practice Environment Scale of the Nursing Work Index (PES-NWI) is commonly used to evaluate nursing work environments; the permission to use the tool is not needed because it is in the public domain, but the permission was taken from the research centre coordinator of the University of Pennsylvania school of nursing through an e-mail. It is consists of thirty-one items and five subscales, as follows: nurse participation in hospital affairs (items 5, 6, 11, 15, 17, 21, 23, 27, 28), nursing foundations for quality of care (items 4, 14, 18, 19, 22, 25, 26, 29–31), nurse manager ability, leadership, and support of nurses (items 3, 7, 10, 13, 20), staffing and resource adequacy (items 1, 8, 9, 12), and collegial nurse-physician relations (items 2, 16, 24). The four-point, Likert-type scale ranges from (4) strongly agree, (3) agree, (2) disagree and (1) strongly disagree. Prior to analysis, the responses must be reverse-coded so that higher scores imply an ideal practice environment and vice versa. The PES-NWI was used in various international literature such as in Japan (Ogata et al., 2021), Turkey (Sarıköse & Göktepe, 2022), the Philippines (Javier, 2019), the USA (Nunez et al., 2021) and in Saudi Arabia (Ambani et al., 2020). In addition, the PES-NWI has been evaluated for its validity and reliability, and an excellent internal consistency for composite and subscales is noted in a recent study from the USA (Nunez et al., 2021). Moreover, an earlier study by Ogata et al. (2018) found that the PES-NWI was shown to have acceptable internal consistency and reliability.

Individual Work Performance Questionnaire (IWPQ)

In contrast, in the third part, the tool was an updated version of the Individual Work Performance Questionnaire (IWPQ) used to measure nurses' work performance, the instrument developed by Koopmans et al. (2011), and permission to use the tool was taken from the developer through an e-mail. The tool is composed of 18 items and is designed to assess three significant aspects of job performance: task performance (five items), contextual performance (eight items), and counterproductive work behaviour (five items). Each item was evaluated and represented by a five-point Likert scale on the basis of previous findings (Sanchez-Gomez & Breso, 2020): Task performance (five items) and Contextual performance (eight items): (0 = seldom to 4 = always) Counterproductive work behaviour (five items): 0 = never to 4 = often). The IWPQ

was used in various international literature such as Malaysia (Khairuddin et al., 2019), Spain (Sanchez-Gomez, 2021), Jordan (Mereish, 2020), and Saudi Arabia (Alonazi, 2020) and South Africa (De Coning, 2020). In addition, the instrument has been tested and validated based on published research by Koopmans et al. (2014); their study's findings indicate an acceptable construct validity of the IWPQ.

Instrument Validity and Reliability

Since the IWPQ and PES-NWI scales were used in their intended format without modification, no field testing of the instrument was needed since the instruments have been tested and validated based on published research by Lake (2002) and Koopmans et al. (2011). Regarding the reliability coefficient for IWPQ and PES-NWI with its subscales have been calculated by using Cronbach's alpha, with good internal consistency scores demonstrated. The reliability statistic test (Cronbach's Alpha) for the PES-NWI of the current study can be regarded as very large, and it means that the scale items were consistent with each other, which indicates that the scale is very reliable. In addition, the Guttman Split-Half coefficient was found to be high in the split-test reliability analyses of the PES-NWI Scale. These findings indicated that the scale has acceptable internal consistency and is a reliable scale. The reliability statistic test (Cronbach's Alpha) for the IWPQ of the current study can be regarded as very large, and it means that the scale items were consistent with each other, indicating that the scale is very reliable. In addition, the Guttman Split-Half coefficient was found to be high in the split-test reliability analyses of the IWPQ Scale. These findings indicated that the scale has acceptable internal consistency and is a reliable scale.

Pilot Study

The pilot study's purpose was to ascertain the clarity, applicability, and time needed to fill in the questionnaire. A pilot study was carried out on 50 nurses, around 10% of the study participant. Based on the pilot results, unclear items were clarified. Those who participated in the pilot study were not included in the study sample.

Research Setting

The city of Makkah was chosen for this research. The city has a large population (1,323,624) (GeoNames, 2021), and many international nurses and Saudi nurses work in Makkah city. The study data was collected from nurses who work in two major public hospitals, King Faisal Hospital and King Abdulaziz Hospital, in the Makkah region, Saudi Arabia. King Abdulaziz in the Holy Capital (Makkah): King Abdulaziz Hospital in Makkah has obtained the certificate of the Saudi Center for Accreditation of Health Institutions (CBAHI) for the year 2019. The hospital is strategically located and is considered one of the largest medical complexes in the central region. The bed capacity of King Abdulaziz Hospital is (300 beds), which contributes to providing distinguished medical services to the residents of Makkah Al-Mukarramah and the pilgrims and Umrah pilgrims (KAAH, 2022). King Faisal Hospital in the Holy Capital (Makkah): King Faisal Hospital in the Holy Capital (Makkah) is located at Prince Majed Ibn Abd Al Aziz, Al Maabdah,

Mecca 24236, Saudi Arabia. It has a 228-bed capacity and provides high-quality health and therapeutic services through 1,180 staff members of different medical, technical, nursing, and administrative specialities. The hospital has five specialized clinics: ENT, eyes, fractures, EEG, and dressing. In addition, the operation section performs general surgeries, endoscopy, neurosurgery, orthopaedic surgery, emergency surgeries for all specialities, and one-day surgery. The emergency section features 54 beds, including 28 for artificial kidney patients and 36 ICU patients (MOH, 2019).

Research Population

The population of interest for this study was composed of female and male nurses employed within two selected hospitals, Makkah, Saudi Arabia.

Targeted Population

The target population consisted of all available nurses working in King Faisal Hospital and King Abdulaziz Hospital in the Makkah region, Saudi Arabia., during the time of the study. The inclusion criteria involved experienced professional nurses who have worked for at least six months in the selected hospitals, have freely given their consent to participate in the study, and speak English. Healthcare professionals who are not nurses, nurses who worked less than six months in the selected hospitals, nurses who did not give their consent, and those who do not speak English will be excluded.

Sample Size

In this study, the confidence interval used was a margin of error is 3% and a 95% Confidence level. The total population was 998 nurses, calculated by the sum of n= 474 for King Faisal Hospital and n= 524 for King Abdulaziz Hospital. The sample size was calculated using an online calculator (Medallia, 2021) using this formula by Kerjcie and Morgan (1970): $s = \frac{x^2 N_P (1-P)}{\mathrm{d}^2 (N-1)} + x^2 p(1-p)$ (Krejcie & Morgan, 1970), this will reveal a total sample size of 516 nurses was sampled as primary research participants

Sampling method

A vital shortcoming of the non-probability sampling method is that samples would not be representative of probability sampling (Polit & Beck, 2017). Since such samples are usually easier to obtain, nonprobability sampling techniques are more commonly used in nursing. The most commonly used nonprobability sampling methods are convenience sampling, quota sampling, purposive sampling, snowball sampling, and theoretic sampling (Boswell & Cannon, 2017; Polit & Beck, 2017). The convenience sampling method was chosen to collect and analyse the data from professional nurses who have worked for at least six months in the selected hospitals, from King Faisal Hospital and King Abdulaziz Hospital in the Makkah region, Saudi Arabia. Convenience sampling is the method of selecting people for inclusion in a sample conveniently based on their availability. It has also known as accidental sampling, and it is the easiest and

least representative of all the sampling techniques. It is also the most commonly used sampling strategy in nursing research studies (Boswell & Cannon, 2017). The concern with the convenience sampling method is that available participants might not be representative of the population in terms of key variables (Polit & Beck, 2017).

Recruitment method

Participants were recruited for the study using an online invitation through emails and WhatsApp groups using their organization's electronic mail system.

Data Analysis Method

The data was reviewed, coded and entered into an Excel file and transferred to SPSS version 25 for further analysis.

- Descriptive statistics, including frequency, distribution, mean and standard deviation used to describe different characteristics.
- Inferential statistics, including an unpaired t-test or one-way ANOVA used for normally distributed data for comparisons between groups.
- The Pearson Chi-square test was used to explore the statistical differences between the categorical variables at the 5% significance level.
- The Spearman correlation was applied for continuous variables relationship analysis, while the multiple linear (stepwise) regression was used to determine how the work environment affects nurses' job performance.

