THE MEDIATING ROLE OF EMOTIONAL EXHAUSTION AND WORK ENGAGEMENT ON THE RELATIONSHIP BETWEEN JOB DEMANDS-RESOURCES AND NURSES' ANXIETY, TURNOVER INTENTION, AND HAPPINESS IN SAUDI PUBLIC HOSPITALS

A Thesis submitted for the degree of Doctor of Philosophy

By

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ABSTRACT

This study examines the determining factor of nurses' occupational stress in public hospitals in Saudi Arabia. Despite the increasing number of occupational stress studies in the healthcare industry, occupational stress studies are still at an early stage of development in Saudi Arabia, and further research is recommended.

The objectives of this research are: (1) to identify the occupational stress levels among nurses in public-sector hospitals in Saudi Arabia; (2) to examine the influence of job demands on the anxiety and turnover intention of nurses working in public-sector hospitals in Saudi Arabia; (3) to investigate the influence of job resources on the turnover intention and happiness of nurses working in public-sector hospitals in Saudi Arabia; (4) to determine the mediating effects of emotional exhaustion on the relationship between job demands and anxiety and turnover intention on nurses working in public-sector hospitals in Saudi Arabia; and (5) to ascertain the mediating effects of work engagement on the relationship between job resources and the turnover intention and happiness of nurses working in public-sector hospitals in Saudi Arabia.

The study was conducted as a two-stage empirical study employing sequential exploratory mixed-methods approach starting with interviews with 15 nurses, analysing the data then revising the questionnaire and distributing to a sample of nurses at five hospitals. The study used thematic analysis to analyse the qualitative data and the Statistical Package for the Social Sciences (SPSS) and AMOS to analyse the 512 questionnaires. The conceptual model was validated through Structural Equation Modelling (SEM), which includes two kinds of models: the measurement model or confirmatory factor analysis (CFA), and the structural model which is conducted to approve the hypotheses and the performance of the suggested conceptual framework.

The study findings indicated that the level of nurses' stress is very high and has negative outcomes if the job demands (stressors) exceed the nurses' abilities. Emotional demands, work–family conflict and workload are the main job demands identified. Procedural fairness and perceived organizational support are identified as the main job resources. This study also examines the mediation role of emotional exhaustion and work engagement. More specifically, its shows that emotional exhaustion mediates the relationship between emotional demands, work–family conflict, workload and anxiety, whereas emotional exhaustion only mediates the relation between work–family conflict and turnover intention. Conversely, work engagement mediates the relation between procedural fairness and turnover intention and happiness. Contributions of the study, research and practical implications, and future research directions are also discussed.

Keywords: nurses' occupational stress, Job Demands-Resources Model (JD-R), Saudi Arabia, emotional exhaustion, work engagement

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

AGFI	adjusted goodness-of-fit index
ANN	anxiety
AVE	average variance extracted
BAM	British Academy of Management
CFA	confirmatory factor analysis
CFI	comparative fit index
COR	conservation of resource
CR	composite reliability
DCM	demand control model
DCS	demand-control-support
DHET	Department of Health Education and Training
EDD	emotional demands
EFA	exploratory factor analysis
ENSS	Expanded Nursing Stress Scale
ERI	effort-reward imbalance
EXX	emotional exhaustion
FLM	frontline manager
GFI	goodness-of-fit index
GHQ	General Health Questionnaire
GNP	gross national product
HAP	happiness
HRM	human resource management
HSE	health and safty executive
ICU	intensive care unit
IFI	incremental fit index
JCQ	Job Content Questionnaire

KSA	Kingdom of Saudi Arbia
MBI	Maslach Burnout Inventory
MOH	Ministry of Health
MOHE	Ministry of Higher Education
NSS	Nursing Stress Scale
OCB	organizational citizenship behaviour
OSI	Occupational Stress Inventory
PF	procedural fairness
POS	perceived organizational support
RMSEA	root mean square error of approximation
SE	standard error
SEM	Structural Equation Modelling
SPSS	Statistical Package for the Social Sciences
TII	turnover intention
WEE	work engagement
WFC	work–family conflict
WHO	World Health Organization
WL	workload
WRS	work-related stress

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May Allah have mercy on his soul

DEDICATION

I dedicate this thesis to:

My parents Hussah Alomani and Faris Alomani

Without whose encouragement and prayers during my life, I would not have been able to achieve anything today.

To my loving husband Dr Salman Alsubaie, a great man,

for his considerable support, understanding and everlasting love throughout the journey to complete this thesis.

To my adorable daughter Munirah

May this be a source of motivation for you in future life.

DECLARATIONS

I indicate that the materials in this thesis have not presented before for a degree. I also certify that this work is based on my research. I further certify that all data in this thesis has been received and displayed following academic rules and ethical conduct.

The material showed herein has already been published in the form of the following publications:

1. Alomani, Q. (2016) ‘How sources of occupational stress can influence turnover intention, mental health, and happiness among units’ nurses’, *British Academy of Management (BAM) Conference*, BAM 2016 Proceedings.
2. Alomani, Q. (2016) ‘Causes and effects of occupational stress in nursing’, International Academy of Science, Engineering and Technology (IASTEM) International, IASTEM 2016 Proceedings.

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CHAPTER 1: INTRODUCTION AND BACKGROUND OF STUDY

1.1 Introduction

This chapter provides a broad overview of this research. This research explores the main sources that influence nurses' occupational stress levels both negatively and positively, in terms of job demands and job resources, and how emotional exhaustion and work engagement affect nurses' anxiety, turnover intention, and happiness in public hospitals in Saudi Arabia. The first section of this chapter provides a short explanation of the background of the study. It then sets out the research problems and research questions. This is followed by an explanation of the objectives and significance of the study. This chapter also defines the methodology and the contribution of the study. The final part presents the structure of the thesis.

1.2 Background of the study

Work-related stress, or occupational stress, is known as the main issue in the field of occupational health (Knezevic *et al*., 2011). Previous studies have shown that 50–60% of all lost working days are related to occupational stress (Cox and Griffiths, 2010). Even recently, the Kingdom of Saudi Arabia has had extraordinary success in terms of healthcare progress. Recognizing that economic growth and health of the population usually go hand in hand, the Saudi Government has given the healthcare system significant attention, such as by increasing the healthcare budget (Aldossary, While and Barriball, 2008; Al-Husseini, 2006). In 2014, the Saudi Government allocated USD 15.9938 billion to the Ministry of Health (MOH) as compared to USD 9.34843 billion in 2010, showing a clear increase of over 70% (MOH, 2014). In addition to financial funding to improve the quality of healthcare, the Saudi Government has also worked hard to improve the human resources side of health care (Al-Husseini, 2006; MOH 2014). The health institutes have been updated and some have been changed to colleges of health science. Currently, there are 46 health schools and colleges (Al-Husseini, 2006). Consequently, the number of students attending the university medical and health colleges in 2015 was 66,564 compared to 40,591 in 2011. The number of graduates of university medical and health colleges in 2015 was 9,210 compared to 4,115 in 2011 (MOH, 2015; MOH, 2011). During the period 2011–2015, the total number of graduates in medicine and other health majors increased by 100%. And there is a continuous

updating of the curriculum, methods of training, field and practical practices. The total number of MOH hospitals and beds increased during the period 2010–2015: in the Kingdom there were 249 hospitals in 2010 and this had increased to 274 by 2015, with a total number of 41,297 beds in 2015 compared to 34,370 in 2010 (MOH, 2015; MOH, 2010). In addition, the total number of nurses in MOH hospitals in 2015 was 95,379 compared to 60,671 in 2011 (MOH, 2015; MOH, 2011). Foreign nurses represented 61.7% of the total nurses in all Saudi hospitals and 40% in MOH hospitals(MOH, 2015).

Despite the efforts being carried out by the Saudi Government to improve the health sector, health systems in Saudi Arabia are experiencing a critical shortage of qualified nurses along with alarming turnover rates. Based on the review of previous research, one can conclude that nurse turnover has been the focus of researchers all over the world. However, it has received little attention from researchers in Saudi Arabia, despite the fact that it is one of the most serious problems for the Saudi healthcare system. Researchers in several countries have studied numerous sources of stress that cause turnover among nurses, including work environment, alternative employment opportunity, and both personnel and organizational variables (Spence Laschlnger *et al.*, 2009; Alhamwan and Mat, 2015; Xiaoming*et al.*, 2014). Furthermore, the Chairman of the Scientific Council for Nursing of Saudi Arabia stated that not only is there a lack of Saudi citizen workers in the health sector but also that Saudi Arabia is losing 50% of its nursing graduates annually (Abu-Zinadah, 2006). Nurses are especially at risk of occupational stress, with high rates of turnover and absenteeism (Antigoni, Pediaditaki and Theofanidis, 2011). In addition, Coomber and Barriball (2007) assumed that the shortage was connected to a number of stress factors: for example, nurses' roles have expanded significantly to include some responsibilities previously performed by physicians. As stated by the U.S. National Institute of Occupational Safety and Health, occupational stress is a serious physical and emotional response and occurs when the worker's abilities, resources, and needs are insufficient to fulfil the requirement(s) of the job (Welker-Hood, 2006; Nedd, 2006).

Despite a growing body of research on stress in nursing in Saudi Arabia's public health sector, very little has been done to address it. One research regarding the prevalence of work-related stress (WRS) in secondary healthcare levels in Eastern Province, Saudi Arabia (Al-Makhaita, Sabra and Hafez, 2014) highlights the high prevalence of WRS among the nurses studied in both primary and secondary healthcare levels. Being young, being married, and having more than three children

were associating factors of WRS among nurses in the primary level. Being young, being female, being a Saudi national, being married, working shifts, and working in a surgical department were significant predictors of WRS among nurses in the secondary level**.** In another empirical study on the main sources of stress affecting nurses and the relationship with job satisfaction in the Kingdom of Saudi Arabia, Saleh, Saleh and AbuRuz (2013) claimed that nurses were vulnerable to many types of stressors that affected their work happiness.

According to Ida *et al.* (2009), nurses are health service providers who offer 24-hour services on the front line, are in immediate contact with patients, and are at the front of hospital operations (Al-Husseini, 2006). As such, the occupational stress of nurses will have a significant impact on both the physical and psychological health of nurses, their desire to leave their jobs, and consequently the healthcare system as a whole. For example, due to the huge dependency of the healthcare sector in Saudi Arabia on expatriate labour, the cost of turnover may be far greater than it is in other countries because of the added cost of recruitment, the time required for training and certification of foreign workers, and the time required for adaptation to the culture (Al-Ahmadi, 2014).

The importance of WRS among nurses means that it is important to ensure that scientific investigation identifies the stressors perceived to be hindering nurses' well-being. This is so that suitable strategies to reduce such stressors and to improve the well-being of healthcare workers can be formulated and developed for the sake of the overall healthcare system in Saudi Arabia.

1.3 Problem statement

There is a wide range of potential occupational stressors in nursing, as it is a job that requires specials kills. Nursing is a highly stressful occupation; occupational stress in nursing is universal, with many studies identifying work-related stressors such as workload and shift work (Xianyu and Lambert, 2006; Kawano, 2008). Management practitioners are aware of occupational stress and its influence on organizations and nurses. It plays a vital role in discovering whether an organization can meet its objectives and goals or not. Additionally, many researches have examined job demands and negative consequences – for instance, the relationship between sources of stress and turnover intention, and the impact of emotional exhaustion and turnover intention. However, there is a lack of research on the impact of job demands and job resources on anxiety, turnover intention, and

happiness. Thus, many occupational stress studies focus only on the sources of stress, with scholars paying little attention to other factors such as job resources that can have a significant impact on occupational stress levels. As such, other factors are theoretically able to explain anxiety, turnover intention, and happiness among nurses, and an appropriate theoretical model should be employed to explain this.

Nursing is a very stressful profession (Selye, 1978; Chao and Cheng, 2009; Williams, Michie and Pattani, 1998). Evidence suggests that nurses' anxiety, turnover intention, and happiness tend to be affected (Almalki, FitzGerald and Clark, 2012; Kawano, 2008; Gao *et al.*, 2012).

One model that theoretically considers stress is the job demands-resources model (JD-R), which represents the JD-R theory. The JD-R model claims that while job demands prevent employees from performing better in the workplace, job resources are useful in achieving work goals (Schaufeli and Bakker, 2004). All earlier studies and theories have generally considered job demands or job resources individually (Bakker, van Veldhoven and Xanthopoulou, 2010; Van den Broeck *et al*, 2008). To date, no study in nursing has looked at the differential outcomes of each factor in determining nurses' anxiety, turnover intention, and happiness. Such theoretical knowledge is warranted, as both elements do not happen in isolation at work; rather, they are perceived to exist simultaneously, and each has a different role in determining nurses' anxiety, turnover intention, and happiness. However, the JD-R theory combines the two research traditions, and clarifies how job demands and resources have unique and multiplicative effects on job stress and motivation (Bakker and Demerouti, 2014).

The JD-R model asserts that when these factors are not positively perceived, this will lead to a stressful situation, and consequently to anxiety feelings among nurses, and turnover intention will consequently reduce happiness levels. Furthermore, according to Fullagar and Kelloway (2009), the mediating effects of the critical psychological states between job characteristics, procedural fairness, anxiety, and happiness have been neglected in past studies. Thus, consistent with the theoretical propositions of JD-R theory and the recommendations of previous studies, the present research attempts to fill this gap.

Generally speaking, nursing is often considered a female profession (World Health Organization, 2006). As at 2010, the majority of nurses in the Saudi Ministry of Health (MOH) hospitals (75.18%) were female (World Health Organization, 2010a).

However, in a male-dominated culture like Saudi Arabia, employment among working women is generally discouraged as men are perceived as the main breadwinners of the household and women are perceived as staying at home. The World Health Organization (WHO) (2010) identified a worldwide chronic nursing shortage which will get worse by a huge number of nurses migrating to get better opportunities and training facilities. For instance, Colliers International Healthcare (2012) states that a significant number of doctors, nurses, and paramedical staff in the KSA move to Western countries after a few years due to better opportunities for life, more freedom, and better experiences. The Saudi literature links the shortage in Saudi nurses to socio-cultural factors found to influence the common undesirable images and apparent low status of nursing, public image, family disagreement, cultural beliefs, extended working hours, and mixed-gender environment were identified as the main causes why Saudi women did not select nursing as a career (Miligi and Selim, 2014). Nurses in the Kingdom of Saudi Arabia are expected to be stressed at work. To be able to remain in their job and to reduce their anxiety levels at work, nurses need support from the organization (Maertz *et al.*, 2007).

One assumption in the JD-R model that has been neglected is that job resources might buffer the effect of job demands (Bakker, Demerouti and Verbeke, 2004). Because job stress has significant consequences for both employees and organizations, searching for mechanisms that reduce the adverse impacts of job stress is critical (Jawahar, Stone and Kisamore, 2007). One of the job resources that could buffer the negative outcome of stress on work outcomes is organizational support (Brotheridge, 2001; Dwyer and Fox, 2006; Jawahar, Stone and Kisamore, 2007). However, within the nursing literature, the role of a stress buffer such as organizational support has received limited attention.