Ethical and Administrative Consideration

Pertinent committee approved the study protocol. Permission to conduct the study was obtained from the Research Ethics Committee at the Ministry of Health from the Directorate of Health Affairs in Makkah Al Mukarramah, Saudi Arabia, (Research approval request form, RS-MOH Data Share Agreement, Non-Disclosure Agreement, and Minimal Risk Informed Consent)**.** The approval from the Institutional Review Board (IRB) in the two hospitals was obtained for the data collection. The researchers published the link to the electronic questionnaire through emails and WhatsApp groups and a covering letter explaining the ethical considerations and the purpose of the study and the right to accept or refuse to participate. All participants' dignity, confidentiality, and right to autonomy were upheld. In addition, the researchers included ethical handling considerations: risk-benefit assessment, participant selection, the vulnerability of nurses as a population, and informed consent.

Consent was gained by the participants by the completion of the questionnaire. Contact details for the researchers are attached. The participants' anonymity was provided in two ways: they were asked not to put their names on the questionnaire; all information remained confidential. Besides, they were reassured that participation in this study was voluntary. Also, they were informed that they could withdraw from the study at any time if they wished not to complete it. Confidentiality and privacy were maintained by data coding to eliminate identifying data with personal information. The data was reviewed,

coded and entered into an Excel file and transferred to SPSS version 25 for further analysis. The data collection was employed from the twenty-eight of March until the ten of April 2022 (see Table 2.1).

Table 2.1
Timeline Table used to conduct this study within Five months

STEPS	PERIOD
Searching, gathering the data from the internet, databases and libraries, and then writing the literature review for the proposal.	Four weeks From: January 16, 2022 Up to: February 08, 2022
Researchers obtained ethical approval.	Six weeks From February 13, 2022 Up to March 23, 2022
Pilot Study, Gather the data collection and recording.	Three weeks From: March 28, 2022 Up to April 10, 2022
Analysis and Interpret research result.	One weeks From: April 10, 2022 Up to April 16, 2022
Final report writing, discussion and conclusion.	Five weeks From: April 16, 2022 Up to May 28, 2022

Data collection method

The Ministry of Health's research committees from the Directorate of Health Affairs in Makkah were contacted for project permission before data collection. Once the research committee had approved the data collection protocol, the researchers meet the Executive Nursing Directors of the chosen settings (King Faisal Hospital and King Abdulaziz Hospital) seeking participation in the study. In addition, E-mails and WhatsApp messages were used to distribute the link through the Executive Nursing Directors in the hospitals. Individuals were asked to provide informed consent at the start of the survey, following which they were asked to complete a series of questions, including demographics and the remaining two scales. Data for all respondents were collected using Google Forms and sent to the researchers in an SPSS-compatible Excel file. Participants were self-selected to engage in the study by clicking on the link in the invitation to participate in the Google forms. The participant was directed to the first section of the survey and then to each next part after reading and agreeing to an online consent form that describes the research aims and states the participant's rights. Nurses were recruited into the Google Form respondent pool for this study, and they represented a diverse group of people. The researchers used a personal Google account to do the survey.

Results

Introduction: This will describe the statistical analysis of the quantitative data from a convenience sample of four hundred and thirty-seven nurses from King Faisal and King Abdulaziz Hospital at Makkah. The research instrument utilized

in this study was composed of the Environment Scale of the Nursing Work Index (PES-NWI) and Individual Work Performance Questionnaire (IWPQ). The data were analysed using the Statistical Package for the Social Sciences (SPSS), Version 25. The statistical analyses of the study were divided into two main processes: the first process sought descriptive statistics such as measures of frequency, mean, and standard deviation for each item of the two scales and the overall PES-NWI and IWPQ scores of the subjects. The second process of the statistical analyses included inferential statistics, whereby the analysis of variance (ANOVA) and t-tests were utilized to identify differences in PES-NWI and IWPQ scales' scores between participants. Furthermore, the correlation coefficient to identify the relationship between the IWPQ and PES-NWI. Finally, the linear regression analysis was run to explore the effects of PES-NWI and its subscales on the scores the nurses obtained from the IWPQ.

Descriptive Statistics
Personal and professional characteristics

The participants in this research were nurses of the different levels of age, gender, nationalities, level of education, marital status, working departments and experience who worked at two public hospitals in Makkah, Saudi Arabia, King Faisal Hospital in Makkah, whilst (49.2%) from King Abdul-Aziz Hospital in Makkah . The total resultant sample size equalled (516) global respondents, of which (437), with a response rate = of (84.68%) completed the entire survey as requested. As the table 3.1 shown, more than half (54.5%) of the participants were in the age group between (30 to 40 years old), the majority (72.8%) of nurses were females, and more than two-thirds (62%) of them were Saudis, more than half (53.15%) of nurses held a Bachelor of Science in nursing, more than half (55.4%) of nurses were married. Also, the table presents that (19.2%) of the participants were working in the emergency department, (14.2%) of nurses were working in the operation room, (14%) were working in the surgical department, and (13%) were working in the intensive care unit. Furthermore, (50.8%) of the participants came from King Faisal Hospital in Makkah, whilst (49.2%) came from King Abdul-Aziz Hospital. The table demonstrates that (43%) of nurses had between five- and ten years of experience, and 33.2% reported that they had between ten and fifteen years of experience in their respective hospitals.

Table 3.1
The sample distribution regarding demographic data (N = 437)

Demographic characteristics		**N**	**%**
Age	<30	116	26.5
	30-40	238	54.5
	40-50	76	17.4
	>50	7	1.6
Sex	Female	318	72.8
	Male	119	27.2
Nationality	Saudi	271	62.0
	Non- Saudi	166	38.0
Education level	Nurse Aide	15	3.4

Demographic characteristics		N	%
	Diploma of Science in Nursing	167	38.2
	Bachelor of Science in Nursing	232	53.1
	Master of Science in Nursing	23	5.3
Marital Status	Single	133	30.4
	Married	242	55.4
	Divorced	62	14.2
Department/Unit	Emergency Department	84	19.2
	Out-Patient Department	47	10.8
	Hemodialysis Unit	37	8.5
	Endoscopy Unit	6	1.4
	Intensive care unit	57	13.0
	Operation Room	62	14.2
	Surgical Department	61	14.0
	Medical Department	51	11.7
	Neurology Department	10	2.3
	Nursing Administration	11	2.5
	Nursing office	4	.9
	Other	7	1.6
Work institution	King Abdul-Aziz Hospital in Makkah	215	49.2
	King Faisal Hospital in Makkah	222	50.8
Years of Experience.	<5	62	14.2
	5-10	188	43.0
	10-15	145	33.2
	>15	42	9.6

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

Regarding the reliability statistics for the PES-NWI scale. The reliability test (Cronbach's Alpha) for the PES-NWI dimensions ranged from 0.788 to 0.897. The total reliability statistic for the PES-NWI of the current study was 0.92. The value is .920 and can be regarded as very large, and it means that the scale items were consistent with each other, indicating that the scale is very reliable. The Guttman Split-Half coefficient (0.87) was found to be high in the split-test reliability analyses of the PES-NWI Scale. Table 3.2 presents the construct validity of the PES–NWI illustrated high construct validity as all items had substantially higher correlations with their intended domains ranging between (0.768* to 0.834*) at $p<0.001$. These findings indicated that the scale has acceptable internal consistency and is a reliable scale.

Table 3.2
The correlation Coefficient between Total PES-NWI and its subscales for Validity

Subscales	Total PES–NWI	
	r	P-value
Nurse Participation in Hospital Affairs	0.806	<0.001
Nursing Foundations for Quality of Care	0.779	<0.001
Nurse Manager Ability, Leadership, and Support of Nurses	0.834	<0.001
Staffing and Resource Adequacy	0.815	<0.001
Collegial Nurse–Physician Relations	0.768	<0.001

Responses reflecting Nurse Participation in Practice Environment Scale of the Nursing Work Index (PES-NWI)

- Table 3.3 revealed that the highest percentage (62.3%) under the agreement went to item 6: "Opportunity for staff nurses to participate in policy decisions". Also, the table shows that the item with the lowest percentage of agreement (8.7%) fell to item 11: "A chief nursing officer who is highly visible and accessible to staff"
- Regarding Nursing Foundations for Quality of Care found that revealed that the highest percentage under the agreement (43.9%) fell to item 31: "Use of nursing diagnoses". Also, the table shows that the item with the lowest percentage of agreement (9.4%) went to item 25: "A preceptor program for newly hired RNs."
- Regarding the Nurse Manager Ability, Leadership, and Support of Nurse show illustrates item 13: "Praise and recognition for a job well done". Got the highest percentage of the agreement (36.6%). Also, the table shows that the item with the lowest percentage of agreement (21.7%) fell to item 10: "A nurse manager who is a good manager and leader."
- Regarding Staffing and Resource Adequacy show that reveals that the highest percentage under the agreement (41.6%) went to item 12: "Enough staff to get the work done.". Also, the table shows that the item with the lowest percentage of agreement (14.6%) fell to item1: "Adequate support services allow me to spend time with my patients".
- Regarding Collegial Nurse–Physician Relations shows that item 2: "Physicians and nurses have good working relationships," Got the highest percentage of the agreement (25.9%), and the item with the lowest percentage of agreement (17.4%) fell to item 24: "Collaboration (joint practice) between nurses and physicians."

Table 3.3
Responses reflecting Nurse Participation in Hospital Affairs' items, Nursing Foundations for Quality of Care' items, Nurse Manager Ability, Leadership, and Support of Nurses' items, Staffing and Resource Adequacy items, and Collegial Nurse–Physician Relations items in our study (n=437)

		Strongly disagree	Disagree	Agree	Strongly agree	% of agreement	Chi-square	
		%	%	%	%		X^2	P
Nurse Participation in Hospital Affairs items								
5	Career development/clinical ladder opportunity	25.90%	50.30%	21.10%	2.70%	23.80%	201.69	<0.001*
6	Opportunity for staff nurses to participate in policy decisions.	9.40%	28.40%	35.50%	26.80%	62.30%	64.33	<0.001*
11	A chief nursing officer who is highly visible and accessible to staff	42.10%	49.20%	6.20%	2.50%	8.70%	303.78	<0.001*
15	A chief nurse officer equal in power and authority to other top level hospital executives	42.30%	48.50%	6.90%	2.30%	9.20%	296.81	<0.001*
17	Opportunities for advancement	27.70%	51.30%	18.10%	3.00%	21.10%	214.96	<0.001*
21	Administration that listens and responds to employee concerns	25.20%	53.50%	17.20%	4.10%	21.30%	229.4	<0.001*
23	Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).	19.90%	31.60%	35.20%	13.30%	48.50%	54.46	<0.001*
27	Staff nurses have the opportunity to serve on hospital and nursing committees.	19.00%	31.10%	35.20%	14.60%	49.80%	49.92	<0.001*
28	Nursing administrators consult with staff on daily problems and procedures.	20.40%	59.00%	11.00%	9.60%	20.60%	282.02	<0.001*
Nursing Foundations for Quality of Care' items								
4	Active staff development or continuing education programs for nurses	21.10%	51.30%	14.40%	13.30%	27.70%	166.87	<0.001*
14	High standards of nursing care are expected by the administration	17.80%	57.00%	12.40%	12.80%	25.20%	241.6	<0.001*
18	A clear philosophy of nursing that pervades the patient care environment	16.90%	56.10%	14.60%	12.40%	27.00%	226.73	<0.001*
19	Working with nurses who are clinically competent	38.40%	51.70%	7.80%	2.10%	9.80%	300.18	<0.001*

22	An active quality assurance program.	17.40%	49.90%	18.50%	14.20%	32.70%	146.11	<0.001*
25	A preceptor program for newly hired RNs	41.00%	49.70%	6.20%	3.20%	9.40%	295.76	<0.001*
26	Nursing care is based on a nursing, rather than a medical, model	30.00%	52.90%	6.60%	10.50%	17.20%	235.57	<0.001*
29	Written, up-to-date nursing care plans for all patients	28.40%	59.50%	8.20%	3.90%	12.10%	337.01	<0.001*
30	Patient care assignments that foster continuity of care, i.e., the same nurse cares for the patient from one day to the next	24.70%	58.80%	7.30%	9.20%	16.50%	298.35	<0.001*
31	Use of nursing diagnoses.	21.70%	34.30%	32.00%	11.90%	43.90%	55.71	<0.001*
Nurse Manager Ability, Leadership, and Support of Nurses'								
3	A supervisory staff that is supportive of the nurses.	28.60%	49.20%	18.80%	3.40%	22.20%	192.73	<0.001*
7	Supervisors use mistakes as learning opportunities, not criticism.	24.00%	44.60%	24.90%	6.40%	31.40%	127.89	<0.001*
10	A nurse manager is a good manager and leader.	24.70%	53.50%	9.40%	12.40%	21.70%	213.04	<0.001*
13	Praise and recognition for a job well done.	22.20%	41.20%	27.90%	8.70%	36.60%	95.14	<0.001*
20	A nurse manager who backs up the nursing staff in decision	20.60%	53.30%	12.80%	13.30%	26.10%	193.56	<0.001*
Staffing and Resource Adequacy								
1	Adequate support services allow me to spend time with my patients	33.00%	52.40%	12.80%	1.80%	14.60%	262.1	<0.001*
8	Enough time and opportunity to discuss patient care problems with other nurses.	23.30%	54.70%	8.90%	13.00%	22.00%	224.73	<0.001*
9	Enough registered nurses to provide quality patient care	25.20%	41.60%	26.50%	6.60%	33.20%	107.81	<0.001*
12	Enough staff to get the work done	16.20%	42.10%	23.80%	17.80%	41.60%	73.72	<0.001*
Collegial Nurse–Physician Relations'								
2	Physicians and nurses have good working relationships	21.70%	52.40%	12.60%	13.30%	25.90%	184.09	<0.001*
16	A lot of teamwork between nurses and physicians	27.70%	49.70%	10.10%	12.60%	22.70%	173.44	<0.001*
24	Collaboration (joint practice) between nurses and physicians	22.90%	59.70%	7.30%	10.10%	17.40%	305.16	<0.001*

Table 3.4 presents that more than one third (41.1%= agree, 24.4% strongly agree, 16.7%) of the sample agreed on the items of the nurse participation in hospital affairs, 35.4% agreed on the items of the nursing foundations for quality of care, 37.2% of nurses agreed on the items of the nurse manager ability, leadership, and support of nurses. Also, the table revealed that more than two-thirds of 66.2% of the participants disagreed on the staffing and resource adequacy items, and only 23.6% of the ample agreed on the collegial nurse–physician relations items. However, more than half, 58% of nurses disagreed on the overall scale of PES-NWI items. Also, the table provides a summary of the descriptive statistics for PES-NWI and its subscales, including nurse participation in hospital affairs, nursing foundations for quality of care, nurse manager ability, leadership and support of nurses, staffing and resource adequacy and collegial nurse-physician relations. It was found that the overall mean score for the PES-NWI scale accounted for (M±SD= 2.10±0.39). The Staffing and Resource Adequacy subscale got the highest score (M±SD= 2.13±0.50).

Table 3.4
Nurses' responses to PES-NWI and its subscales

PES-NWI	Strongly disagree.	Disagree	Agree	Strongly agree	Score Mean±SD
Nurse Participation in Hospital Affairs	25.9%	33.0%	24.4%	16.7%	2.12±0.44
Nursing Foundations for Quality of Care	28.8%	35.7%	23.4%	12.0%	2.06±0.45
Nurse Manager Ability, Leadership, and Support of Nurses	25.7%	37.1%	24.3%	12.9%	2.12±0.45
Staffing and Resource Adequacy	26.5%	39.7%	21.9%	11.9%	2.13±0.50
Collegial Nurse–Physician Relations	28.0%	48.5%	13.8%	9.8%	2.10±0.77
Total **PES-NWI**	27.3%	30.7%	23.8%	18.3%	2.108±0.392

Individual Work Performance Questionnaire (IWPQ)

Regarding the reliability statistics for the IWPQ scale. The reliability test (Cronbach's Alpha) for the IWPQ dimensions ranged from 0.777 to 0.877. The total reliability statistic for the IWPQ of the current study was 0.86. The value is .867 and can be regarded as very large, and it means that the scale items were consistent with each other; this indicates that the scale is very reliable. The Guttman Split-Half coefficient (0.79) was found to be high in the split-test reliability analyses of the IWPQ Scale. Table 3.5 presents the construct validity of the IWPQ illustrated high construct validity as all items had substantially higher correlations with their intended domains ranging between (0.764* to 0.864*) at $p<0.001$. These findings indicated that the scale has acceptable internal consistency and is a reliable scale.