Based on the preceding gaps, this study tries to examine anxiety, turnover intention, and happiness of nurses in the context of Saudi Arabia by applying the JD-R model. In this model, emotional exhaustion and work engagement are considered as significant mediators to explain how job demands and job resources can affect anxiety, turnover intention, and happiness. By doing so in a sequential exploratory single study, a holistic theoretical understanding of what makes nurses feel anxiety and intend to leave their job, and how their happiness and their intention to remain in their job, can be achieved.

1.4 Research objectives

The present study seeks to achieve the following research objectives:

1. To identify occupational stress levels among nurses working in public hospitals in Saudi Arabia.
2. To identify the main job demands and job resources of nurses working in public hospitals in Saudi Arabia.
3. To examine the influence of job demands on the anxiety and turnover intention of nurses working in public hospitals in Saudi Arabia.
4. To investigate the influence of job resources on the turnover intention and happiness of nurses working in public hospitals in Saudi Arabia.
5. To determine the mediating effects, on nurses working in public hospitals in Saudi Arabia, of emotional exhaustion on the relationship between job demands and nurses' anxiety and turnover intention.
6. To ascertain the mediating effects, on nurses working in public hospitals in Saudi Arabia, of work engagement on the relationship between job resources and nurses' turnover intention and happiness.

1.5 Significance of the study

Occupational stress is both a present and upcoming concern for health and safety (Greenberg and Baron, 2009). Knowing the vital positive relationship among occupational stress levels and expensive undesirable consequences (for example, leaving the job or the hospital) must be a requirement for all decision makers, particularly given that Saudi Arabia faces severe obstacles in the health-related workforce (Al-Omar, 2003). Moreover, to date there has been no agreement on the causes of stress. Despite several studies on WRS, the lack of practical research, particularly in the Saudi health sector, that identifies the origins of stress makes the present study imperative. Furthermore, it might be significant to explore further the sources of stress, as these sources have been proven to be responsible for negative consequences that affect both individuals and organizations.

Therefore, as mentioned earlier in the present study, the objective of the research is to explore the influence of job-demand and job-resource factors on hospital nurses' anxiety, turnover intention, and happiness, and the mediating effect of emotional

exhaustion and work engagement. If the results of the research are proven to be real and usable, the study will contribute to both theory and practice. In terms of theory, the study will add to the framework of knowledge through the examination of the determinants of hospital nurses' anxiety, turnover intention, and happiness based on an individual's perspective, and the influence of the mediation of emotional exhaustion and work engagement. Specifically, the present study is one of the few studies that examine together the consequences of job demands and job resources on hospital nurses' anxiety, turnover intention, and happiness. Several earlier studies only examined the link between job demands and job resources and the exhaustion component of burnout or the relations between (lack of) job resources and disengagement (Demerouti *et al.*, 2001; Vander Elst *et al*., 2016; Rouxel, Michinov and Dodeler, 2016). Or between burnout and intention to leave the job separately, or between work engagement and its antecedents only (Mauno, Kinnunen and Ruokolainen, 2007; Jourdain ac, 2010).

In this context, the present study contributes in particular to JD-R theory by empirically combining all variables and mediators which were not considered previously. The current study also seeks to add to the literature on hospital nurses' well-being through the achievement of the following: (a) providing empirical evidence regarding sources of stress in hospital nurses; (b) defining the relationship between JD-R factors, emotional exhaustion, work engagement, nurses' anxiety, turnover intention, and happiness.

In practical terms, the study is of significance because it attempts to provide insight into one of the major neglected issues in Saudi Arabia's healthcare system. Although stress may not be fully preventable, it could be reduced (Hamaideh *et al.*, 2008). The stakeholders in the MOH can also benefit from the research by using it to classify, investigate, and examine the proposed factors found to influence nurses' anxiety, turnover intention, and happiness. Finally, the research can be used by decision makers to tackle and eradicate the negative factors that increase nurses' anxiety and turnover intention and to give more attention to the factors that decrease turnover intention and increase nurses' happiness.

1.6 Overview of the methodology

This research incorporates methodological sequential design (Clark and Creswell, 2011; Creswell and Clark, 2007). The preliminary study involves 15 semi-structured interviews with public-hospital nurses in Saudi Arabia to increase an initial

understanding of the constructs and to select the appropriate measurement items. This prepares the method for a pilot survey to check the draft questionnaire. The main study takes the form of a survey together data from 512 units' nurses in public hospitals in Saudi Arabia, the results of which are analysed statistically.

1.7 Research contributions

The key contributions from achieving the research aims and objectives can be summarized as follows:

1. Additional support is provided for the proposition by Demerouti *et al*. (2001), who stated that testing the JD-R model with additional factors could be divided into two groups – job demands and job resources – and that they are differentially related to particular consequences which would provide a richer understanding of nurses' occupational stress.
2. The study adds theoretical contributions to the JD-R model by examining the mediating role of emotional exhaustion between workload and anxiety, also the mediating role of work engagement between procedural fairness, turnover intention, and happiness. This is the first empirical study to test these relationships.
3. The findings show the validity of the JD-R model in explaining nurses' occupational stress in the nursing sector in Saudi Arabia.
4. This study makes a methodological contribution by adopting a sequential exploratory mixed-methods-research approach that explores the job demands and resources that affect nurses' anxiety, turnover intention, and happiness in Saudi's public hospitals.
5. The methodological contribution of this study is based on the fact that the study is one of the few studies to examine the JD-R model and the mediating impact of emotional exhaustion and work engagement outside of the Western cultural set and, specifically, in the Middle East.
6. All the previous studies in Saudi that attempted to examine nurses' occupational stress levels and their factors used either qualitative methods that could not generalize the results (because of lack of responses) or quantitative methods by using main factors that have been studied on Western countries that may not effect on them. This study fills this gap by firstly discovering and conforming the job stressors and job resources that

influence nurses' anxiety, turnover intention, and happiness by interviewing nurses in Saudi public hospitals and then developing the survey and distributing it to a large sample of nurses, which can generalize the results.

1.8 Thesis structure

This thesis is presented in two main parts: theoretical (desk) and practical (field) research. It consists of nine chapters including this one. Figure 1.1 outlines the structure of the thesis.

Desk research	**Chapter 1: Introduction** **Chapter 2: Health care and nursing profile in Saudi Arabia** **Chapter 3: Literature review** **Chapter 4: Research methodology**
Field research	**Chapter 5: Stage one results and discussion** **Chapter 6: Conceptual framework and hypotheses** **Chapter 7: Results of the main study** **Chapter 8: Discussion** **Chapter 9: conclusion and recommendations**

Figure 1.1: The structure of the thesis
Source: Researcher

Chapter 1: Introduction

This chapter outlines the research background and the problem statement. It indicates the research questions, objectives, and the significance of the study. It then provides an overview of the methodology and research contributions. It also explains the construction of the thesis by briefly outlining the focus of each chapter.

Chapter 2: Healthcare and nursing profile in Saudi Arabia

This chapter is to review the context of study, the healthcare sector in Saudi Arabia, focusing on healthcare, the structure of healthcare services and also providing an overview of the nursing sector in Saudi Arabia where the study was carried out.

Chapter 3: Literature review

This chapter aims to review the background perspective and significance of the related literature linking to the significant variables of this research comprising the nature of stress, occupational stress, occupational stress in different organizations, nurses' stress, and the prevalence of nurses' stress in diverse countries. This chapter also seeks to identify the domain of the research problem and gaps that exist in the literature as well as to discuss and explain existing job-stress and burnout theories and empirical studies in order to develop a conceptual framework to build foundations for developing the theoretical framework presented in the next chapter.

Chapter 4: Research methodology

This chapter presents the methodology to validate the suggested conceptual model. It highlights different research philosophies, approaches of research, research strategies, and research design. It then chooses the more related method for conducting this study and provides explanation for selecting it.

Chapter 5: stage one results and discussion

This chapter presents the results of the qualitative semi-structured interviews and then presents the thematic analysis of the qualitative phase and discusses it.

Chapter 6: Conceptual framework and hypotheses

Based on qualitative results, this chapter develops the theoretical framework, hypotheses, and constructs' relationships.

Chapter 7: Collection and analysis of quantitative data

This chapter describes the outcomes of the survey designed in Chapter 4. This study selects Analysis of Moment Structures (AMOS) version 22 to perform Structural Equation Modelling (SEM) on the survey results collected.

Chapter 8: Discussion

This chapter discusses the findings of the sequential exploratory mixed-methods study, and interprets the findings in the light of previous studies.

Chapter 9: Conclusion and recommendations

This chapter reviews the contribution of the study. It also highlights the practical implications. The final sections discuss the limitations of the study and provide recommendations for future research.

1.9 Conclusion

This chapter contains nine sections. The first section provides an introduction to the chapter and to the study. The second section provides a background to the study. The third section discusses the problem for this research and study. The fourth section presents research objectives. The fifth section presents the significance of the study. The sixth section provides an overview of the methodology. The seventh section presents the research contributions. The eighth section presents an outline of the thesis and this last section is the conclusion of the chapter. The next chapter presents healthcare and nursing profile in Saudi Arabia and outlines the healthcare system and the nursing sector in Saudi Arabia.

CHAPTER 2: HEALTHCARE AND NURSING PROFILE IN SAUDI ARABIA

2.1 Introduction

This chapter introduces overview of the context of study, the health care system in Saudi Arabia, focusing on healthcare and the structure of healthcare services which includes the health resources, and also provides an overview of the nursing sector in Saudi Arabia.

2.2 Saudi Arabia

Saudi Arabia is an Arabic land, including an area of 2.24 million km^2 of the Arabian Peninsula. Its capital city is Riyadh, and major cities include Dammam, Makkah, and Jeddah. This section illustrates the features of the country, its geography, and culture. *The World Fact book*(2013) states that Saudi Arabia has a population of 27 million, with approximately 5.5 million foreigners, a population increase rate of 1.51%, and an average age of 26 years. There is no other global country so reliant upon high levels of non-national workers.

2.3 Healthcare system in Saudi Arabia

The healthcare industry in Saudi Arabia is mainly controlled by the Government through the Ministry of Health (MOH) and various semi-public institutions which specifically serve hospitals and medical services for their workers. Private-sector operators also play a vital role in providing quality healthcare services in the Kingdom. The Saudi healthcare industry is structured to afford a basic platform of healthcare services to all, with specific treatment facilities serving some private and public hospitals. Colliers International Healthcare Overview presents a short snapshot of the key players in the Saudi Healthcare (Colliers International Healthcare 2012).

2.3.1 Ministry of Health (MOH)

About 60% of all hospitals in the Kingdom are held and operated by the MOH. These hospitals provide essential health-care services as well as, in certain cases, specialized facility centres. MOH facilities are available to Saudi nationals and every

citizen through disasters and accidents (Mufti, 2007). The MOH provides health aid at three levels: primary, secondary, and tertiary. Primary care aid, both preventive and curative, transfers cases that need more advanced care to public hospitals (the secondary level of care), whereas matters that require more complex levels of care are referred to specialized hospitals (tertiary health care) (Almalki, FitzGerald and Clark, 2011a).

2.3.2 Quasi-governmental health organizations

Health treatment in other Saudi Government and quasi-governmental health organizations is supported by the Saudi Government but managed privately. These organizations have their own hospitals that are completely free for their workers only and include the National Guard, the Ministries of Defence and Aviation, and the Royal Commission (Colliers International Healthcare, 2012).

2.3.3 Private sector

Historically most outpatient medications have been provided by the private sector. Nevertheless, increasingly in-patient treatments are also being provided by the private sector due to the high demand and the restrictions placed on admission to MOH facilities.

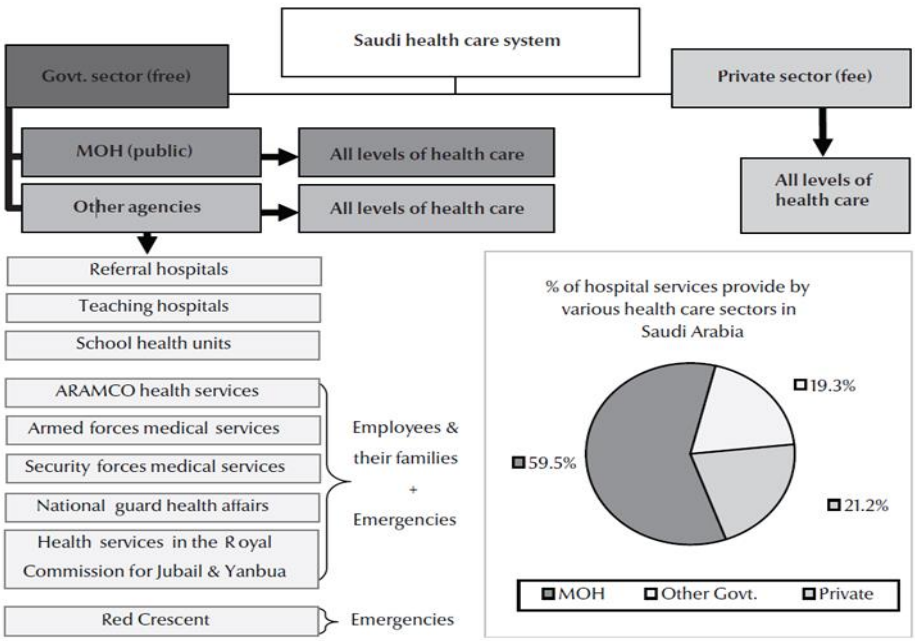

Figure 2.1: Current structures of the healthcare sectors in Saudi Arabia

Source: MOH, 2015

2.4 Health resources

2.4.1 Physical resources

The total number of hospitals in the Kingdom was 74 Saudi hospitals in 1970 and 45 years later, in 2015, this number had increased to 462, with a total number of 69,394 beds. The rate of beds per 10,000 of the population was 22.0 beds. This means that there was one bed per 454 of the population (MOH, 2015). Table 2.1 shows the total number of hospitals and hospital beds in all health sectors in the Kingdom of Saudi Arabia as of 2015.

Table 2.1: Hospitals and beds in all health sectors in Saudi Arabia in 2015

Source: MOH, 2015

Sector	Hospitals	Beds
Ministry of Health	274	41297
Other governmental sector	43	11449
Private sector	145	16648
Total	**462**	**69394**

2.4.2 Financial resources

Saudi Arabia is one of the richest and fastest-growing nations in the Middle East. It is the world's greatest producer and exporter of oil, which is considered the major part of the country's income (Ministry of Finance, 2010; Walston, Al-Harbi and Al-Omar, 2008). The Government's financial funds are taken from the Government budget for the MOH that holds the cornerstone of the Kingdom's health resources. The plan allocated by the Government for the MOH involving the governmental budget is shown in Table 2.2. The table indicates the increase of the governmental budget from 2010 to 2014. Furthermore, it notes that in 2014, the Saudi

Government distributed USD 15.9938 billion to the MOH as compared to USD 9.34843 billion in 2010, which showing a clear rise.

Table 2.2: MOH Budget appropriations in relation to Government budget (USD)

Year	Government budget	Total budget	%
2010	143,955,488.37	9,348,438.84	6.49
2011	154,621,293.26	10,626,268.40	6.87
2012	183,945,056.41	12,549,970.58	6.82
2013	218,601,142.05	14,489,081.93	6.63
2014	227,931,630.78	15,993,898.66	7.02

2.4.3 Human resources

Saudi Arabia has been continuously experiencing a lack of Saudi healthcare workers up until the present day. Statistics released by the MOH in 2015 show that the total number of physicians all over the KSA was 86,756, and that 26.0% of this number were Saudi. The total number of nurses was 17,2483, of whom 38.3% were Saudi. The majority of nurses in Saudi MOH hospitals (75.18%) were female, while foreign nurses represented 61.7% of the total nurses in all Saudi hospitals (MOH, 2015). Therefore, foreign health employees make up the majority of the total healthcare workers. Despite the vast number of foreign nurses to fit the demand of the local population, Abu Znadeh (2007) notes that in the list of Arab Gulf countries meeting the need for nurses, Saudi Arabia comes last with a rate of 32.2 nurses per 10,000 of the population. In other Arab nations (for instance, Qatar) there are around 54.8 nurses per 10,000 of the population, while in Europe there are 66.3 nurses to the same number of individuals. The shortage of nurses in the Kingdom is one of the principal problems in the Saudi Arabian nursing sector (Abu Znadeh, 2007; Al-Husseini, 2006; Mitchell, 2009). This shortage is accompanied with a high level of turnover (Abu-Zinadah 2006).

In order to minimize the effect of nursing shortages, health and nursing long-term plans are needed to recruit more local nurses and to retain the current expatriate workforce (Almalki, FitzGerald and Clark, 2011b). Therefore, The Saudi Government's role is extremely important in establishing career-focused educational institutions (such as medical and nursing colleges) in order to increase the number of local medical experts and to drive qualified Saudi talent into positions. Also, the current Saudi regulations for recruitment continue to increase staffing costs due to limited available resources. Nurses' income should be increased so that they can potentially save around 85% of what they earn, and have access to free flights to and from Saudi Arabia, transportation services, free furnished accommodation and paid utilities, generous annual leave entitlements, renewable 12-month contracts, medical cover and emergency dental care, and career development opportunities (Health Affairs,2015). Furthermore, to fill the supply gap, the Government needs to provide funding to the private sector and develop employment laws to be able to attract qualified resources (Colliers International Healthcare, 2012).

2.5 Nursing sector in Saudi Arabia

2.5.1 Nursing education in Saudi Arabia

Health teaching in Saudi Arabia started in Riyadh in 1958, when the MOH, in collaboration with the World Health Organization (WHO), began the first health organization for boys. Fifteen pupils (primary school graduates) were enrolled in a one-year programme (Aldossary, While and Barriball, 2008; Al-Husseini, 2006). In 1961, two-year nursing institutions for women opened in Riyadh and Jeddah. Two years later, the first group of 13 Saudi female nurses' assistants graduated from these institutions (Al-Husseini, 2006). In 1967, the Department of Health Education and Training (DHET) was established by the MOH. This Department was principally responsible for managing health organizations, including nursing institutions. In 1979, the DHET further developed the nursing institutions by limiting enrolments to pupils with the intermediate certificate (ninth grade) and increasing the period of study to three years (Miller-Rosser, 2006; Al-Husseini, 2006). The first graduation from these academies was in 1982. Since then, a number of nursing institutions and health institutes have opened in various cities in Saudi Arabia. By 1992, there were a total of 48 health organizations offering health education, including nursing studies (Al-Husseini, 2006). In 1992, some of these organizations developed to be post-secondary health academies. They registered nursing graduates from the traditional

organizations as well as high-school students (Al-Husseini, 2006). Currently, there are a total of 46 health schools and colleges (Al-Husseini, 2006). In 2008, all of these educational institutions were conveyed from the MOH to the Ministry of Higher Education (MOHE). This transfer was aimed at enhancing the quality of nursing teaching. The MOHE has the requisite academic expertise, financial support, and educational facilities. Additionally, this transfer has permitted the MOH to focus more on its primary role, which is to provide health care for the Saudi people.

Al-Mahmoud, Mullen and Spurgeon (2012) stated that Saudi Arabia has three undergraduate nurse levels:

- Professional nurse: diploma certification from a health organization after 30 months' preparation including clinical practice.
- Qualified nurse: higher diploma from health science college after 42 months' preparation followed by a clinic practical.
- Nurse specialist: bachelor qualification or higher after 60 months' nursing teaching, including a one-year internship or training in a university hospital.

While nursing masters' programmes in Saudi Arabia are offered only to female students (Alamri, 2011), international scholarships offered by governmental organizations allow Saudi nurse leaders and educators to study overseas at bachelor, master and PhD levels (AlYami and Watson, 2014).

2.5.2 Nursing profession

The Saudi nursing sector consists of nurses from several countries, each having its own culture and beliefs which are reflected in the way they deal with patients. The majority of foreign nurses come from India, the Philippines, North America, Great Britain, Australia, South Africa, Malaysia and other countries in the Middle East (Aboul-Enein, 2002; Aldossary, While and Barriball, 2008; Tumulty, 2001). As shown in Figure 2.2, staff nurses report directly to the head nurse, who in turn reports to the nursing supervisor. Staff nurses make up the largest category of nurses in any healthcare organizations.

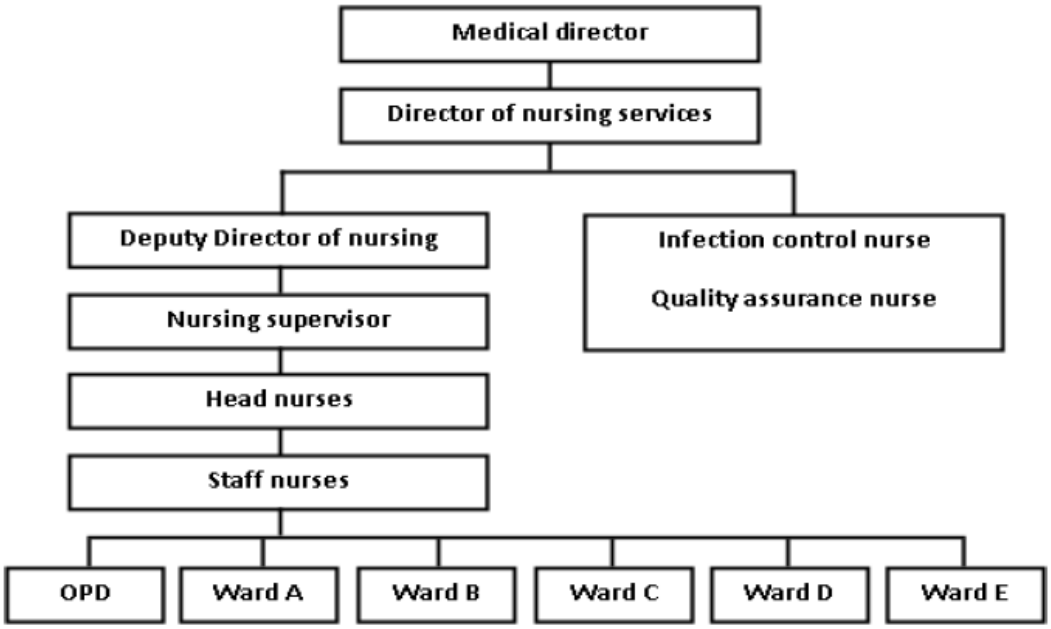

Figure 2.2: Nursing organizations in hospital chart
Source: Al-Osimy (2008)

Adding to the nursing-shortage problem in Saudi Arabia is the high dependency on foreign nurses (Al-Ahmadi, 2006). The majority of foreign nurses consider the Saudi Arabia healthcare facilities as a temporary place to get practice and experience. Then they leave with marketable abilities to go and work in developed countries such as US, the UK, Canada, and Australia (Mitchell, 2009; Alamri, Rasheed and Alfawzan, 2006; Al-Husseini, 2006). Unfortunately, there are no stated statistics on this matter which is of critical importance, although expatriate turnover is the main concern for managers of health services (Almalki, FitzGerald and Clark, 2011b).

The nursing profession in the Kingdom of Saudi Arabia is not viewed favourably by society as they consider it related to a maid's job (Al-Aameri, Rashid and Al-Fawzaan, 2007). In addition, males are not attracted to nursing because it is perceived as a woman's job, and as a result, there are more female nurses than male nurses. Female nurses do not have a high chance of getting married, because Saudi men are often unwilling to marry nurses because of the nature of work, in that nursing requires contact with male colleagues and patients, caring for sick males, and working night shifts (Al-Aameri, Rashid and Al-Fawzaan, 2007). In Saudi Arabia, there is strict gender separation at all levels of education including university, and this is also true in the healthcare sector where mixing between genders is kept to a minimum in the patient–provider relationship. However, males

and females working in healthcare are expected to interact with each other as co-workers (Carty *et al.*, 1998), and hospitals are the only place where Saudi employment law allows men and women to work together (Vidyasagar and Rea, 2004).

In short, despite health care and nursing in Saudi Arabia witnessing notable improvements in the areas of education, training, and workforce, Saudi Arabia nurses are faced with constant obstacles. And a consensus on their role within the broader context of social and health-care areas remains lacking.

The next chapter presents the literature review, which provides a focused consideration on the nature of stress, an overview of the approaches and the main theories to the study of stress, occupational stress, occupational stress in different organizations, nurses' stress, the prevalence of nurses' stress in diverse countries, the sources and consequences of nurses' stress, and the costs of occupational stress.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

The broad aim of this chapter is to review the background viewpoint and significance of the relevant literature relating to the main constructs of this study including the nature of stress, occupational stress, an overview of the approaches and the main theories to the study of occupational stress, occupational stress in different organizations, occupational stress among nurses, the prevalence of nurses' stress in different countries, the sources and consequences of nurses' stress, and the costs of occupational stress. The final section summarizes the whole chapter.

3.2 The concept of stress

Stress is an inescapable part of a person's life (Dobson, 2012). However, Field *et al.* (2013) claimed that stress is a somewhat ambiguous concept. Stress research and literature is diverse and extensive, and there has been much debate over the challenges involved in defining stress as well as the utility of such a definition. Several authors (Linden 2004; Baum and Contrada, 2010) highlight the fact that there is little agreement as to a general definition or similar theory of stress. Several factors contribute to the difficulty in agreeing on an all-encompassing definition including:

1. There are numerous disciplines involved in stress research and each is accompanied by varying perspectives such as physics, psychology, sociology, biology, and epidemiology (Fink, 2000).
2. The term "stress" is often used to refer to both the cause and the effect of the stressful situation (Nel and Spies, 2007).

Baum and Contrada (2010) in the introduction to their handbook highlight the need for an awareness of the challenges associated with the stress concept and its definition:

"… it can usefully serve only as a general rubric for a set of loosely related research areas, and that it is ill-suited as a label for any single concept with any one particular technical definition. Others, by contrast, have offered quite narrow, discipline-

specific definitions of stress. Still others, pointing to problems with definitions and other sources of dissatisfaction with stress research, have argued that the stress concept should be abandoned." (Baum and Contrada, 2010, p.1)

Leaders in the field continue to clarify taxonomies for understanding stress (Cox and Griffiths, 2010). Segerstrom and O'Connor (2012) suggest that future research can yield much discovery, particularly in furthering our understanding of how stress, coping, and health develop and change over time.

While particular meanings differ, the origin of the term "stress" comes from the Latin words used in the 17th century to mean "hardship, straits, adversity or affliction", and the word "stress" was used during the 18th and 19th centuries to mean "force, pressure, strain or strong effort" (Cooper and Marshall, 1978). The word "stress" is not novel, as Selye (1950, 1956) used it in social science in the 1950s (Hobfoll and Wells, 1998). Selye (1956) mentioned that organisms respond to stress in three phases: the alerting response, the resistance response, and the exhaustion response. He stated that everybody experiences some degree of stress continually. He suggested that stress does not have particular reasons, as it can stem from a serious disease, intensive physical or mental injury, or simple and mundane actions such as a car breaking down. He also claimed that in order to comprehend stress, one should understand both the demand itself and the individual response to this demand. However, if this demand exceeds certain levels, it will be damaging for the individual's welfare (Di Martino, 2003).

A more preferable method to describing stress is one that takes into account that stress is relational in nature – an interaction between the individual and the atmosphere, or the reaction of extreme pressures or demand that exceed usual coping mechanisms (Health and Safety Executive, 2013). Selye (1956) stated that stress is an unavoidable consequence of life, and therefore an unavoidable consequence of organizations as well.

3.3 Occupational stress

The growing awareness of implications of work stress is evident by the sheer number of studies investigating occupational stress. Job stress, occupational stress, or work-related stress (WRS) is that which is intrinsic or otherwise related to the job or the organization (Okorie-Uguru, 2007). Ofoegbu and Nwadiani (2006) state that job stress is a condition in which job-related factors interact with the employee to modify his or her physiological condition such that he or she deviates from normal

functioning. WRS was once believed to be experienced only by those who work in senior positions; however, it is now recognized that it can be experienced by workers at any level (Michie and Williams, 2003). WRS occurs when there is a mismatch between the demands of the job and the resources and abilities of the single worker to meet those demands (Blaug, Kenyon and Lekhi, 2007).

Occupational stress is described as the perception of a discrepancy between environmental demands (stressors) and the worker's abilities to fulfil those demands (Ofoegbu and Nwadiani, 2006; Topper, 2007). Shackleton (1986) sees stress as external or internal stressors causing tension on a person or a group, while others see stress as a physiological and mental reaction to an external stressor.

Many occupations can be considered stressful, especially if the job is monotonous and dull or too demanding in terms of travel so that the individual is likely to experience stress (Telsang, 2007). Police officers, fire fighters, disaster workers, and medical, ambulance, and voluntary emergency staff all contend with considerable stress as a consequence of the nature of their positions. Given the value of work in society, and given the increasing amount of time spent at work and the different challenges facing the workplace today, it is not surprising that WRS seems to be increasing. Not all employees respond similarly to stressors in the work environment (Beauregard. 2014). Unfortunately, many people are not aware of WRS that occurs in organizations. They assume that WRS will only affect their performance at work, but it can also affect their health, leading to serious health issues and even death. If individuals are not aware of job stress, it can become worse and may even lead to suicide (Yahaya *et al.*, 2010).

Therefore, occupational stress has been of great concern to the management and other stakeholders of organizations. Despite that, the majority of studies on occupational stress have been conducted in Western countries (Zhou and Gong, 2015). Researchers agree that occupational stress is a serious problem in many organizations (Iqbal and Kokash, 2011; Ornelas and Kleiner, 2003). Since WRS became a central object of interest for scholars, there have been efforts to theorize and represent these definitions of stress methodically for a better understanding and explanation. The next section will discuss the approaches and main theories to studying stress, as examining previous theories may help researchers to select an appropriate theory or theories and model based on their strength and weaknesses to reach better results.

Table 3.1: Definitions of stress and occupational stress

Source	Definitions
Cooper, Dewe and O'Driscoll (2001)	Stress is neither in the individual nor in the environment but is rather in the relationship between the two.
Rice (1999)	Anything that leads to a stress reaction or disrupts the equilibrium of the individual.
Lazarus and Folkman (1984)	Psychological stress is a particular connection between the person and the environment that is measured by the person as taxing or exceeding his or her resources and endangering to one's well-being.
HSE website (2009)	The procedure that arises where work demands of several types and combinations exceed the person's capability and ability to cope.
HSE (2008)	Work-related stress is the adverse response people have to extreme pressures or other types of demand placed on them.
European Foundation for the Improvement of Living and Working Conditions (2007)	Work-related stress is a pattern of reactions that happens when workers are presented with work demands that are not matched to their knowledge, skills or abilities, and which challenge their capability to cope.
(Leka, Griffiths and Cox, 2004)	The response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope.