Table 3.5: The correlation Coefficient between Total IWPQ and its domains for Validity

Items	IWPQ	
	r	P-value
Task performance (TP) scale	0.764	<0.001
Contextual performance (CP) scale	0.811	<0.001
Counterproductive work behavior (CWB) scale	0.864	<0.001

Responses reflecting the Individual Work Performance Questionnaire (IWPQ)

Table 3.6 revealed that the highest percentage (60.76%) under the agreement on Task performance (TP) went to item 4: "I was able to separate main issues from side issues at work.". The item with the lowest percentage of agreement on the same subscale (48.86%) fell to item 5: "I was able to perform my work well with minimal time and effort.". Also, the table illustrated item 2: "I started new tasks myself when my old ones were finished." which Got the highest percentage of the agreement (56.64%) on the contextual performance (CP) subscale and the lowest percentage of agreement (35.81%) fell to item 7: "I kept looking for new challenges in my job". Moreover, the table shows that the highest percentage (32.67%) under the agreement on Counterproductive work behaviour (CWB) went to item 4: "I spoke with colleagues about the negative aspects of my work." And the item with the lowest percentage of agreement (9.04%) fell to item 3: "I focused on the negative aspects of a work situation, instead of on the positive aspects.".

Table 3.7 demonstrates a summary of the descriptive statistics for IWPQ and its subscales, including task performance (TP), contextual performance (CP) and Counterproductive work behaviour (CWB). It was found that the overall mean score for the IWPQ scale accounted for (M±SD= 1.62±0.52). Also, the table presents the levels of IWPQ among nurses. The results revealed that for the three subscales, including task performance (TP), contextual performance (CP) and counterproductive work behaviour (CWB), participants were at low levels of 40%, 50.8% and 95.2%, respectively. However, 79.6% of the participants were low on the overall IWPQ.

Table 3.6
Responses reflecting on the IWPQ scale

IWPQ's items			Seldom	Sometime	Regularly	often	Always	% of agreement	Rank	Chi-square	
										X^2	P-value
Task performance (TP)											
1	I managed to plan my work so that it was done on time	N	86	37	108	129	77	54.23	3	54.979	<0.001*
		%	19.70%	8.50%	24.70%	29.50%	17.60%				
2	My planning was optimal	N	25	94	133	99	86	57.27	2	70.403	<0.001*
		%	5.70%	21.50%	30.40%	22.70%	19.70%				
3	I kept in mind the results that I had to achieve in my work	N	63	64	151	104	55	51.37	4	74.522	<0.001*
		%	14.40%	14.60%	34.60%	23.80%	12.60%				
4	I was able to separate main issues from side issues at work.	N	18	74	140	112	93	60.76	1	96.101	<0.001*
		%	4.10%	16.90%	32.00%	25.60%	21.30%				
5	I was able to perform my	N	67	84	133	108	45	48.86	5	54.11	<0.001*

	work well with minimal time and effort.	%	15.30%	19.20%	30.40%	24.70%	10.30%				
Total TP			12.30%	18.60%	28.70%	23.60%	16.80%	69.1			
Contextual performance (CP)											
1	I took on extra responsibilities	N	83	93	132	100	29	44.22	5	64.178	<0.001*
		%	19.00%	21.30%	30.20%	22.90%	6.60%				
2	I started new tasks myself, when my old ones were finished.	N	22	100	145	80	90	56.64	1	89.419	<0.001*
		%	5.00%	22.90%	33.20%	18.30%	20.60%				
3	I took on challenging work tasks, when available.	N	76	118	142	67	34	42.28	7	83.698	<0.001*
		%	17.40%	27.00%	32.50%	15.30%	7.80%				
4	I worked at keeping my job knowledge up-to-date.	N	32	90	145	99	71	54.98	2	77.771	<0.001*
		%	7.30%	20.60%	33.20%	22.70%	16.20%				
5	I worked at keeping my job skills up-to-date	N	69	83	154	95	36	46.91	4	85.735	<0.001*
		%	15.80%	19.00%	35.20%	21.70%	8.20%				
6	I came up with creative solutions to new problems.	N	30	153	130	58	66	48.68	3	122.828	<0.001*
		%	6.90%	35.00%	29.70%	13.30%	15.10%				
7	I kept looking for new challenges in my job	N	85	168	118	42	24	35.81	8	154.682	<0.001*
		%	19.50%	38.40%	27.00%	9.60%	5.50%				
8	I actively participated in work meetings	N	68	172	93	34	70	42.33	6	122.645	<0.001*
		%	15.60%	39.40%	21.30%	7.80%	16.00%				
Total CP			16.10%	26.90%	27.60%	17.20%	12.10%	57			
			Never	Seldom	Sometime	Regularly	often				
Counterproductive work behaviour (CWB)											
1	I complained about unimportant matters at work	N	235	124	53	16	9	17.96	4	406.787	<0.001*
		%	53.80%	28.40%	12.10%	3.70%	2.10%				
2	I made problems greater than they were at work	N	300	65	14	7	51	18.19	3	673.652	<0.001*
		%	68.60%	14.90%	3.20%	1.60%	11.70%				
3	I focused on the negative aspects of a work situation instead of the positive aspects.	N	327	77	22	7	4	9.04	5	860.563	<0.001*
		%	74.80%	17.60%	5.00%	1.60%	0.90%				
4	I spoke with colleagues about the negative aspects of my work.	N	154	127	74	32	50	32.67	1	121.867	<0.001*
		%	35.20%	29.10%	16.90%	7.30%	11.40%				
5	I spoke with people from outside the organization about the negative aspects of my work.	N	193	121	65	38	20	25.46	2	226.146	<0.001*
		%	44.20%	27.70%	14.90%	8.70%	4.60%				
Total CWB			43.70%	26.20%	14.70%	7.00%	8.50%	30.2			

Table 3.7
The evaluation for IWPQ and its subscales (n=437)

Subscales		Levels			Score
		Low	Average	High	Mean±SD
Task performance (TP) scale	N	175	148	114	2.18±0.88
	%	40.0%	33.9%	26.1%	
Contextual performance (CP) scale	N	222	171	44	1.86±0.77
	%	50.8%	39.1%	10.1%	
Counterproductive work behavior (CWB) scale	N	416	15	6	0.83±0.69
	%	95.2%	3.4%	1.4%	
IWPQ	N	348	85	4	1.62±0.52
	%	79.6%	19.5%	0.9%	

Inferential Statistics

This section presents the study results associated with the main research questions. By using the analysis of variance (ANOVA) and t-tests were utilized to identify differences in PES-NWI and IWPQ scales' scores among participants' characteristics. Also, the correlation coefficient to identify the relationship between the IWPQ and PES-NWI, and the linear regression analysis was run to explore the effects of PES-NWI and its subscales on the scores the nurses obtained from the IWPQ.

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

Table 3.9 shows that the ANOVA test showed a significant difference among participants regarding their age, sex and working departments. The T-test showed statistically significant differences among participants' overall PES–NWI scores regarding their sex (P <0.05). Furthermore, the ANOVA test specified statistically significant differences in participants' different ages regarding their scores on PES–NWI (P= 0.057). It exemplified that higher PES–NWI scores were among participants in the age group 40- to 50-years-old (M=2.18, SD= 0.45). Also, there were statistically significant differences in participants' working units regarding PES–NWI (P = 0.005). It exemplified higher PES–NWI scores among participants working in Neurology Department (M = 2.24, SD =0.26) than in other departments. T-test indicated that there were statistically significant differences between males and females (P = 0.046) and illustrated that higher PES–NWI scores were indicated for female nurses (M = 2.13, SD = 0.37) than male nurses (M = 2.05, SD = 0.44)

Table 3.9
Distribution of the PES–NWI and IWPQ scores regarding participants' demographic data

Data		Total PES–NWI	ANOVA or T-test	IWPQ	ANOVA or T-test
		Mean±SD	Test P values	Mean±SD	Test value P-value
Age	<30 years old	2.03±0.37	F= 2.531 0.057*	1.54±0.5	F=2.63 0.05*
	30-40 years old	2.12±0.38		1.63±0.52	
	40-50 years old	2.18±0.45		1.73±0.51	
	>50 years old	2.09±0.32		1.64±0.36	
Sex	Female	2.13±0.37	T=2.006 0.046*	1.6±0.5	T=-1.202 0.23
	Male	2.05±0.44		1.68±0.56	
Nationality	Saudi	2.09±0.38	T=-0.98 0.322	1.61±0.55	T=-0.779 0.436
	Non- Saudi	2.13±0.41		1.65±0.46	
Education level	Nurse Aide	2.02±0.38	F= 2.177 0.09	0.92±0.28	F=10.451 0.000*
	Diploma of Science in Nursing	2.06±0.32		1.65±0.52	
	Bachelor of Science in	2.15±0.4		1.64±0.47	