Source: Researcher

3.4 Approaches to the study of stress

Over the years researchers have published influential review on WRS issued by the European Agency for Safety and Health at Work (Cox, Griffiths and Rial-González, 2000) which concluded that there are essentially three different but overlapping

methods. The first approach conceptualizes WRS as an aversive or noxious aspect of the job environment, and, in related studies, treats it as an independent variable of the environmental cause of ill health. This has been termed the “engineering approach”. The second approach defines stress vis-à-vis the traditional physiological impacts of a broad array of aversive or noxious stimuli. It views stress as a dependent variable and as a particular physiological response to a dangerous or damaging environment. This has been termed the “physiological approach”. The third approach views occupational stress as part of the dynamic interaction between the person and their work environment, and has been termed the “psychological approach”. The engineering and physiological approaches are apparent among the previous theories of stress, while the most psychological approaches characterize contemporary stress theory (Cox and Griffiths, 2010; Cox, Griffiths and Rial-González, 2000).

3.4.1 The engineering approach

The engineering approach is where stress is seen as a stimulus or characteristic of the environment in the form of a level of demand (Cox and Griffiths, 2010; Cox, Griffiths and Rial-González, 1996). Smith and Cooper (1994) pointed out that this approach was created from the fields of physics and engineering where stress, as an independent variable, was defined as a practical force on an object that eventually would cause a distortion through the resistance of the object to that force. The forces here from the human perception are analogous to the stimulus, and the object is analogous to the body. Therefore, stress here is a representation of the force on the object. If the object resists this practical force or load, there is no tension, and it is referred to as flexible deformation. However, if the object is unable to withstand this force or load, then it will generate unbearable stress that will cause deformation. Therefore, stress or the resistance of the object creates stress from the engineering point of view if the object cannot resist the applied external force or load. Once the resistance of the object or stress reduces, the object will no longer be able to resist. This may lead to a lasting change in the properties of the object. These effects or changes are termed as stress (Al-Oadah, 2006).

3.4.2 The physiological approach

Early response-based theories, deriving from medicine, used a different terminology to describe what was essentially the same conceptual system. The physiological

approach is where the meaning of stress is based upon the physical or biological changes that happen in the person when they are in a state of stress (Cox and Griffiths, 2010). Sutherland and Cooper (2000) described the physiological approach to stress from the perspective of its symptoms, that is, having headaches, feeling anxious, or feeling depressed.

According to Sutherland and Cooper (2000), this view originated in medicine and was called the physiological approach to stress or the response-based model that dealt with stress as a dependent variable. It accounts only for the physiological part, that is, stress symptoms. Moreover, Selye (1950; 1956) pointed out that the physiological response was triphasic in nature, including an early alarm stage (sympathetic) followed by a stage of resistance or adaptation and then a final stage of exhaustion.

However, specific criticisms have been made of these approaches. The key limitation is that the engineering and physiological models of stress are theoretically dated in that they are set within a relatively simple stimulus–response pattern, and mostly disregard individual differences of a psychological nature (i.e. character, styles, coping levels and methods, knowledge, skills, wishes, and perceptions) that would affect how the person would respond or react to pressure (Cox, Griffiths and Rial-González, 2000; Cox and Griffiths, 2010).

These approaches treat the individual as a passive vehicle for translating the stimulus features of the environment into psychological and physical response parameters. They also ignore the connections between the person and their various environments, which are a crucial part of systems-based approaches to biology, behaviour, and psychology. In particular, they disregard the psychosocial and organizational contexts of WRS (Cox and Griffiths, 2010; Cox, Griffiths Rial-González, 2000).

3.4.3 The psychological approach

This third approach to the description and study of stress conceptualizes it in terms of the dynamic interaction between the person and their work atmosphere. When studied, it is either inferred from the existence of difficult person–environment connections or measured in terms of the cognitive processes and emotional reactions that support those interactions (Cox and Griffiths, 2010; Cox, Griffiths Rial-González, 2000).

As pointed out by Cooper, Dewe and O'Driscoll (2001), this psychological approach, which controls the current literature and the theories of stress built on both the engineering and physiological approaches, explains occupational stress as a dynamic interface between the worker and the work environment. Therefore the improvement of psychological models has been, to some extent, an effort to overcome the criticisms levelled at the earlier approaches (engineering and physiological).

More closely, the psychological approach attempts to model human behaviours in which individual, behavioural, organizational, and environmental aspects are considered in describing WRS (Al-Oadah, 2006). Cox and Griffiths (2010), Cox, Griffiths and Rial-González (2000) and Cooper, Dewe and O'Driscoll (2001) all stated that this approach modelled the psychological consequences of an unfavourable work environment that integrates two main theories. Such contemporary theories were characterized by two elements: first, they more clearly permit an interaction between the person and their environment; and second, they ascribe a more powerful role for the individual in that interaction by including a new raft of psychological thoughts to describe the interaction. The transactional theories are concerned with processes such as cognitive appraisal and coping and therefore ascribe a more dominant role to the person in identifying consequences. Arguably indicating a greater input from clinical and social psychology, the interaction between the individual and their environment has been defined as "a transaction" with all the implications of such a terminology (Cox and Griffiths, 2010). Interactional theories by contrast, are concentrated on the construction of the situations that create the experience of stress and attach less importance to the processes included and the individual's attempts to deal with the effects of that experience (Cox and Griffiths, 2010). Cooper, Dewe and O'Driscoll (2001) also described the interactional models as a structural, quantitative, and static or cause-and-effect relationship between only the two variables: stimulus and response. Along these lines, the interactional models were regularly used in studies related to occupational stress: "Much of the research on work-stress has been conducted using an interactional framework" (Cooper, Dewe and O'Driscoll, 2001).

The structural or interactional theories take a solid input from social epidemiology, as evidenced in the types of researches that encouraged the improvement of those theories and the backgrounds of some of their chief advocates (Cox and Griffiths, 2010).

A host of psychological stress theories have developed within either the transactional or interactional species. The sections below will not attempt to examine them all; but rather they will discuss the main theories and concentrate on an appropriate theory for the study's objectives. Table 3.2 shows all stress theories, their definitions, and limitations.

3.5 Contemporary transactional stress theories

Most transactional theories of stress emphasize the cognitive processes and emotional reactions underpinning the person's interaction with their environment (Chung and Wu, 2013; Cox, Griffiths and Rial-González, 2000; Cox and Griffiths, 2010). In the context of work stress, a transactional approach examines the relationship between the employee and their work environment through the personal meanings that they give to their work and their working environment (Kinman, 2006). Transactional views often place emphasis on the role of subjective perceptions of the environment and are more likely to acknowledge the possible influence of individual difference factors, such as differences in coping, appraisal, personality, and locus of control (Mark and Smith, 2008). In addition, Cox and Griffiths (2010) claimed that transactional theories attempt to explain the processes by which exposure to the working environment (say, in terms of a person's experience of demands, control, and social support) determine the experience of stress, the individual's responses to it, their coping mechanisms, and the effects on their health and behaviour. Such perceptual and cognitive processes have been termed "cognitive appraisal" by Lazarus (1966).

However, transactional theories are not appropriate for this study as the transactional stress process is difficult to operationalize (i.e. its various elements which are difficult to measure) (Cox and Griffiths, 2010). The transactional model gives much emphasis to personal appraisals and only a little attention to the reason why people appraise events in particular ways; accordingly, it gives insufficient attention to the environment (Hobfoll,2002).

3.6 Contemporary interactional theories

3.6.1 Person–environment fit theory

The interaction between the person and the environment is made obvious in the person–environment (P-E) fit model of stress (French, Caplan and Van Harrison, 1982). For years, the P-E fit model has maintained a primary position in organizational behaviour study (Edwards, 2008). P-E fit theory clarifies that stress can occur as a result of a lack of fit. Logically, this can take one of three forms (Edwards, Caplan and Van Harrison, 1998):

- Where the needs of the work atmosphere exceed the worker's capacity.
- Where the employee's needs consistently fail to be satisfied by the workplace.
- Where a combination of these two situations exists (i.e. where an employee's demands are not being satisfied while at the same time their skills are overstretched).

Grimshaw (1999) reported that the P-E fit model assumes an essential cause of strain and that ultimately ill health is a sufficiently large degree of misfit stress between individual and job. According to Schreuder and Coetzee (2006), the P-E fit is defined as a balance between the features of a person and the requirements of the job. That is, there can be positive consequences if there is an alignment or fit between the features of people and their environments.

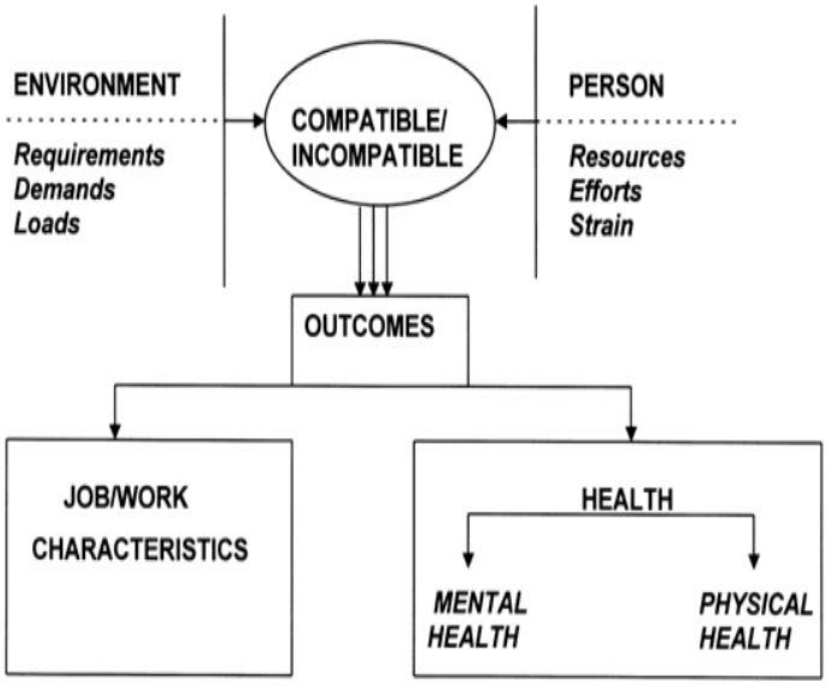

Figure 3.1: A model of stress as P-E fit

Two differences are clear in this model: first, between objective reality and subjective perceptions; and second, between environmental variables (E) and person variables (P). A lack of fit can happen in four different ways, and each is likely to challenge the worker's well-being. There can be both an absence of subjective and objective P-E fit: these are the primary foci of attention with particular interest being expressed in the lack of personal fit, and how the employee understands their job situation(Cox and Griffiths, 2010; Cox, Griffiths and Rial-González, 2000).

Therefore, the P-E fit theory suggests that the worker and the work environment could significantly affect each other, especially if there is a gap between the motives or abilities of the person and the job obligation or job demands (Al-Oadah, 2006).However, researches of P-E fit approach frequently encounter critical theoretical and methodological difficulties which strictly limit the conclusiveness of their results – such as unsuitable analytical methods for measuring the effects of fit and vague measurement of P-E fit dimensions (Edwards and Cooper, 2013). Alternative theories are proposed below, as P-E fit is not suitable for this study.

3.6.2 Job demand-control (JD-C) theory

Karasek (1979) pointed out in his JD-C theory that the health of the employee and aspects of the work together might be interrelated to the well-being of the employee. Karasek's JD-C model (Karasek, 1979) is one of the most significant models of stress and welfare in the workplace (Ibrahim and Ohtsuka, 2014; Kompier 2003) and the original model emphasizes the two psychosocial job characteristics of job demands and job control. According to Karasek (1979), work demands are the psychological stressors associated with performing the workload, stressors related to unexpected responsibilities, and stressors of job-related individual conflict, while job control (referred to as "decision latitude") is defined as a working individual's potential control over his task and his conduct during the working day. Karasek (1979) drew attention to the probability that work characteristics may not be linearly related with worker healthiness, but they may combine interactively in relation to health.

Karasek (1979) advocated this view by his results through the secondary data analysis from studies carried out in the US and Sweden. These discovered that workers characterized by a heavy workload and low decision latitude (control), as job stressors, did suffer from disease, job tension, and dissatisfaction. The decision latitude was defined as "the working individual's potential control over his jobs and his conduct during the working day". Figure 3.2 summarizes the four types of jobs classified in Karasek's model. The separation of job demands and job control provides: a) for the high-stress job type – high job demands and low job control; b) for the busy job type – high job demands and high job control; c) for the low-stress job type – low job demands and high job control; and d) for the passive job type – low job demands and low job control (Ibrahim and Ohtsuka, 2014).

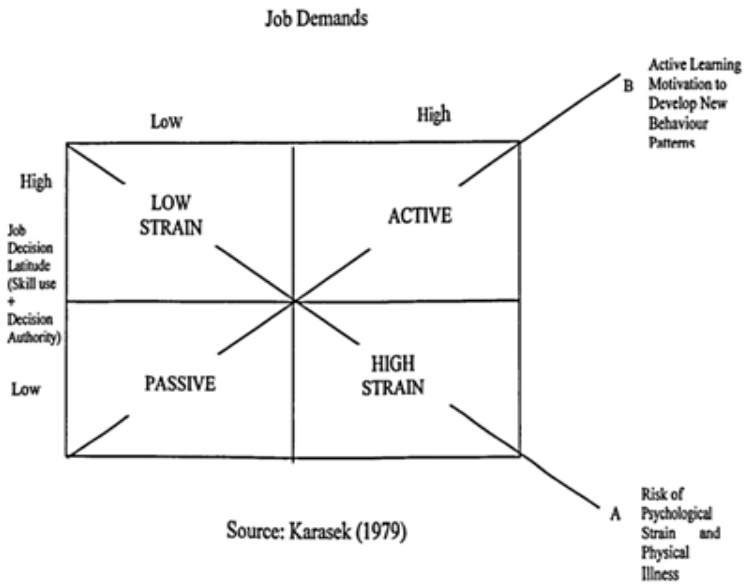

Figure 3.2: Job Demand-Control model (Karasek, 1979)

Karasek (1979) hypothesized that those workers experiencing high levels of demand in work in addition to having low levels of job control (high-strain situation) were excessively more likely to display increased levels of depression, exhaustion, cardiovascular disease, and mortality. Nevertheless, the lowest standards of disease were in workers with reasonable or even high stresses if they also had high levels of job control (challenge condition). Karasek (1979) thus proposed a communication where high demands and low control would be expected to produce high stress, but that high control would buffer the harmful consequence of demands on outcomes.

However, job demand-control (JD-C) theory is not appropriate for this study as the empirical evidence for this theory is mixed (De Lange *et al*., 2003). Additive effects of job demands and job control on employee well-being and motivation have often been found, but many studies have failed to produce the interaction effects proposed by the DCM. Moreover, Taris (2006) showed that only 9 out of 90 tests provided support for the demand × control interaction effect.

3.6.3 Effort-reward imbalance theory

The effort-reward imbalance (ERI) model (Siegrist, 1996) is one of the recent internationally adopted work-stress models with a selective focus (Tsutsumi and Kawakami, 2004; Van Vegchel *et al.*, 2005).

Van Vegchel *et al.* (2005) maintained that the model is based on the proposition that job-related benefits rely on a joint relationship between hard work and rewards at job. Efforts represent job demands and/or obligations that are imposed on the employee. The dimension of reward contains three sub-constituents, which represent employees' perceptions of performance-related esteem (component 1), career changes (component 2), and job security (component 3). Therefore, the ERI model accounts for immediate job situations along with more distant labour market conditions. The dimension of over-obligation, in turn, defines strong commitment towards work in addition to the difficulty in separating from work-related thoughts and activities (Rantanen *et al.*, 2013).

The model proposes that the non-appearance of reciprocity (hard work in combination with low reward) creates bad feelings and psychobiological stress responses with negative effects on health (Siegrist *et al.*, 2014). Dealing with a very high workload without receiving the appropriate gratitude is an example of a stressful inequity. The proportion of costs and gains is considered the external component of the ERI model because it refers to the perception of exterior aspects (i.e. working conditions). Over-commitment is considered the intrinsic component of the model (Feuerhahn, Kühnel and Kudielka, 2012).

Siegrist (2010) reports that there are psychological reasons for a regular mismatching between efforts and rewards in a job. Individuals characterized by a motivational design of extreme work-related over-commitment may struggle towards continuously high achievement because of their fundamental need for approval and esteem at work. Over-commitment is an intrinsic motivational aspect describing "an incapability to remove from work" (Siegrist *et al.*, 2009; Siegrist *et al.*, 2004).

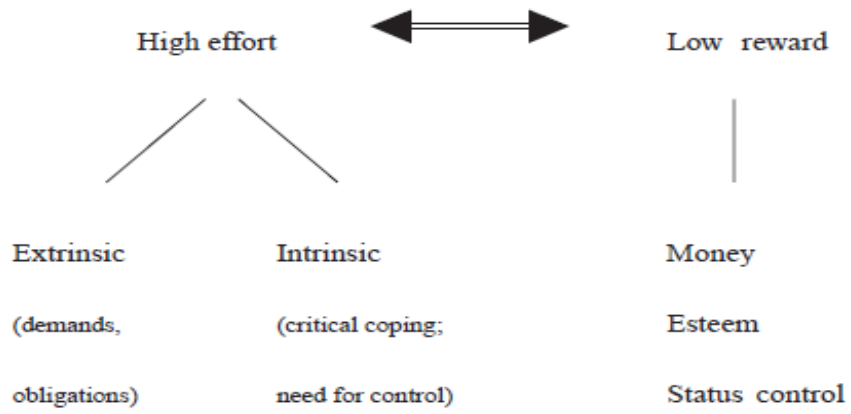

Figure 3.3: Original ERI model (Siegrist, 1996)

The effort is suggested to have two components: internal effort, emanating from the personal inspirations of the person, such as a need for control and over-commitment (a tendency to make excessive efforts or be committed to unrealistic goals); and external effort, or external stresses, such as workload. External demands are also proposed to involve the position of the labour market, and how easily alternative employment can be found. Despite developments in their operationalization over time, the concepts of effort, reward, and over-commitment have remained the core components of the ERI model (Van Vegchel *et al.*, 2005).

However, there remain some theoretical and conceptual issues of the ERI model. Firstly, previous researches are limited in the extent to which the role of individual differences in the ERI model is adequately explored, especially with regard to work-related outcomes (Mark and Smith, 2008). Secondly, the measurement tools used in previous studies have been questioned in terms of their consistency and their ability to capture the conceptual properties of the essential components of the ERI model. Thirdly, the criticism relates to the standard operationalization of an imbalance and the strength of existing methods to identify significant relationships between the effort, reward, and over-commitment measures and worker consequences. Finally, the research methods used within the job-stress literature generally, and within research examining the ERI model in particular, have been criticized for the extensive use of solely cross-sectional designs and reliance on self-report measures (Allisey 2011). Given all of these limitations this thesis concluded that this model will not fulfil its objectives.

However, Trybou *et al.* (2014) revealed that there is possibility for the demand-control-support (DCS) and ERI models to be used in combination, as each can add cumulatively to the explanation of difference in emotional and physical health

outcomes into a single framework: the job demands-resources (JD-R) model (Bakker and Demerouti, 2001). These models share two characteristics: a firm theoretical underpinning and recognition that personality, personal agency, and personal resources all play a role (Schaufeli and Bakker, 2004).

3.6.4 Job demands-resources (JD-R) theory

The job demands-resources (JD-R) theory (Bakker and Demerouti, 2014; Demerouti and Bakker, 2011) is an organizational theory that grew out of occupational stress research. The main starting question was, why do some employees lose their excitement for their job and become burnt out? Over the past fifteen years, JD-R theory has become very popular, and the method has been extended to allow the prediction of work engagement and performance as well (Bakker, 2015).

3.6.4.1 The history of job demands-resources theory

Since its existence in the wake of the twenty-first century, the JD-R model (Demerouti *et al.*, 2001) has gained high popularity among researchers. And the number of studies with the JD-R model has steadily increased (Bakker and Demerouti, 2014). Currently, the JD-R model is known as one of the important job stress models. For example, a search in Google Scholar in September 2013 showed that two influential papers that examined the JD-R model (Demerouti *et al.*, 2001; Schaufeli and Bakker, 2004) had been quoted over 2,400 times. With JD-R theory, we can understand, explain, and make predictions about employee welfare (e.g. stress, health, motivation, work engagement) and job performance (Bakker and Demerouti, 2014), and it has been used to predict job burnout (Bakker, Demerouti and Euwema, 2005).

Bakker and Demerouti (2014) claimed that one essential cause for the popularity of the JD-R theory is its flexibility. Whereas job-stress models have generally neglected the encouraging potential of job resources, JD-R theory supposes that worker health and well-being are consequences of a balance between positive (resources) and negative (demands) job characteristics (Schaufeli and Taris, 2014) Thus, the theory can be applied to all workplaces and can be tailored to the specific occupation under consideration (Bakker and Demerouti, 2014).

Accordingly, the JD-R model has classified job characteristics into two categories: job demands and job resources (Demerouti, Bakker and Fried, 2012).The JD-R

model does not limit itself to particular job demands or job resources: it presumes that any demand and any resource might affect employee health and well-being (Bakker and Demerouti, 2014; Bakker, 2015). The JD-R model was first issued under that label by Demerouti *et al.* (2001) in an effort to comprehend the antecedents of stress. In addition, Bakker and Demerouti (2014) stated that the JD-R theory assumes reversed causal effects, whereas burnt-out employees may generate more job demands over time for themselves, involving workers mobilizing their own job resources to stay engaged. According to Demerouti *et al.* (2001), Bakker and Demerouti (2008), and Bakker and Demerouti (2014), job demands are those physical, social, or organizational features of the work that need constant physical or psychological energy and are, consequently, linked with physiological and/or psychological costs.

In contrast, job resources are described as:

“physical, psychological, social, or organizational elements of the job that might do any of the following: (a) function in reaching work objectives; (b) decrease job demands and the related physiological and psychological costs; and (c) encourage personal progress and development.” (Bakker and Demerouti, 2007, p.312).

Therefore, resources are not only essential to deal with job demands, but they also are significant in their own right (Bakker and Demerouti, 2007).

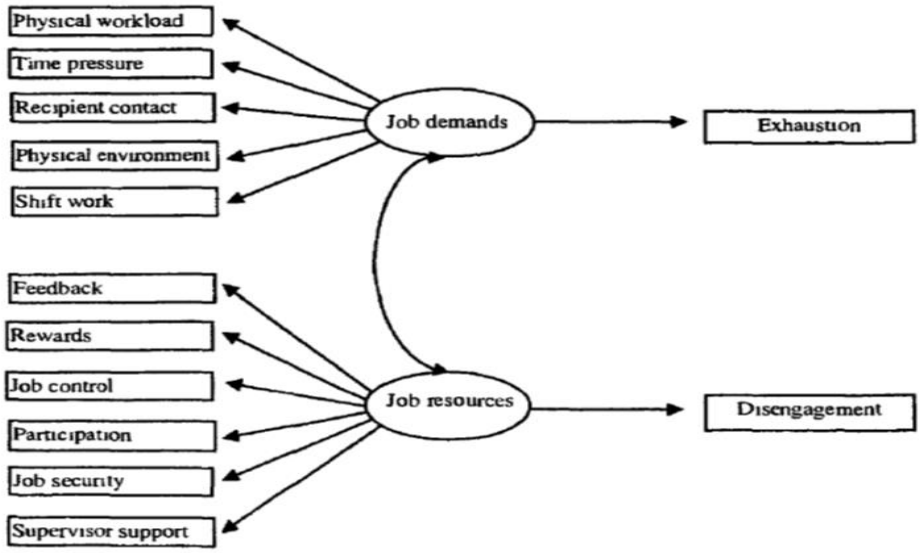

Figure 3.4: JD-R model of burnout article (2001)

3.6.4.2 The revised JD-R theory

Three years following its introduction, Schaufeli and Bakker (2004) presented a revised version of the JD-R model. This model contained work engagement along with burnout, and recognized burnout and work engagement to be mediators of the relationship between job demands and health difficulties, and job resources and turnover intention. Schaufeli and Bakker (2004) also argued that the revised JD-R model attempted to determine not only a negative psychological state (i.e. burnout) but also its positive counterpart (work engagement). Work engagement refers to a positive, successful, work-related state of mind that is categorized by vigour (that is, high energy levels and mental flexibility in the workplace), dedication (referring to a feeling of importance, enthusiasm, and challenge), and absorption (being concentrated and content in one's work). Similar to the initial JD-R model, the revised model estimates that burnout is a result of high job demands and the lack of job resources and therefore burnout will cause health problems such as depression or psychosomatic diseases (Schaufeli and Taris, 2014).

Therefore, job demands are in general the most important predictors of results such as exhaustion, psychosomatic health complaints, and repetitive strain injury (Hakanen, Bakker and Schaufeli, 2006), while job resources are generally the most significant predictors of work enjoyment, motivation, and engagement (Bakker, van Veldhoven and Xanthopoulou, 2010; Bakker and Demerouti, 2007). The causes for these different effects are that job demands mostly require exertion and consume energetic resources, while job resources achieve basic psychological needs such as the needs for autonomy, relatedness, and capability (Bakker, 2011; Nahrgang, Morgeson and Hofmann, 2011). Precisely, high demands and little resources are defined as creating the highest levels of psychological exhaustion and stress; however, high demands and high resources produce high motivation (Bakker, Van Veldhoven and Xanthopoulou, 2010).

A second assumption of the JD-R model is two comparatively independent psychological procedures that happen in the workplace and that have various effects on employee well-being. First is a health impairment process, which results from extreme job demands which may cause burnout and negative health effects. Second is a serious progression and is a motivational process that follows from exposure to satisfactory job resources and results in work engagement and positive work consequences, such as great performance (Bakker and Demerouti, 2007).

Job demands and resources cooperate in predicting occupational well-being. There are two probable ways in which demands and resources may have a mutual effect on well-being and indirectly impact performance.

The first interaction is the one where job resources act as a barrier to the influence of job demands on stress. Thus, some studies have shown that job resources such as social support, autonomy, performance feedback, and chances for development can alleviate the impact of job demands (work pressure, emotional demands, etc.) on strain, including burnout (Bakker, Demerouti and Euwema, 2005). Workers who are offered many job resources tend to manage better with their daily job demands. The second interaction is where job demands worsen the impact of job resources on motivation/engagement. Thus, research indicates that when job demands are high, job resources have the most positive impact on work engagement. For example, if an employee has challenging job demands, then job resources will become valuable and will promote and facilitate dedication to the job (Bakker and Demerouti, 2014).

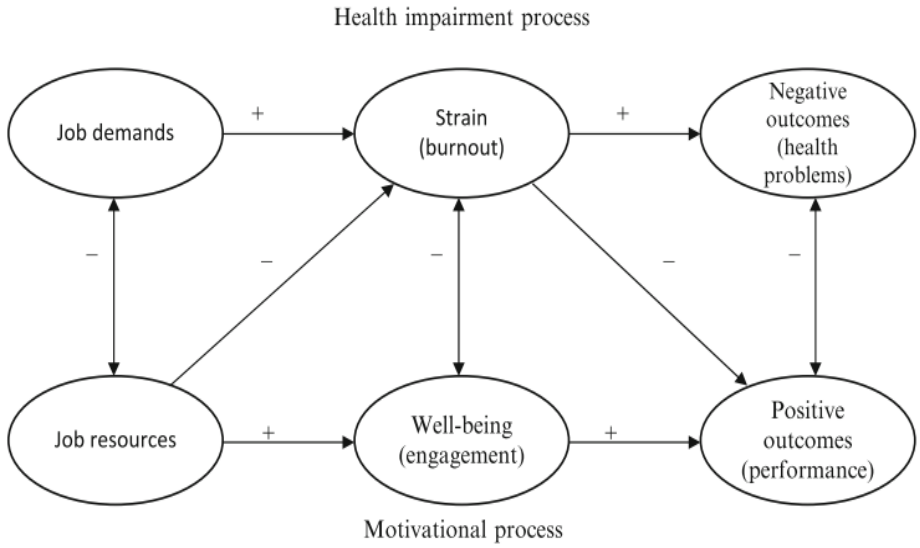

Figure 3.5: The revised JD-R model (Schaufeli and Bakker, 2004)

Initially, the initial and revised versions of the JD-R model only considered characteristics of the work environment. However, because the majority of psychological approaches assume that human behaviour results from an interaction between personal and environmental issues, it was only to be expected that personal resources would be integrated into the JD-R model (Schaufeli and Taris, 2014). Personal resources are positive self-evaluations that are related to resiliency

and refer to individuals' sense of their capability to control and impact their environment effectively (Hobfoll *et al.*, 2003). It has been argued and shown that such positive self-evaluations predict goal setting, motivation, production, job and life satisfaction, and other beneficial outcomes (for a review, see Judge, Van Vianen and De Pater, 2004).

This study will adopt the JD-R model for various reasons. First, most of the above-mentioned occupational health and well-being models focus exclusively on job stress and the resulting strain or specific resources such as job control or job reward. Therefore, all the previous studies in Saudi Arabia focused on one side only – job demands, whereas, the JD-R model is an example of a balanced approach which assumes that employee health and well-being result from a balance between positive(resources)and negative (job demands) (Schaufeli and Taris, 2014; Bakker and Demerouti, 2007). Also, there is a validation of the model in diverse occupational groups where employees work mainly with people (teachers and nurses), things (production-line workers), or information (air-traffic controllers and control-room operators) (Demerouti *et al.*, 2001). In addition, it is a heuristic, overarching model that may be practical in various occupational settings, regardless of the particular demands and resources involved, and it has been tested in different occupations (Llorens *et al.*, 2006) – for instance, home-care professionals*(Bakker et al*., 2003a) and call-centre workers (Lewig and Dollard, 2003), as well as the study of engagement among dentists (Hakanen, Schaufeli and Ahola, 2008). Yet, this extensive applicability and usefulness do not imply that there is no space for development of the model (Schaufeli, Bakker and Van Rhenen, 2009).