	Nursing				
	Master of Science in Nursing	2.09±0.67		1.69±0.72	
Marital Status	Single	2.13±0.33	F=0.479 0.62	1.66±0.45	T=1.458 0.234
	Married	2.09±0.42		1.63±0.54	
	Divorced	2.13±0.4		1.5±0.54	
Department/Unit	Emergency Department	2.06±0.36	F=2.497 0.005*	1.52±0.5	F=3.471 0.000*
	Out-Patient Department	2.14±0.3		1.41±0.5	
	Hemodialysis Unit	2.09±0.48		1.71±0.62	
	Endoscopy Unit	2.15±0.64		1.44±0.61	
	Intensive care unit	2.14±0.45		1.62±0.43	
	Operation Room	2.01±0.41		1.69±0.59	
	Surgical Department	2.21±0.33		1.65±0.41	
	Medical Department	2.14±0.37		1.67±0.47	
	Neurology Department	2.24±0.26		1.51±0.47	
	Nursing Administration	2.22±0.31		1.89±0.53	
	Nursing office	1.37±0.27		2.31±0.51	
	Other	2.1±0.33		2.1±0.43	
Years of Experience.	<5	2±0.41	F=2.898 0.035	1.54±0.51	F=3.067 0.028*
	10-May	2.09±0.32		1.6±0.49	
	10-15.	2.16±0.42		1.63±0.53	
	>15	2.16±0.5		1.82±0.55	

Individual Work Performance Questionnaire (IWPQ) and demographic data

Table 4.3 reveals that the demographic variables include nurses' age, educational levels, working departments and different years of experience were found to affect the IWPQ scores. The ANOVA test indicated significant differences in IWPQ scores among participants regarding their age, educational levels, working departments, and different years of experience. It exemplified that higher IWPQ scores were among, nurses age between 40-50 years old (M = 1.73, SD = 0.51), nurses had a degree of Master of Science in Nursing (M = 1.69, SD = 0.72), nurses worked in nursing office (M = 2.31, SD = 0.51), and nurses who worked more than 15 years (M = 1.82, SD =0.55) than other years of experience.

The relationship between IWPQ and PES-NWI

The correlation analysis was conducted to identify the relationship between the IWPQ and PES-NWI. Table 3.10 revealed a positive and significant correlation of 9.8% was found between the two scales. The overall PES-NWI score increased the IWPQ overall score (r: 0.098, $p < .05$). Also, the table shows that two PES-NWI subscales positively correlated with the IWPQ scale; they were the 'Staffing and Resource Adequacy' scale with a correlation coefficient (r=.095, p=.048) and 'Nurse Participation in Hospital Affairs' scale with a correlation coefficient (r=.105, p=.029). On the other hand, the effects of PES-NWI and its subscales as independent variables on the scores the nurses obtained from the IWPQ were investigated using multiple linear regression analysis. As table 3.11 demonstrates, Nurse Participation in Hospital Affairs had a statistically significant

effect, F= 4.827, p < .05, and it contributes positively (B = .105) to the overall IWPQ score, its accounting for 10.50% of the total variance on the IWPQ.

Table 3.10
The correlation between IWPQ and PES-NWI

PES-NWI subscales		IWPQ subscales			
		TP	CP	CWB	IWPQ total
Staffing and Resource Adequacy	R	0.020	0.099*	0.063	0.095*
	P-value	0.680	0.038	0.188	0.048
Collegial Nurse–Physician Relations	R	-0.186**	0.070	0.234**	0.043
	P-value	0.000	0.145	0.000	0.365
Nurse Manager Ability, Leadership, and Support of Nurses	R	0.067	0.019	0.040	0.056
	P-value	0.164	0.694	0.406	0.240
Nursing Foundations for Quality of Care	R	-0.109*	0.045	0.236**	0.063
	P-value	0.023	0.349	0.000	0.186
Nurse Participation in Hospital Affairs	R	0.215**	0.060	-0.085	0.105*
	P-value	0.000	0.213	0.076	0.029
Total PES–NWI	R	0.011	0.074	0.130**	0.098*
	P-value	0.826	0.125	0.007	0.041

Table 3.11
Work environment' factors affecting the job performance of nurses

Variables	Unstandardized Coefficients		Standardized Coefficients	t	P-value	ANOVA		R^2
	B	Std. Error	Beta			F	P-value	
(Constant)	1.388	.127	0.105	10.938	0.000	4.827	.029*	10.50%
Nurse Participation in Hospital Affairs	0.129	0.058		2.197	0.029			
a. Dependent Variable: IWPQ								

Discussion

The current study applied an online survey to obtain data from 437 nurses, and the survey consisted of three sections with standardized measuring scales. The first section included nurses' sociodemographic and professional characteristics, and the second section included the Practice Environment Scale of the Nursing Work Index (PES-NWI) used to evaluate nursing work environments; it consists of 5 subscales: nurse participation in hospital affairs, nursing foundations for quality of care, nurse manager ability, leadership, and support of nurses, staffing and resource adequacy, and collegial nurse-physician relations. Furthermore, the third section was the Individual Work Performance Questionnaire (IWPQ) used to

measure nurses' work performance; the tool is designed to assess three significant aspects of job performance: task performance (five items), contextual performance (eight items), and counterproductive work behaviour (five items). The discussions of this research finding will be presented in three sections. The first section discusses the nurses' perceptions of their work environment and the current status of job performance. During the study, the second section identifies the factors that affect nurses' job performance in Makkah, Saudi Arabia. Finally, exploring the relationship between the hospital environment and nurses' job performance.

Nursing practice environment

Regarding the nurses' characteristics, most of the nurses were in the age group between 30 to 40 years old; the majority were females and Saudis. However, the highest educational background of most nurses was a baccalaureate degree in Nursing. In addition, the study findings demonstrate that 43% of nurses had between five- and ten years of work experience. To measure the nursing practice environment, the PES-NWI was used; the analysis of the PES-NWI indicated that nurses in the two selected hospitals had an unfavourable work environment, their level of work environment in all subscales with a composite score of (M= 2.1, SD= 0.39). The unfavourable work environment at the public hospitals was evident from the low scores on all PES-NWI subscales and the overall PES-NWI score. Similar to the current study finding, a recent study on Saudi public and military hospitals found that the composite score for the public hospital was 2.28, indicating that nurses tended to disagree that the valued traits were present (Ambani et al., 2020). In contrast with previous findings, in Saudi study conducted in one public hospital in the Taif, Saudi Arabia found that the average score for the PES-NWI (3.72 ± 0.63) indicated that nurses' perceptions regarding their work environment were at a moderate level but more favourable compared to the previous hospitals (Alsufyani et al., 2021).

These results are consistent with other Saudi Arabia research (Almuhsen et al., 2017; AlMoosa et al., 2020). However, this moderate view of the work environment in Saudi Arabia is disappointing when contrasted with the entire government expenditures on the healthcare delivery system. Saudi Arabia spends $2.4 billion on healthcare each year and ranks 5th on the 2019 Health Care Index (Buswell, 2021). In 2018, government spending on the healthcare system reached 90 billion Saudi Riyals or 9.2 per cent of the overall government budget (MOH, 2018). Nonetheless, it is possible to associate these unfavourable levels of work environment with the challenges currently faced by the Saudi nursing workforce. In 2018, the Kingdom of Saudi Arabia employed a total of 184,565 nurses. However, only 70,319 (about 38 per cent) were Saudi nationals (MOH, 2018), which means 5.5 nurses/per 1,000 populations (The Saudi Health Council, 2019), which is almost half that of other high-income countries where the average availability is 8.24 nurses/1,000 people (OECD, 2020). Moreover, among the factors that have raised the cost of Saudi healthcare is the shortage of health staff (Falatah & Salem, 2018), and staff reductions have also led to significant human resources management and public health problems (Alshareef et al., 2020).

However, according to Lake (2002), any subscale rated with a score of 2.5 or higher indicates a favourable practice environment. The composite score of PES-NWI varied from previous literature, such as for original magnet hospitals at 2.95 and original non-magnet hospitals at 2.65 (Lake, 2002). The present study findings indicated the lowest score compared to findings reported from international studies. In the Philippines, the reported composite score of PES-NWI was (M=3.13, SD= 0.570), indicating a favourable work environment for Philippines nurses (Javier, 2019). In Turkey, the overall score obtained from the PES-NWI was (M=2.90, SD=0.34) (Sarıköse & Göktepe, 2022), and in Japan, the average score obtained from the PES-NWI was (M=2.6, SD=0.40) among staff nurses from 16 hospitals. In this study, the highest-rated work environment subscale was *staffing and resources adequacy, and the lowest score was for the nursing foundation of quality of care*. Contrary to these results, Sarıköse and Göktepe (2022) found that the nursing foundations for the quality-of-care subscale had the highest average score, and the staffing and resource adequacy subscale had the lowest; these results are in line with the findings of (Ambani et al., 2020).