In summary, the basic supposition of the JD-R model is that each work environment is categorized by occupation-specific job resources and job demands, which can bring about improved well-being (e.g. work engagement) or reduce well-being (e.g. emotional exhaustion) (Akkermans *et al.*, 2013).The JD-R model is assumed that both factors do not happen in isolation at work; they are occur at the same time with a different role. Thus, the JD-R model is considered the most suitable model for this research's objectives (Schaufeli and Bakker, 2004). Accordingly, this JD-R model will determine specific job resources and job demands that effect nurses by interviewing them and analysing their responses. Also, it could help management to improve nurses' well-being in public hospitals in the Kingdom of Saudi Arabia. Appendix A shows all the studies that have used the JD-R model. Only five studies have been performed in the health sector, and of all these five (in Australia, Macedonia, China, Germany, and the UK), used a single method with different

constructs. In contrast, this study will use mixed methods to develop the framework and the questionnaire as well as to preserve the strengths and reduce the weaknesses in both methods (Bergman,2008). As mentioned above, Saudi Arabia has a different culture, which is known as a conservative culture that takes its sources from Islamic traditions. Saudi Arabia has own sources of stress among nurses which are related to socio-cultural factors such as the undesirable image and apparent low status of nursing. Therefore, the researcher expects different results from this study as compared to previous studies done in Western countries (Miligi and Selim, 2014). After presenting the main stress theories and adopting the most appropriate theory to fulfil the study' objectives, the next section will highlight occupational stress in different organizations.

Table 3.2: Psychological stress theories Source: Researcher

A range of stress models	Definition	Limitations of the models
Person-Environment Fit (French, 1973)	Lewin (1951) observed that an individual's personal characteristics interacted with their work environment to determine strain, and consequent behaviour and health. This suggests that the match between a person and their work environment is a key in influencing their health.	Buunk et al. (1998) state that empirical support for the theory is limited.
Job Characteristics Model (Hackman and Oldham's ,1980)	Focuses on important aspects of job characteristics, such as skill variety, task identity, task significance, autonomy, and feedback. These characteristics are proposed to lead to 'critical psychological states' of experienced meaningfulness, and experienced responsibility and knowledge of outcomes. It is proposed that positive or negative work characteristics give rise to mental states which lead to corresponding cognitive and behavioural outcomes, e.g. motivation, satisfaction, absenteeism, etc.	there is limited variety in the core job characteristics, with only a small number of key psychological states are considered.(Mark & Smith, 2008)
Vitamin Model (Warr, 1987)	Proposes that certain job characteristics have an effect on mental health that is analogous to the way that vitamins work in the human body. Simply put, some job characteristics have "constant effects" where health increases linearly with increasing "dose" up to a threshold, after which increased dose has no positive or negative effect, and these may include salary, safety, and task significance (Buunk et al. 1998).	both Sonnentag & Frese (2003) and Buunk et al. (1998) state that evidence for the model is mixed and inconclusive, and van Veldhoven, Taris, de Jonge, and Broersen (2005) state that the full model has yet to be empirically investigated.
Michigan Model (Caplan, Cobb, French, Harrison, Pinneau, 1975), Hurrell and McLaney (1988) became NIOSH model	the Michigan Model is based on a framework established by French and Kahn at the University of Michigan in 1962, and is sometimes known as the ISR model (Institute of Social Research) the Social Environment Model, or the Role Stress Approach. Like the P-E fit model. The Michigan Model also places much emphasis on the individual's own subjective perceptions of stressors.	Buunk et al. (1998) state that the Michigan model does not have a clear theoretical perspective that easily leads to specific hypotheses, and the model is hard to empirically evaluate due to its complexity. a general lack of empirical support means it does not have much predictive validity for health outcomes(Mark & Smith, 2008)
Demand Control Support Model (Karasek 1979; Johnson &Hall, 1988) to include social support (DCS)	The Demands-Control model is currently perhaps the most influential model of stress in the workplace (Kompier, 2003) and the original model focuses on the two psychosocial job characteristics of job demands and job control, the latter factor is sometimes called decision latitude.	The model is limited in the number of job characteristics it considers, which may not reflect the dynamic multi-stressor nature of modern workplaces. include its definition of demand as based primarily on workload and not other types of demand (Cox et al. 2000) and that the conceptualisation of control is quite a narrow view of this multi-dimensional construct (Carayon, 1993).

A range of stress models	Definition	Limitations of the models
Effort-Reward imbalance model (ERI: Siegrist, 1996; Peter & Siegrist, 1999)	ERI model is a popular view of stress at work that like DCS model was developed with a focus on cardiovascular disease. The ERI model has some key transactional features, as it places emphasis on subjective perceptions of the environment; however the role of individual differences and the explication of internal processes is less developed than in other transactional models. The key concept of ERI is one of reciprocity, where effort at work should be compensated by suitable rewards, and a mismatch between these will lead to stressful experiences.	The role of individual differences is limited to the intrinsic effort dimension, and there are no proposed mechanisms by which individual differences may influence the stress perception process.(Mark & Smith, 2008)
Cognitive Theory of Psychological Stress and Coping Lazarus and Folkman's (1980)	The individual and their environment are seen as coexisting in a dynamic relationship, where stress is the psychological and emotional state that is internally represented as part of a stressful transaction .The two key concepts in this process are appraisal and coping.	The complexity of this model means that it is hard to empirically evaluate, Cooper et al. (2001) have stated that despite the widespread use of the term "coping" there are difficulties surrounding its definition, as it can be seen as a process, a behaviour, as a stable trait, or as situation specific, and Briner, Harris and Daniels (2004) have suggested that the conception of appraisal is too simplistic and doesn't include individuals' histories, and anticipated futures.
Cox's transactional model (Cox, 1978; Cox & Mackay, 1981; Cox et al, 2000)	Cox's model, particularly a clarified structure and greater focus on occupational health and individual differences (Cox & Ferguson, 1991). Cox's framework (1978) has five stages. The first stage represents the demand or job characteristics of the environment, and the second stage represents the individuals' perceptions of these demands relative to their ability to cope (Cox et al., 2000). The third stage of the model is associated with the mental and physical changes that the person undergoes as a result of the recognition of a stress state, The fourth stage of the model represents the outcomes or consequences of coping, and finally, the fifth and last stage is feedback which is proposed to occur in relation to all other stages (Cox et al, 2000).	the very complexity of Cox's model means that it is hard to empirically capture(Mark & Smith, 2008)
Demand-skill-support model(van Veldhoven, Taris, de Jonge, & Broersen, 2005)	DSS was developed largely based on the DCS model (Karasek and Theorell, 1990) with the aim of specifying a model as parsimonious as possible (i.e., with a minimum number of factors) that still would be able to predict stress in a wide variety of situations and occupations.	The DSS gives little recognition of the impact of individual differences in the stress process, or subjective perceptions of job demands. The DSS may benefit from further testing with the inclusion of other job characteristics(Mark & Smith, 2008)

3.7 Occupational stress in different organizations

Stress in organizations is a highly significant phenomenon. Ogińska-Bulik (2006) claimed that the proportion of workers who report “feeling extremely stressed” has risen over the last 20 years. Among life situations, the place of work stands out as a potentially major cause of stress purely because of the amount of time that is spent at work (Erkutlu and Chafra, 2006). Stress is an inevitable part of a person’s working life (Williams and Cooper, 1998). Even Beauregard (2014) claimed that not all employees respond similarly to stressors in the work environment.

More recent studies have targeted occupational stress in numerous professions, such as nurses, doctors, police officers, teachers, and academics (Plattner and Mberengwa, 2010). Survey data has shown that teaching is one of the “high stress” professions (Johnson *et al.*, 2005). For instance, studies on stress among academic and general staff of colleges from all over the world indicate that occupational stress in universities is frighteningly widespread and increasing (Winefield *et al.*, 2003). An investigation carried out in the UK, the US, New Zealand, and Australia has identified various key factors connected with stress among academic and general staff: workload, time constraints, absence of promotion chances, insufficient gratitude, inadequate salary, changing job role, insufficient management or contribution in management, insufficient resources and funding, and student interaction (Gillespie *et al.*, 2001).

Research was conducted by Malik (2011) on public and private banks 'employees in Quetta City in order to analyse the level of occupational stress among them. He identified an important difference in the level of occupational stress among government and private bank workers. Occupational stress was discovered to be higher in the private bank workers compared to the public bank workers. Among the various occupational stress causes, overload, role authority, role conflict, and shortage of managers contributed further to the occupational stress experienced by the private bank workers compared to the public bank workers.

In a study carried out in Singapore among different employees, performance stress and work–family conflicts were found to be the most vital contributing sources of job stress among employees, males and females from six diverse occupations and para-professions, namely general doctors, lawyers, engineers, teachers, nurses and life-insurance personnel (Chan *et al.*, 2000). In addition, role ambiguity, role conflict, and clarity of organizational goals were also found to have a significant relationship with job stress among employees of seven Kuwaiti governmental sectors (Al-Fadli, 1999).

Beauregard (2011) in her study of public-sector workers in the UK claimed that employees who be forced to work long hours and to choose their jobs over their family lives are likely to experience higher levels of strain. And those who conform to organizational time demands may suffer from role overload, an established job stressor. In addition, the results of her study highlight the link between work–family interference and well-being, indicating a solid positive relationship between interference and stress. Coetzer and Rothmann (2006) identified the occupational stressors of employees in an insurance company in order to assess the relationships between occupational stress, sickness, and organizational commitment. The results showed that job insecurity, as well as pay and benefits, were the highest stressors in the insurance industry.

Although employees in different types of jobs and at different levels suffer occupational stress, healthcare workers have long suffered occupational stress (Kakunje, 2011). Several researchers agree that nursing is one of the occupations most exposed to a high level of stress (Dagget *et al.*, 2016; Cacciari *et al.*, 2013). As the sample of this research is nurses, the next sections will examine occupational stress among nurses in detail.

3.8 The prevalence of occupational stress among nurses

The nursing profession and the stress commonly associated with it has for decades been the subject of global concern (Happell *et al.*, 2013; Gonge and Buus, 2011; Ward, 2011). Since Selye (1978) pointed out that nursing is one of the most stressful professions and emphasized the need to identify and investigate occupational stress in nursing, because performance falls under stressful situations, researchers have been primarily concerned with understanding the level and sources of stress among various nursing departments or wards.

The following subsections will set out the recent studies carried out to explore the prevalence of stress among nurses in two areas: first, in Arab countries (including Saudi Arabia, as the circumstances in Saudi Arabia are similar to these nations in terms of language, religion, location and level of health; as conservative countries, they may have different causes than America and European countries); and second, in other countries around the world (which will offer an overview of stress levels among nurses worldwide and which studies conclude that nursing is a stressful job).

3.8.1 The prevalence of nurses' stress in Arab countries

There have only been a few studies conducted among Arab countries' nurses. Eltarhuni (2016), in his study to explore job stress sources among doctors and nurses working in emergency departments in Libya, noted that the level of stress was high among nurses. The study of Al-Makhaita, Sabra and Hafez (2014) aimed to identify the prevalence of occupational stress among nurses working in primary and secondary healthcare levels in Saudi Arabia. The overall prevalence of stress among nurses was 46.2% in primary and secondary levels. In addition, the study of Al Hosis, Mersal and Keshk (2013) sought to assess the stress levels of Saudi nurses working in MOH hospitals in Saudi Arabia. The data were collected from four hospitals affiliated to the MOH. The scales used to measure occupational stress were the self-assessment of WRS, using the constructs of conflict and uncertainty, job pressure, job scope, and rapport with management. The rates were then calculated to identify the mean scores, which were then classified as follows: mean rate < 2.5 = low level of stress, mean rate = 2.5–3.5 = modest level of stress, and mean rate > 3.5 = high level of stress. In addition, the Work Stress Indication Scale was used. The Work Stress Indication Scale was chosen from Elkin (1999), It involved ten items, with each item representing one kind of stress indicator; the questions adopted the 5-point Likert scale from 'strongly agree' to 'strongly disagree'. The results found that 3.3% and 4.41% of nurses were suffering from high-level stress and moderate-level stress, respectively. 78.9% of nurses who working in Damascus (Syria) teaching hospitals suffering of high level of stress (Maryam, 2008). Over the past two decades, there has been an increasing belief that WRS has unwanted effects, both on the health of employees and on the efficiency of their organizations.

In addition to the studies conducted in Saudi Arabia, the study of Al-Omar (2003) aimed at determining the sources of job stress among MOH hospital staff (physicians, nurses, technicians, therapists, and administrators) working in Saudi Arabia, in order to examine the connection between the socio-demographic variables and the level of occupational stress, and to examine the relationship between job stress and the expected consequences. The level of occupational stress among the MOH hospital staff appeared to be high. Saudis are more exposed to work stress than non-Saudis. As Saudi Arabia is conservative and a gender-segregation country, and the researches in Saudi Arabia are limited, further studies among nurses in Saudi Arabia are important.

3.8.2 The prevalence of nurses' stress in other countries

Over many decades, several studies have found that nurses have been suffering a high level of occupational stress. Here in this section some recent studies from different countries confirm that this issue is ongoing.

Gulavani and Shinde's (2014) research was to measure WRS and job satisfaction among nurses working in tertiary care hospitals in India. The descriptive study design was used with the explorative research method. The results show that the majority of nurses stated that they frequently experienced stress. Khan, Anwar and Sayed (2015), in their study to identify the prevalence of stress factors in nurses in Peshawar, found that the majority of participants (81%) were agreed that nurses feel stress during their job. Across-sectional study by Shen *et al.*, 2005) was conducted to explore the work-related stress and risk factors of nurses in Taiwan and concluded that nurses are under significant stress related to specific work factors. The main purpose of Mosadeghrad's study was to explore the status of occupational stress among hospital nurses in Iran, and a third of hospital nurses rated their occupational stress as high (Mosadeghrad, 2013).

Very little research has been done in Africa because of the limited research skills and publishing ability of the nurses in Africa (Adejumo and Lekalakala-Mokgele, 2009). Lasebikan and Oyetunde (2012) conducted a study among nurses working in a Nigerian general hospital to explore the prevalence of burnout and distress. Results indicated that 110 (40.7%) scored positive. In another study by Mwinga and Mugala (2015) in Zambia Ndola Central Hospital, almost all (93.4%) of the respondents had experienced occupational stress, and of these 66.7% rated their stress level as very high. Another study was carried in public hospitals in Sudan among nurses working in Intensive Care Units and it indicated that most of the nurses in ICUs were females and experienced high level of stress in their workplace. Their perception of stress differed according to the stressful situations (Mohamedkheir *et al.*, 2016).

Jones *et al.* (2013) assessed the psychological distress among multidisciplinary staff including nurses working in a cancer centre in Scotland. The prevalence of psychological distress was 34.1%. Koivu, Hyrkas and Saarinen (2011) found that psychological distress was slightly higher among the nurses who participated in clinical supervision (32.8%) in Finland. Edmonds *et al.* (2012) indicated that 50% of healthcare workers, including nurses working in oncology departments at four major hospital centres Canada, had high levels of psychological distress. In one Australian study, for example, almost three quarters of the private- and public-sector nurses surveyed reported their stress levels to be "extremely

high" or "quite high" (Hegney *et al.*, 2006).Table 3.3 sets out some of the studies on the prevalence of stress among nurses.

Table 3.3: Studies on the prevalence of stress among nurses

Author(s)/Year	Locale	Tool	Population	Findings
Al-Makhaita, Sabra and Hafez (2014)	Saudi Arabia , Dammam	Self-administered questionnaire, which was developed based on the pertinent literature.	637 hospital nurses	45.5% had stress
Al Hosis, Mersal and Keshk (2013)	Saudi Arabia , Qassim Region	1. Occupational stress scale. 2. Work Stress Symptom Scale was modified and translated by the researchers.	152 Saudi hospital nurses	(3.3% and 4.41%) of nurses were suffering from severe stress and moderate stress
(Salam et al., 2014)	Saudi Arabia, Eastern Region	A multi-centre cross-sectional survey.	626 Physicians, residents, nurses, and radiologists	66.2% were stressed
Marium (2008)	Syria	A measure developed by researcher	204 female nurses	79% had stress
Al-Omar (2003)	Saudi Arabia, Riyadh City	self-administered questionnaire developed to serve the objectives of this study	414 Doctors, nurses, technicians, administrators, and therapists	Work- stress appeared to be high.
Gulavani and Shinde's (2014)	India	Descriptive research design is adapted.	100 nurses	the majority of nurses stated that there was frequent existence of stress
Jayawardene et al. (2011)	Sri Lanka	self-administered GHQ-30	241 nurses	21% had stress
Mosadeghrad (2013)	Isfahan, Iran	30 validated questions were included in the occupational stress questionnaire	296 nurses	third of hospital nurses rated their occupational stress high
Adib-Hajbaghery, Khamechian and Masoodi Alavi(2012)	Iran	individual deep interviews questions	19 nurses	Participants suffer of occupational stress
Lasebikan & Oyetunde(2012)	Nigeria	self-administered GHQ-12	270 nurses	40.7% had distress
Filha, Costa, Maria Aparecida de Souza and Guilam (2013)	Malaysia	A brief version of the Job Stress Scale	134 health professionals from the nursing team (registered nurses, nurse technicians, nurse assistants)	70% of the interviewees were classified as passive workers or as with high stress
Jones et al (2011)	Scotland	GHQ-12	85 multidisciplinary staff (including nurses)	34% had distress
Koivu et al(2011)	Finland	GHQ-12	124 hospital nurses	32.8% had distress

Source: Researcher

As the occupational stress issue on health-care specialists and, in particular, on nurses has been expressed internationally (Cox, Griffiths and Cox, 1996; Beukes and Botha, 2013). It is essential to clarify the main features of this issue such as the symptoms, sources, and consequences of occupational stress among nurses. The following sections will discuss these features.

3.9 Exploration of occupational stress components among nurses

3.9.1 Symptoms of occupational stress

The most dangerous thing about occupational stress is how easily it can creep up on an employee and how much it can affect them. In order to understand whether a nurse is suffering from occupational stress and to discover the sources of such stress before it takes a heavy toll, it is important to identify the warning signs and symptoms of occupational stress. Cohen and Single (2001) outline symptoms of stress under five categories:

(1) Emotional: nervousness, anger, irritability, sulkiness, loss of pleasure of life, loneliness, loss of humour, lack of confidence, and isolation. Depression is one of the most disabling chronic illnesses (Moussavi *et al.*, 2007) as there is a high likelihood that depression will repeatedly occur over a life course (Hammen, 2005; Monroe *et al.*, 2007).

(2) Physical: restlessness, anxiety, nervousness, high blood pressure, back and neck muscle tension, lack of power, dry mouth, headaches, wakefulness, vertigo, loss of or increase in appetite, and tinnitus (Cohen and Single, 2001).

(3) Behavioural: impatience, impulsiveness, hyperactivity, short temper, violence, alcohol abuse, use of drugs, avoiding stressful situations, and overworking. Stress has also been linked to reduced behavioural health choices (Louis, Chan and Greenbaum, 2009).

(4) Mental: frequent memory lapses, constant negative thoughts, self-critical, inability to make decisions, difficulty completing tasks, distorted opinions, inflexible attitudes.

(5) Health: high blood pressure, greater-than-normal vulnerability to colds and flu, migraines, irritable bowel symptoms, stomach problems, ulcers, mental disorder, migraines, increase in breathing rate and heart rate, and sweating. Furthermore, Steptoe and Willemsen (2004) reported WRS as a significant contributor to an increased risk of coronary heart disease and hypertension.

All of these symptoms are signs that the time has come to make necessary changes. If ignored, the downward spiral may continue and even accelerate. It is therefore important to improve nurses' ability to manage stress and to develop and cultivate prevention or intervention strategies (Gold and Roth, 1993).

3.9.2 The main sources of occupational stress

The causes of the occupational stress phenomenon are considered to be the result of an imbalance between the individual and the work environment (Lee Larson, 2004; Bridger, Kilminster and Slaven, 2007). Newman and Beehr (1979) reported that the sources of job stress might be found both within the person and within the work environment. However, many researchers have agreed that the main source of occupational stress is workload (Topper, 2007). “Workload” was ranked as one of the top-10 most frequently reported sources of stress among nurses in each of the five countries studied (see Figure 3.6 for a list of the major 10 stressors mentioned in each country) (Glazer and Gyurak, 2008).

Rank	Hungary	Israel	Italy	U.K.	U.S.
1st	Lack of resources	Quantitative workload	Lack of staff	Lack of staff	Lack of staff
2nd	Death and dying	Lack of staff	Quantitative workload	Leadership	Quantitative workload
3rd	Certain type of tasks	Type of patients	Leadership	Co-workers	Leadership
4th	Leadership	Certain type of tasks	Type of patients	Quantitative workload	Co-workers
5th	Staff shortage	Lack of resources	Certain type of tasks	Time pressure	Certain type of tasks
6th	Quantitative workload	Interaction with patients and relatives	Co-workers	Type of patients	Type of patients
7th	Type of patients	Co-workers	Lack of resources	Lack of resources	Time pressure
8th	Co-workers	Leadership	Time pressure	Skillset of staff	Lack of resources
9th	Psychological	Death and dying	Interaction with patients and relatives	Certain type of tasks	Miscellaneous stressors
10th	Inadequate communication	Skillset of staff	Disorganization	Interaction with patients and relatives	Negative rewards

Figure 3.6: Top 10 stressors (highest percentage in each country)
Source: Glazer and Gyurak (2008)

Nursing is commonly perceived as a demanding, challenging, and stressful profession. Thus, the sources of stress experienced by nurses may differ from country to country and from each individual or group of nurses, depending on the particular complex interaction between their personality, values, skills, and circumstances (Glazer and Gyurak, 2008; Gonge and Buus, 2011) or, depending on specialization, level in the organization, experience, type of hospital, and type of unit (Marshall, 1980). Such differences may be attributed to variations in factors such as cultural values, education and training, healthcare policy, geopolitics, national economic prosperity, nurse-to-patient ratios, and the availability of other health-care professionals (Glazer and Gyurak, 2008).

Based on the reviewed studies, high job demands, low job control, and lack of social support were the most often-cited job-related stressors and negative outcomes reported by nurses (AbuAlRub 2004; Azizollah, Zaman and Khaled, 2013; Chang, Tugade and Asakawa, 2006; Gholamzadeh, Sharif and Rad, 2011; Gomes, Santos and Carolino, 2013; Jannati, Mohammadi and Seyedfatemi, 2011; Lim, Bogossian and Ahern, 2010;

Umann, Silva and Guido, 2014). A job has high demands when a “physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological effort” exceed the worker’s ability to cope with or control them – such as high work pressure, high level of interpersonal conflict, and high job insecurity (Demerouti *et al.,* 2001). Job control is a combination of skilled discretion and decision autonomy and refers to “the perceived control one has over one’s own tasks, goals, and general work activity” (Karasek and Theorell, 1990). Low job control is when the worker has less ability to influence matters that are relevant to his or her personal goals or less ability to make decisions about the way they work or use their skills – for example, fewer opportunities to use a range of skills, or not being allowed to make decisions themselves. Social support is the support provided by others, such as an exchange of resources (Schwarzer and Knoll, 2007). The lack of social support can have a negative impact on the worker’s physical health and well-being (Clark, 2006).

Eight studies reported that job demands/workload were identified as the main predictors of mental and physical health resulting in depression and anxiety among nurses in nursing speciality practice (Lambert, Lambert and Ito, 2004; Chang, Tugade and Asakawa, 2006; Gomes, Santos and Carolino, 2013; Ida *et al.*, 2009; Lim, Bogossian and Ahern, 2010). Work settings may pose varying levels of job demands. For instance, nurses who worked in critical care, emergency, oncology, and nephrology units reported higher levels of job demands and lower levels of job control than those working in other nursing specialities (Gholamzadeh, Sharifand Rad, 2011; Gomes, Santos and Carolino, 2013; Umann, Silva and Guido, 2014). Furthermore, researchers reported that nurses working in publicly funded hospitals had the highest stress score (M = 88.27, SD = 20.87), while the mean scores of those working in privately funded not-for-profit hospitals ranged from 73.35 (SD = 16.4) to 76.09 (SD = 23.5), reportedly due to high job demands and excessive workload (Nabirye *et al.*, 2011). Six studies found that role conflict, role ambiguity, and lack of recognition of professional competence are significant sources of stress among nurses, and may be associated with adverse consequences at the organizational and individual nurse levels (AbuAlRub and Al-Zaru, 2008; Gomes, Santos and Carolino, 2013; Lim, Bogossian and Ahern, 2010; Umann, Silva and Guido, 2014).

In human life it is difficult to separate work and family as they are the most important part in the life. The employee often conflict to make balance between them (Jamadin *et al*., 2015). Work–family conflict (WFC) refers to:

“a form of inter-role conflict in which role pressures from work and family domains are mutually incompatible in some respect. That is, participation in the work (or family) role is

made more difficult by virtue of participation in the family (or work) role" (Greenhaus and Beutell, 1985, p.77).

Increasing stress has been seen as a result of the conflict between these domains (Panatik *et al.*, 2012). For instance, the study of Moreno-Jiménez *et al.* (2009) conducted among emergency professionals in Spain found a positive relationship between WFC and psychological strain. Netenmeyer, Brashear-Alejandro and Boles (2004) also found that WFC affected both job stress and turnover intent.

Hamaideh *et al.* (2008) discovered numerous job stressors and social supportive behaviours when they used a self-report survey on a suitable sample of Jordanian nurses employed in 13 Jordanian hospitals. Workload and dealing with circumstances of passing away were the most common stressors among Jordanian nurses. Emotional assistance was the most supportive social behaviour Jordanian nurses stated that they normally receive. Significant relations were detected between nurses' stressors and supportive social behaviours, as well as between nurses' stressors and shifts worked, level of education, and standard of nursing care provided. A study by Mohamed, Gaafar and Abd Alkader (2011) aimed to classify paediatric nurses' stresses in intensive care units (ICUs) and their connected factors. The study was conducted on nurses in the ICUs at the Children's University Hospital in Egypt. Two tools were used to gather essential data: Tool 1 – Nurses' stresses and related factors structure questionnaire, and Tool 2 – the Nursing Stress Scale (NSS). The results showed that the most common sources of nursing stress were dying and death, uncertainty about treatment, conflict with other nurses, and workload. The results also showed that nurses face multiple stress factors including interpersonal relationships, the healthcare system, and occupational and environmental factors. Happell *et al.* (2013) recognized occupational stressors and the ways in which they may be reduced from the viewpoints of nurses. Six focus-group interviews were conducted with nurses who worked at different levels within the nursing hierarchy, in an acute care hospital in Australia, using an exploratory qualitative approach. Twelve sources of stress appeared from the six focus groups: work overload, lack of practitioners (as 'doctors'), uncooperative administration, human resource problems, interpersonal matters, families of patients, shift work, vehicle parking, handover, no community area for nurses, lack of job progression, and patient mental health. However, Chang, Tugade and Asakawa (2006) concluded that lack of support at work did not contribute significantly to nurses' levels of stress. A study by Briner *et al.* (2008) sought to explore the level of burnout within key UK human-service professions and to take a novel approach to identifying key variables associated with burnout. They examined the relations between emotional demands and stress. Gates, Gillespie and Succop (2011) in their study looked

at how violence from patients and visitors is linked to the emergency department (ED) nurses' job productivity and symptoms of stress disorder. They found that workplace violence from patients and visitors is a significant stressor for emergency department nurses. Also, a study done by Mehta and Singh (2015) at BPKIHS, Nepal, to evaluate WRS factors among the nurses working in critical care areas revealed that coping with patients, families, and visitors places increased pressures on the daily routine care. Lim, Bogossian and Ahern (2010) identified factors that contribute to stress in Australian nurses by a systematic review spanning from 1996 to 2008 within the Australian nursing population. Fifteen studies were included in the study. Four studies reported workload to be the main stressor for nurses. Three studies highlighted experiences of aggression at work, while two studies explored role change and role ambiguity as work-related stressors. The remaining studies found stress to be related to shift work, social support, and academic pressures and finances. Other sources of stress identified in the study of Purcell, Kutash and Cobb (2011) examined the relations between nurses' stress and nurse staffing in a hospital context. Data were collected from staff nurses at a large teaching hospital in the United States. The findings showed that age and the days of the week worked are critical factors affecting nurses' stress levels. Nurses reported higher stress levels when they worked the weekend.

A study by Wang, Kong and Chair (2011) aimed to assess the relationship between occupational stress and coping strategies of Hong Kong nurses working in surgical units. Results showed that "workload", "lack of support", and "inadequate preparation" are the most common occupational stressors for nurses. And in nursing, supervisors and co-workers are often described as two important sources that may help to reduce the level of stress, due to their ability to help to understand and address work-related stressors (Sundin, Hochwälder and Lisspers, 2011).

Factors perceived by nurses as increasing their experience of stress were identified in research by Dolan *et al.* (1992), who found that the main predictors of occupational stress among Norwegian nurses were "high job demands" and "low flexibility in working hours". Also, Pal and Saksvik (2008) found that the main predictors of occupational stress among Norwegian nurses were "high job demands" and "low flexibility in working hours".

McVicar (2003) pointed out that workload, leadership/management, professional conflict, and "emotional labour" have been the principal collective causes of distress for nurses for many years. Also, pay and shift-work schedules seem to becoming more prominent as major sources of stress for nurses. A study by Alotaibi (2008) on Kuwaiti nurses identified the most common sources of stress that forced them to leave their work as "low wages", "lack of remuneration", and "lack of gratitude from their managers and doctors".

Personal stressors or stressful life events are in addition to the occupational stressors that nurses experience in the course of their daily work. Achieving a sufficient balance is difficult when work or home environments are harbours of stress (Welsh 2009). Individual stressors such as the loss of a loved one, major home responsibilities such as the care of children or the elderly, or a change in financial status can challenge the coping abilities of nurses. Stressful life circumstances can boost the risk of significant depression, negatively impact work performance, and increase psychological distress in nurses (Scott, Hwang and Rogers, 2006). All of these sources of stress affect nurse's well-being and happiness.