Even though nurses highly rated the staffing and resources adequacy subscale, the level of a composite score for the work environment scale was unfavourable, and the lowest score was for the subscale of the nursing foundation of quality of care. According to these results, it may be concluded that hospitals that have adequate staffing and resource do not necessarily represent an appropriate work environment to deliver high-quality care. Rush et al. (2019) stated that an appropriately resourced work environment was highly predictive of nurses' work engagement. This finding suggested that improving all aspects of the work environment would increase employee engagement in their organisation while still preserving the hospital's capabilities and competitive advantages (Rush et al., 2019). Recent evidence has revealed that work environments play a significant role in nurses' ability to provide quality care. According to (Ogata et al., 2021), the higher the positive work environment, the better the nursing outcomes, confirming a significant relationship between work environment and nurse outcomes, such as job satisfaction, retention or resignation and health status. However, most nurses working in public hospitals in Saudi Arabia are recruited from different countries, including Arab countries, India, the Philippines, and Pakistan.

Therefore, if they resign from their job for any reason, then the health care sector's efficiency, productivity and quality will be negatively affected (Alluhidan et al., 2020). Furthermore, significant efforts should be aimed at the overall satisfaction of nurses to make improvements in the quality of health care. Notably, significant differences in nursing practice environment scores were demonstrated across nurses' characteristics. The nurse's demographic characteristics, including nurses' age and working department, affected the PES–NWI participants' scores in the present study. It exemplified that higher PES–NWI scores were among participants who were in the age group 40- to 50-years-old (M=2.18, SD= 0.45) and worked in neurology department (M = 2.24, SD =0.26) followed by nurses working nursing administration (M = 2.22, SD =0.31) than in other departments. The current study examined the effects of nurses' individual and professional characteristics on job performance levels in Saudi Arabia.

Nurses were found to have low levels of job performance. Similarly to our results, Iraq (Okab, 2017) and Egypt (Mohamed & Gaballah, 2018) reported that nurses had an incompetent level of performance. However, nurses' performance levels are typically described as high or moderate in the literature, which contradicts our findings, for example, in turkey (Sarıköse & Göktepe, 2022), China (Tong, 2018), and Saudi Arabia (Alonazi, 2020). However, healthcare organisations should be aware that a higher recognition of performance and work involvement enhances affective nurses' engagement with the organisation, thus enhancing the organisation's corporate image (Orgambídez, 2019).

Factors affecting Nurses' job performance

The ANOVA test indicated that higher nurses' job performance scores were among nurses aged between 40-50 years old (M = 1.73, SD = 0.51), nurses who had a degree of Master of Science in Nursing (M = 1.69, SD = 0.72), nurses worked in the nursing office (M = 2.31, SD = 0.51), and nurses who worked more than 15 years (M = 1.82, SD = 0.55) than other years of experience. These results indicated that older nurses who have more years of experience and high educational levels had high levels of job performance than other nurses with a statistically significant difference ($P<0.05$). The high levels of performance may be attributed to the fact that those nurses had not many performance areas like other working departments that required additional competencies, such as evaluation, diagnosis, formulation of a nursing care plan, appropriate interventions for high-risk patients, observance of universal precautions throughout care provision, and documentation. Those nurses who work in other departments had a low-performance level was interpreted by the current research finding that highlighted most nurses are in need of educational training programmes to upgrade their practice and attitude that reflect high patient care quality.

However, those nurses worked at the hospital for a long time, so; they may achieve adequate knowledge and abilities that improve their performance. These findings are in congruence with the results of the Egyptian study by Mohamed and Gaballah (2018), who found that the older the nurses' age, the higher their education level, and more years of experience, the higher their job performance. Additionally, this finding was in accordance with findings in Turkey Sarıköse and Göktepe (2022) found that the nurses' educational level influenced their job performance, with those who had higher education degrees having higher levels of job performance. The results of this study suggested that job characteristics have a significant impact on nurses' job performance. In other words, nurses who have skills and knowledge are more engaged at work, which improves their job performance. In this regard, (Bhatti et al., 2018) argued that the job characteristics significantly influence nurses' job performance mediated by work engagement, so it is essential to improve nurses' skills and knowledge to contribute to more work engagement and thus improve their job performance.

The relationship between work environment and nurses' job performance

The current quantitative study aimed to determine the effect of the work environment on the job performance of experienced professional nurses who have

worked for at least six months in the selected hospitals in Makkah, Saudi Arabia. According to the results of this study, to answer the research question, 'What is the effect of the work environment on nurses' job performance in the governmental hospitals in Makkah city?', the present study results revealed similar to most of the studied literature, that there was a positive and significant correlation of 9.8% was found between the work environment and nurses' job performance. In addition, the overall PES-NWI score had an increasing impact on the IWPQ overall score (r: 0.098, $p < .05$). Consistent with our findings, Cho and Han (2018) found that a healthy work environment would improve job performance among nurses (Cho & Han, 2018). Moreover, Ogata et al. (2021) revealed that the work environment directly improves employee performance, and this was also confirmed by Ambani et al. (2020). This finding supports Shahnavazi et al. (2021), who found a statistically significant relationship between perceived organisational environment and nurses' job performance (Shahnavazi et al., 2021).

Similarly, Mohamed and Gaballah (2018) found a statistically significant positive relationship between work climate and nurses' job performance. In the same context, Sadewo et al. (2021) supported previous findings and revealed that employee performance is directly influenced by the work environment (Sadewo et al., 2021). Similarly, in Turkish study by Sarıköse and Göktepe (2022) confirm this, arguing that the nursing work environment is among the crucial factors affecting nurses' job performance. On the other hand, Edem et al. (2017), the authors opined that the relationship between the health worker, their work and the workplace environment is crucial, representing an integral part of the work itself. The study findings have shown that the physical environment, social environment and work system associated with the workplace influence health workers' performance and productivity, suggesting that efforts should be directed towards improving these (Edem et al., 2017). In line with study findings, Sarıköse and Göktepe (2022) found that staffing and resource adequacy had a statically significant effect on nurses' job performance. Furthermore, the literature states that a nursing and support staff shortage decreases nurses' job performance, increasing burnout and lowering the quality of patient care (Cho & Han, 2018; Bhatti et al., 2018).

Based on these findings, it can be argued that a sufficient number of nurses and team members can reduce workloads and increase the time given to patient care, which is also related to higher levels of job performance. On the other hand, the effects of PES-NWI and its subscales as independent variables on the scores the nurses obtained from the IWPQ were investigated using multiple linear regression analysis. The results demonstrated that nurse participation in hospital affairs had a statistically significant effect, $F= 4.827$, $p < .05$, and it contributes positively ($B = .105$) to the nurses' job performance, accounting for 10.50% of the total variance on the IWPQ. According to Lake (2002), nurse participation in hospital affairs is an organisational phenomenon that gives chances for frontline nurses to participate in hospital internal governance and policy and practice choices. In addition, participation in hospital affairs prevents burnout, according to research conducted in Canada (Havaei et al., 2019) and Oman (Al Sabei et al., 2020). Similarly, Alharbi et al. (2020) found that the aspects of the nursing practice environment, including nurse participation in hospital affairs and enough staffing

and resources, were related to emotional exhaustion and job satisfaction among nurses. The authors concluded that favourable work environment conditions in Saudi Arabia are fundamental for recruiting and maintaining nurses in a country with significant nursing shortages (Alharbi et al., 2020). According to a study performed by Bray and colleagues (2018), job performance among nurses may be enhanced by supporting people in meeting their psychological requirements, improving job design and staff participation, and also strengthening their need satisfaction (Bray et al., 2018).

Furthermore, De Coning (2020) suggested that to enhance nurses' performance, managers and human resource professionals in the healthcare industry should intervene to develop nurses' psychological capital and raise their levels of job engagement to improve their performance. These aspects could contribute to improving organisational outcomes. According to these findings, it can be concluded that allowing nurses to participate in hospital internal governance, policy, and practice decisions has numerous positive psychological benefits on nurses, hence enhancing their job performance.

Limitation

The factors that influence nurses' levels of job performance have not been adequately investigated in the Arab countries or Saudi Arabia. Based on the currently published literature, this study was the first to explore the factors influencing nurses' job performance and its relationship with the nursing practice environment in Saudi Arabia, specifically in Makkah al-Mukarramah. The researchers faced limitations in reaching an adequate number of participants due to selecting the mode of survey distribution. Many nurses could not participate because they were busy due to their busy jobs. Although the respondents were given specific instructions before completing the survey, they were not guaranteed to have answered all of the questions honestly. Likewise, recruitment methods of the email and WhatsApp groups were unproductive; this also may have led to a low response rate and response bias. Furthermore, because this study used a cross-sectional design, generalising the findings should be done with caution. The results are restricted to the perspective of the nurses who participated. Due to nurses' self-evaluations of their job performance, the difficulty of determining nurses' actual job performance levels could be a limitation of this research.

Conclusion

Today, healthcare organisations must be more flexible to grow their workforce and enjoy their contribution. Job performance indicates nurses' intent to leave their training or job and turnover. Therefore, this study provides the nursing profession with a voice that evidences the impact of the nursing practice environment on the nurses' job performance in Saudi Arabia. The current study concluded that nurses were working in an unfavourable practice environment, and they perceived themselves to have low levels of job performance. Nevertheless, the current study results indicated that the older nurses who have more years of experience and high educational levels had high levels of job performance than other nurses with a statistically significant difference. In context with the previous literature

findings, the current study results indicated that a healthy nursing practice environment had an increasing impact on the nurses' job performance.

Recommendation

The study results suggest a significant work environment and job performance issues among nurses, with implications for nurses' health, morality, and productivity that necessitates concerted applied intervention programs to identify and mitigate sources of these issues. According to the study's results, efforts to improve job performance may be an effective strategy for increasing the recruiting and retention of Saudi nurses to the nursing profession. As a result, the hospital management should try to comprehend the hospital environment and its influences to provide nurses with a healthy and productive practice environment. A structured orientation program regarding the challenges the nurses face in their practice environment as professional registered nurses: nursing leaders can improve the nursing work environment by using promising strategies, such as increasing nursing staff involvement in decision-making and adopting work teams will also enhance the working environment by creating a welcoming and cooperative climate. However, this study recommended that further study be conducted on larger samples of nurses in different Saudi cities to obtain more generalizable results.

References

Al Sabei, S., Labrague, L., Miner Ross, A., Karkada, S., Albashayreh, A., Al Masroori, F., & Al Hashmi, N. (2020). Nursing work environment, turnover intention, job burnout and quality of care: The moderating role of job satisfaction. Journal of Nursing Scholarship, 52(1), 95–104.

Alharbi, A., Dahinten, V., MacPhee, M., & . (2020). The relationships between nurses' work environments and emotional exhaustion, job satisfaction, and intent to leave among nurses in Saudi Arabia. Journal of Advanced Nursing, 76(11), 3026-3038.

Alluhidan, M., Tashkandi, N., Alblowi, F., Omer, T., Alghaith, T., Alghodaier, H., & Alghamdi, M. (2020). Challenges and policy opportunities in nursing in Saudi Arabia. Human Resources for Health, 18(1), 1-10.

Almadani, N., Mughayzil, H., Alsalameen, A., & Aman, R. (2020). Assess the Causes of Absenteeism Among Nurses Working in Hospitals, Eastern. Journal of Nursing & Healthcare, 5(3), 1-4.

AlMoosa, M., Hassanein, S., Alnems, A., Abdrbo, A., Minguez, O., & Ghadheeb, F. (2020). Perception of nurses work environment in tertiary care hospital in Saudi Arabia. American Journal of Nursing Science, 9(1), 23–29.

Almuhsen, F., Alkorashy, H., Baddar, F., & Qasim, A. (2017). Work environment characteristics as perceived by nurses in Saudi Arabia. International Journal of Advanced Nursing Studies , 6(1), 45–55.

Alonazi, W. (2020). The impact of emotional intelligence on job performance during COVID-19 crisis: A cross-sectional analysis. Psychology Research and Behavior Management, 13 , 749.

Alshareef, A., Wraith, D., Dingle, K., & Mays, J. (2020). Identifying factor Influencing Saudi Arabian Nurses' Turnover. Journal of Nursing Management. Retrieved from https://doi.org/10.1111/jonm.13028

Alsufyani, A., Almalki, K., Alsufyani, Y., Aljuaid, S., Almutairi, A., Alsufyani, B., & Aboshaiqah, A. (2021). Impact of work environment perceptions and communication satisfaction on the intention to quit: an empirical analysis of nurses in Saudi Arabia. PeerJ , 9, e10949.

Ambani, Z., Kutney-Lee, A., & Lake, E. (2020). The nursing practice environment and nurse job outcomes: A path analysis of survey data. Journal of clinical nursing,, 29(13-14), 2602–2614.

Asiri, S., Rohrer, W., Al-Surimi, K., Da'ar, O., & Ahmed, A. (2016). The association of leadership styles and empowerment with nurses' organizational commitment in an acute health care setting: a cross-sectional study. BMC nursing, 15(1), 38.

Bawaningtyas, B. B., Perizade, B., Zunaidah, Z., & Soebyakto, B. B. (2021). Effect of e-learning and organizational commitment on nurse performance: (case study for intensive and outstanding nurses at Siloam Sriwijaya Hospital Palembang). International Journal of Health & Medical Sciences, 4(1), 169-181. https://doi.org/10.31295/ijhms.v4n1.1675

Berberoglu, A. (2018). Impact of organizational climate on organizational commitment and perceived organizational performance: empirical evidence from public hospitals. BMC health services research, 18(1), 1-9. doi:https://doi.org/10.1186/s12913-018-3149-z

Bhatti, M., Mat, N., & Juhari, A. (2018). Effects of job resources factors on nurses job performance (mediating role of work engagement). International journal of health care quality assurance, 31(8), 1000-1013.

Boswell, C., & Cannon, S. (2017). Introduction to nursing research. Burlington: Jones & Bartlett Learning.

Bouwer, R., Béguin, A., Sanders, T., & Van den Bergh, H. (2015). Effect of genre on the generalizability of writing scores. Language Testing;, 32(1), 83-100.

Bray, J., Hinde, J., Kaiser, D., Mills, M., Karuntzos, G., Genadek, K., & Hurtado, D. (2018). Effects of a flexibility/support intervention on work performance: Evidence from the work, family, and health network. American Journal of Health Promotion, 32(4), 963-970. Retrieved from https://pubmed.ncbi.nlm.nih.gov/33379381/

Bryman, A. (2017). Quantitative and qualitative research: further reflections on their integration. In J. Brannen, Mixing methods: Qualitative and quantitative research (pp. 57-78). Routledge.

Buswell, G. (2021). The healthcare system in Saudi Arabia. Retrieved December 10, 2021, from https://www.expatica.com/sa/healthcare/healthcare-basics/healthcare-system-in-saudi-arabia-71162/

Campbell, J. (1990). Modelling the performance prediction problem in industrial and organizational psychology. In M. Dunnette, & L. Hough, Handbook of Industrial and Organizational Psychology (pp. 687-732). Palo Alto, CA: Consulting Psychologists Press.

Cho, H., & Han, K. (2018). Associations Among Nursing Work Environment and Health-Promoting Behaviors of Nurses and Nursing Performance Quality: A Multilevel Modeling Approach. Journal of nursing scholarship : an official publication of Sigma Theta Tau International Honor Society of Nursing, 50(4), 403–410.

De Coning, A. (2020). "Psychological capital, work engagement and individual work performance amongst nursing staff." , 2020. South Africa: PhD diss.,

North-West University (South Africa). Retrieved from http://repository.nwu.ac.za/handle/10394/35898

Edem, M., Akpan, E., & Pepple, N. (2017). Impact of workplace environment on health workers. Occup Med Health Aff , 5(2), 1-5.

Falatah, R., & Salem, O. (2018). Nurse turnover in the Kingdom of Saudi Arabia: An integrative review. Journal of Nursing Management, 26(6), 630-638. Retrieved from https://doi.org/10.1111/jonm.12603

GeoNames. (2021). Population of Cities in Saudi Arabia (2021). Retrieved December 10, 2021, from https://worldpopulationreview.com/countries/cities/saudi-arabia

Hassan, A. (2005). Health, Safety and Environment. Cairo: Pathways to Higher Education.

Havaei, F., Dahinten, V., & MacPhee, M. (2019). The effect of nursing care delivery models on registered nurse outcomes. Sage Open Nursing, 5, 1–10.

Javier, W. (2019). Work Environment and Workload of Staff Nurses in Selected Secondary Hospitals in Cavite, Philippines. Retrieved May 13, 2022, from Doctoral dissertation,UPOU: https://repository.upou.edu.ph/handle/123456789/129

KAAH. (2022). King Abdulaziz Hospital. Retrieved from https://www.kaah.med.sa/index.php#

Khairuddin, S., Saidun, Z., & Hashim, M. (2019). Measuring The Effects of Work Motivation on Stress and Performance Linkages in SME. Asian Academy of Management Journal, 24(1), 1-15.

Kolawole, J., & Ali, O. (2013). Motivational Factor of Hospital Employee: Evidence from North Cyprus. Interdisciplinary Journal of Contemporary Research in Business, 4(12), 106-123.

Koopmans, L. (2015). Individual work performance questionnaire instruction manual. Retrieved May 14, 2022, from Amsterdam, NL: TNO Innovation for Life–VU University Medical Center: https://publications.tno.nl/publication/34609635/BTWAre/koopmans-2014-measuring.pdf

Kowalski, M., Basile, C., Bersick, E., Cole, D., McClure, D., & Weaver, S. (2020). What do nurses need to practice effectively in the hospital environment? An integrative review with implications for nurse leaders. Worldviews on Evidence-Based Nursing , 17(1), 60-70.

Krejcie, R., & Morgan, D. (1970). Determining sample size for research activities. Educational and psychological measurement, 30(3), 607-610.

Lake, E. (2002). Development of the practice environment scale of the nursing work index. Research in Nursing & Health, 25, 176-188.

Leggat, S., Bartram, T., & Stanton, P. (2011). High-performance work systems: The gap between policy and practice in healthcare reform . Journal of Health Organization and Management, 25(3), 281–297.

Mander, J. (2017). How to use qualitative and quantitative research to your advantage. Retrieved January 30, 2022, from GWI.: https://blog.gwi.com/trends/qualitative-vs-quantitative/

McCusker, K., & Gunaydin, S. (2015). Research using qualitative, quantitative or mixed methods and choice based on the research. Perfusion, 30(7), 537-542.

McFadden, P., Ross, J., Moriarty, J., Mallett, J., Schroder, H., Ravalier, J., & Gillen, P. (2020). The Role of Coping in the Wellbeing and Work-Related Quality of Life of UK Health and Social Care Workers during COVID-19.

International Journal of Environmental Research and Public Health , 18(2), 815.

Medallia. (2021). Sample size calculator. Retrieved December 18, 2021, from https://www.checkmarket.com/sample-size-calculator/

Melnyk, B., & Fineout-Overholt, E. (2019). Evidence-based practice in nursing & healthcare: A guide to best practice (4th ed.). Lippincott Williams & Wilkins.

Mereish, S. (2020). Investigating How Individual Differences in Organisations are Associated with Employee Performance, Job Satisfaction and Climate for Innovation: A Quantitative Study in Jordan's Middle Eastern Context. PhD thesis University of Westminster Social Sciences. Retrieved from https://westminsterresearch.westminster.ac.uk/item/v3v3z/investigating-how-individual-differences-in-organisations-are-associated-with-employee-performance-job-satisfaction-and-climate-for-innovation-a-quantitative-study-in-jordan-s-middle-eastern-context

MOH. (2018). Ministry of Health: Statistical Yearbook. (Health Mo ed. Kingdom of Saudi Arabia). Retrieved November 10, 2021, from https://www.moh.gov.sa/en/Ministry/Statistics/book/Pages/default.aspx

MOH. (2018). Statistical yearbook. Retrieved May 16, 2022, from Ministry of Health of Saudi Arabia: https://www.moh.gov.sa/en/Ministry/Statistics/book/Pages/default.aspx/

MOH. (2019, July 30). MOH: King Faisal Hospital- Makkah Geared Up to Serve Pilgrims. Retrieved from Ministry of Health – Kingdom of Saudi Arabia : https://www.moh.gov.sa/en/Ministry/MediaCenter/News/Pages/news-2019-07-30-002.aspx

Mohamed, H., & Gaballah, S. (2018). Study of the relationship between organizational climate and nurses' performance: A University Hospital Case. American Journal of Nursing Research , 6(4), 191-197.

Nunez, F., Wambach, K., & Cramer, E. (2021). Examining the measurement invariance of the Practice Environment Scale–Nursing Work Index in the United States. Research in Nursing & Health , 44(2), 353-364.

OECD. (2020). Nurses (indicator). doi:10.1787/283e64de-en

Ogata, Y., Sato, K., Kodama, Y., Morioka, N., Taketomi, K., Yonekura, Y., & team, r. o.-J. (2021). Work environment for hospital nurses in Japan: The relationships between nurses' perceptions of their work environment and nursing outcomes. Nursing Open , 8(5), 2470-2487.

Okab, A. (2017). Impact of Job Satisfaction on Job Performance of Nurses at Al-SuwairaGeneral Hospital. Iraqi National Journal of Nursing Specialties , 30(2).

Orgambídez, A. B.-A. (2019). Self-efficacy and organizational commitment among Spanish nurses: the role of work engagement. International nursing review , 66(3), 381-388.

Pandey, J. (2019). Factors affecting job performance: An integrative review of the literature. Management Research Review, 42(2), 263– 289.

Polit, D., & Beck, C. (2017). Nursing research: Generating and assessing evidence for nursing practice (10th ed.). China: Lippincott Williams & Wilkins.

Préfontaine, Y., Kormos, J., & Johnson, D. (2016). How do utterance measures predict raters' perceptions of fluency in French as a second language? Language Testing, 33(1), 53-73.

Rahman, M. (2020). The advantages and disadvantages of using qualitative and quantitative approaches and methods in language "testing and assessment"

research: A literature review. Journal of Education and Learning Canadian Center of Science and Education, 6(1), 102-112.

Rush, K., Janke, R., Duchscher, J., Phillips, R., & Kaur, S. (2019). Best practices of formal new graduate transition programs: An integrative review. International Journal of Nursing Studies, 94, 139-158.

Sadewo, P., Surachman, S., & Rofiaty, R. (2021). The influence of working environment to employee performance mediated by work motivation. International Journal of Research in Business & Social Science , 10(3), 213-222.

Sanchez-Gomez, M. S. (2021). Health-Care Professionals Amid the COVID-19 Pandemic: How Emotional Intelligence May Enhance Work Performance Traversing the Mediating Role of Work Engagement. Journal of Clinical Medicine, 10(18), 4077.

Sanchez-Gomez, M., & Breso, E. (2020). In Pursuit of Work Performance: Testing the Contribution of Emotional Intelligence and Burnout . International Journal of Environmental Research and Public Health, 17(15), 5373.

Sarıköse, S., & Göktepe, N. (2022). Effects of nurses' individual, professional and work environment characteristics on job performance. . Journal of Clinical Nursing, 31(5-6), 633-641.

Shahnavazi, A., Eshkiki, M., Shahnavazi, H., & Bouraghi, H. (2021). The Effect of Perceived Organizational Climate on the Performance of Nurses in Private Hospitals. Clin Res Paramed Sci, 10(2), e108532.

Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2021). Health and treatment of diabetes mellitus. International Journal of Health Sciences, 5(1), i-v. https://doi.org/10.53730/ijhs.v5n1.2864

The Saudi Health Council. (2019). The Nursing Workforce in Saudi Arabia Challenges and Opportunities. Ryiadh: General Directorate for National Health Economics and Policy. Retrieved from https://shc.gov.sa/Arabic/Documents/KSA_Nursing_Challenges_and_Opportunities_pub_6-22-20.pdf

Tong, L. (2018). Relationship between meaningful work and job performance in nurses. International Journal of Nursing Practice, 24(2), e12620..

Weber, M. (1952). The essentials of bureaucratic organization: An ideal-type construction. Reader in bureaucracy, 19, 19-21.

Wei, H., Sewell, K., Woody, G., & Rose, M. (2018). The state of the science of nurse work environments in the United States: A systematic review. International journal of nursing sciences , 5(3), 287–300.

White, F. (2015). Primary health care and public health: foundations of universal health systems. Med Princ Pract , 24(2), 103–116. WHO. (2022, March 18). Nursing and midwifery. Retrieved May 15, 2022,