3.9.3 The main sources of occupational stress in Saudi Arabia

Saudi Arabia, like many areas of the world, is challenged by a nursing shortage (World Health Organization, 2010b), with only 40 nurses for each 10,000 of the Saudi Arabian population. In 2010, it was discovered that there is a permanent nursing shortage of 30% that is worsened by a large migration of nurses (Lamadah and Sayed, 2014). However, the Saudi literature links the lack of nurses and the high level of occupational stress to different sources such as socio-cultural factors that affect the dominant negative images and perceived low status of nursing. Public image, family disagreement, cultural values, long working hours, mixing gender atmosphere, and the worry of being long-term single were the main reasons why Saudi women did not select nursing as a job (Miligi and Selim, 2014). All of these will produce stress for those who choose nursing as an occupation. Research conducted to discover challenges facing the nursing profession in Saudi Arabia revealed that many problems could cause stress, including poor working conditions, such as gender mixing, long working hours, and rotating shifts. With the contemporary shortage in nursing, hospital nurses are usually working more extended hours with an extra patient load (Lamadah and Sayed, 2014). Combined with increased workload, low salary, and lack of financial incentives, the lack of recognition and gratitude seem to have generated frustration, disappointment, and regret on the part of nurses which in turn have negatively impacted their work happiness and hence their retention (Rothrock, 2007). In some hospitals, there was a consensus among staff nurses that nursing and hospital administration do not even listen to their concerns (Gazzaz, 2009).

Quantitative workload arises when there are too many tasks to perform in a particular period; qualitative workload occurs when the work requirements exceed workers' intellectual competence and skills. Responsibility for others can be so high as to contribute to causing work stress. Poor relationships with others lead to less trust and support between peers, subordinates, and managers. Poor working conditions such as

room temperature, noise, and improper lighting, career planning and development (including job security, promotions, worker transfers, and progress opportunities) can also cause stress (Al-Omar, 2003). These predictors are consistent with findings in a Saudi study conducted by Salam *et al.* (2014) to measure the prevalence of job stress among health-care professionals in Saudi Arabia, which revealed several risk factors for high volumes of stress: working on weekends, not getting free time compensation, feeling under pressure to meet deadlines, experiencing conflicts in demands, being Saudi, believing there are inadequate staff to do the job, not knowing whom to approach when under stress, and being exposed to a stressful event outside of work within a year.

A Saudi study by Al-Omar (2003), on sources of WRS among the MOH hospital staff including nurses in Saudi Arabia, showed that WRS was not influenced by educational level, marital status, gender, or language. In contrast, the studies by Salam *et al.* (2014) and Al-Makhaita, Sabra and Hafez (2014) carried out in Saudi Arabia among nurses employed in the health services at primary and secondary healthcare levels found that age and experience showed a negative correlation with stress. And that being young, being female, being of Saudi nationality, being married, working shifts, and working in the surgical ward were significant predictors of occupational stress among nurses in the secondary level.

In terms of occupational stress sources, Saleh, Saleh and AbuRuz (2013), in their study in King Fahad Specialist Hospital, found that nurses were vulnerable to various kinds of job-related stressors which impacted their level of job happiness. The most stressful factor for them was losing someone and the least stressful factor was poor training to assist with the emotional demands of sufferers and their relatives. Table 3.4 illustrates the ten sources of job stress in nurses in Saudi Arabia, from research conducted from 2000 to 2016.

Table 3.4: Sources of job stress in nurses in Saudi Arabia, research conducted 2000–2016

Sources of job stress	methods	Article issues period (2006-2016)
Job pressure, poor rapport with managers.	Self-administrative questionnaire	(Al Hosis, Mersal and Keshk, 2013)
Young age, female gender, Saudi nationality, married nurse, presence of working shifts and working in surgical department(Al-Makhaita, Sabra and Hafez, 2014)	self-administered questionnaire	(Al-Makhaita, Sabra and Hafez, 2014)
death and dying subscale and , inadequate preparation to help with the emotional needs of patients and their families	Questionnaire using expanded nursing stress scales.	(Saleh, Saleh and AbuRuz, 2013)
Quantitative demands, physical demands, emotional demands and shift work	Questionnaires	(Al-Homayan *et al.*, 2013)
Working on weekends, not getting free time compensation, feeling under pressure to meet deadlines, conflicts in demands, being Saudi, believing there is inadequate staff to do the job, not knowing whom to approach when under stress, and being exposed to a stressful event outside of work within a year.	Questionnaires were administered to randomly selected participants.	(Salam *et al.*, 2014)
Poor working conditions, gender-mixing, long working hours, and rotating shifts, working longer hours with an extra patient load.	Self-administered questionnaire	(Lamadah and Sayed , 2014)
Dealing with Patients and their families and Workload	cross sectional study was carried out on a convenience sample using expanded nursing stress Scale	(Kamal *et al.*, 2012)
Shortage lack of privacy, staff shortage, workload, difficult patients, and fluctuation in workload.	A cross-sectional questionnaire	(Zaghloul, 2008)
organizational structure and climate, the nursing job itself, and the managerial roles	A questionnaire was used as a method of data collection	(Al-Aameri, 2003)
Long working hours; night shifts; negative perceptions of community and family members	Mixed methods were utilised using sequential explanatory research design	(Al Hosis, 2010)

Source: Researcher

However, out of all considered causes of stress among nurses around the world based on the reviewed studies, there are similarities and differences between nurses in Saudi Arabia and nurses in other countries. The first similarity is the high level of stress among the majority of nurses in Saudi and different countries (Gulavani and Shinde, 2014; Khan, Anwar and Sayed, 2015; Mwinga and Mugala, 2015; Al-Makhaita, Sabra and Hafez, 2014; Al Hosis, Mersal and Keshk, 2013) (see Table 3.3). The second similarity, from the investigations carried out previously, found workload, emotional demands, shortage of staff, dealing with the patients and their families, work shifts, and supervisor relationships

are the most common sources of stress among nurses in Saudi Arabia and nurses in other countries (Topper, 2007; Santos and Carolino, 2013; Happell *et al*., 2013; Gates, Gillespie and Succop, 2011; Mehta and Singh, 2015; Rothrock, 2007; Salam *et al*., 2014; Kamal *et al.*, 2012). However, some sources of occupational stress among nurses related only to Saudi's culture – such as negative images and perceived low status of nursing. Public image, family disagreement, being married, cultural values, being Saudi, a mixed-gender environment, being female (Miligi and Selim, 2014; Lamadah and Sayed, 2014; Gazzaz, 2009) will all place stress on nurses in Saudi. There are also specific sources of occupational stress among nurses which occur in Western countries – for example, lack of resources, leadership, co-workers, and certain types of tasks (Glazer and Gyurak, 2008). However, from the investigations carried out, it can be concluded that despite all the similarities between nurses in Saudi Arabia and other countries, it is difficult to generalize the causes of occupational stress in Saudi Arabia without an in-depth study that considers many factors such as culture, values, religion, and beliefs, as the sources of stress may differ from country to country and from nurse to nurse.

3.9.4 Consequences of occupational stress

The great quantity of research into stress is not surprising given its potential negative impact on individuals, organizations, and society. This section reviews key findings relating to the impact of workplace stress. These results, in particular, have led to recognition of the need for a proactive risk management approach to manage workplace stress in Saudi Arabia.

Researchers have shown that health professionals are a group at significant risk from the adverse effects of stressful workplaces (Kirkcaldy and Martin, 2000). Many studies have shown that occupational stress can lead to several negative consequences for the individual and the organization (Moustaka and Constantinidis, 2010; Ogińska-Bulik, 2006). The effects of occupational stress are not restricted to the workers' health, but also affect the quality of care provided to patients and the general well-being of organizations (Fiabane *et al.*, 2013). However, Matthewman, Rose and Hetherington (2009) claimed that it does not necessarily follow that stress will impact on an individual's psychological well-being or cause them to fall ill.

Stress is a condition of pressure that has a direct effect on emotions, supposed procedure, and physical conditions of a person (Jayashree, 2010). Jex and Beehr's (1991) theory include three types of consequences: psychological, physical, and behavioural (Glazer and Gyurak, 2008). Physiological can include elevated cortisol level, increased

heart rate, high blood pressure, cardiovascular signs, and back pain (Backé *et al.*, 2012); psychological can include depression, anxiety, and burnout; and behavioural can include workplace violence (Adriaenssens, De Gucht and Maes, 2015; Glazer and Beehr, 2005).

WRS might also cause disengagement, which in turn could affect the organizational commitment of workers (Schaufeli and Bakker, 2004). Healthcare-sector stress produces a range of undesirable, expensive, and debilitating consequences (Ross, 2006), which affect both individuals and hospitals. Thus, the consequences of occupational stress can be grouped into those at an individual level and those at an organizational level (Beheshtifar and Nazarian, 2013).

3.9.4.1 Personal level

The literature suggests a long-standing relationship between stress and physical and psychological poor health among nurses (McKinney, 2011). For example, extraordinary stress may be responsible for heart disease, headaches, asthma, peptic ulcers, lower back pain, and numerous other mental and physical health issues (Lambert *et al.*, 2007). Winefield (2003) concentrated her attention on the outcomes of WRS in healthcare services. The health influences of WRS have often been discussed in terms of increasing the risk of suicide and substance-abuse problems rather than of physical illnesses. The growing number of mental-health diseases and the plan to take premature retirement or to leave work has been observed in such groups of professionals (Ogińska-Bulik, 2006). In addition, physiological disorders and poor physical health have been noticed, such as raised blood pressure and heart rate, cardiovascular conditions, high cholesterol, high blood sugar, restlessness, migraines, infections, skin problems, low immune system and exhaustion (Pološki Vokić and Bogdanić, 2007).

Al-Kandari and Thomas (2008) recognized unfavourable results for nurses vis-à-vis their daily patient load, nursing care activities, staffing, and shift rotation. The study was conducted on nurses working in the medical and surgical wards of five MOH general hospitals in Kuwait. Questionnaires were distributed to all nurses working on different shifts. Questions related to the workload on the last shift, bed capacity of the unit, nurse–patient load, the number of unstable patients assigned, and emergencies occurring during the shift. For workload, nursing tasks was included in determining the frequency of each task performed during the last shift. Study results revealed that patient load and frequency of nursing care activities were positively related with adverse nursing consequences, whereas staffing negatively correlated to adverse nursing outcomes. Shift rotation was an insignificant factor for the majority of adverse outcomes.

Most of the researchers have found that WRS is associated with poor health outcomes, such as physical illness (Weyers *et al.*, 2006; Chang, Bidewell *et al.*, 2007), diminished mental health (Chang *et al.*, 2007; Ward, 2011), and post-traumatic stress disorder (Laposa, Alden and Fullerton, 2003). Occupational stress in nurses can create mental problems (Lambert *et al.*, 2007), such as anxiety, depression, wakefulness, and feelings of insufficiency. Kawano (2008) confirmed that less job control can cause lack of energy, fatigue, anxiety, and depression in hospital nurses. Furthermore, WRS can also affect other areas such as personal relationships, further increasing stress and having wider social impact (Dewe and Kompier, 2008).

3.9.4.2 Profession level

In addition to the individual physical and psychological risk, there is a broader risk related to healthcare organizations. Organizational consequences of nurses' stress include turnover (Foglia, 2008), significant levels of staff intending to leave (Coomber and Barriball, 2007), and absenteeism (Davey *et al.*, 2009).

The increase in the workload in the organization without taking into account the availability of employees to carry out the tasks and organizational unfairness, can lead to occupational stress which, in turn, can result in turnover intention (Fathabad *et al.*, 2015)**.** Adverse impacts of occupational stress are decreased productivity, reduced potential for work, low energy and reduced enthusiasm in working, enhanced rigidity of thinking, lack of care for the industry and co-workers, and an absence of responsibility (Greenberg and Baron, 2009).Among the negative outcomes of stress are dissatisfaction with work, lower performance, absenteeism, employee withdrawal, job turnover, reduced job engagement, and a lack of organizational commitment. (Newman and Beehr, 1979).

Occupational stress adds to low motivation and morale, reduced production, high rate of turnover, absence, low level of happiness, low-quality outcomes and services, poor internal connection, and conflicts (Mosadeghrad, 2013; Schabracq and Cooper, 2000). Many studies suggest that WRS is inversely related to job satisfaction (Rehman, 2011; AbuRuz, 2014). Occupational stress has increased the dangers of work-related illnesses in both developed and developing nations that have experienced rapid industrialization (Taap Manshor, Fontaine and Siong Choy, 2003). Occupational stress, if not handled well, may result in increased absent frequencies, inner conflicts, and low worker morale (Botha and Pienaar, 2006). Occupational stress is everywhere and frequently harmful. Pološki Vokić and Bogdanić (2007) studied individual differences and perceived occupational stress and concluded that the following are the consequences of occupational stress on

the organization level: reduced productivity; high mistake rates; lack of quality employees; increased absence; long-lasting job vacancies; premature retirement; diminished participation; high replacement costs in terms of employment turnover (increase in recruitment, training, and retraining charges); and increased sickness pay. According to McVicar (2003), shift work and WRS are key issues in the healthcare sector due to their possible negative impact on reduced vigilance and job performance, absenteeism, and turnover.

Occupational stress often translates into high dissatisfaction among employees and less efficient interpersonal relations at work (Taap Manshor, Fontaine and Siong Choy, 2003).

Therefore, a high level of occupational stress leads to depression, or anxiety add to the mounting monetary costs for businesses and organizations as a result of lost productivity caused by illness absence, unexpected retirement, increased staff turnover, and absenteeism (Centre for Mental Health (CMH), 2007). Stress has a cost for individuals concerning health and well-being, and also for organizations in terms of absenteeism and turnover, which in turn may impact the quality of patient care (Konstantinos, 2008).

After reviewing the consequences of nurses' occupational stress, it is clear that there are some outcomes of stress among nurses are similar for nurses in Saudi and other countries even though most of the studies in Saudi Arabia are focused on levels and sources of stress. However, the first similarity is occupational stress related to job satisfaction level (Rehman, 2011; AbuRuz, 2014). The second similarity is how nurses suffer from mental health such as fatigue, depression, and exhaustion (Al Hosis, Mersal and Keshk, 2013). Another similarity is that the nurses all have physical and psychological poor health (McKinney, 2011) – for example, heart disease, headaches, asthma, peptic ulcers, and lower back pain (Lambert *et al*., 2007; Al Hosis, Mersal and Keshk, 2013).

Regardless of the similarities above, as a result of Saudi Arabia being a conservative country, there are specific outcomes of the stress among nurses, such as: not choosing the nursing profession because of negative perceptions of community and family members; and working with the opposite gender. Hence, the consequences of stress among nurses require in-depth study.

3.9.4.3 The economic costs of occupational stress

Occupational stress and its outcomes have been the most common concerns in the research literature. Numerous researchers assume that stress is becoming a principal contributor to many adverse consequences such as absenteeism, low worker morale, high

accident rates, and high turnover rates. These consequences of occupational stress can result in significant economic costs for both employers and staff (Watkins, 2003). Werner and DeSimone (2011) claimed that a review of the literature recognized that occupational stress costs the US economy over $300 billion a year, as assessed by the costs of absenteeism, reduced efficiency, staff turnover, injuries, and insurance fees, and so on. The World Health Organization (WHO) indicated in 1996 that stress was a “worldwide epidemic”. Such significant facts about stress show that extreme stress has a cost both for organizations and employees (Al-Omar, 2003). As well as the economic cost of replacing workers when they are absent or leave work, the teaching and training of new nurses and the financial benefits paid to those with work-related health issues are also expensive (Marine *et al.*, 2006). In Australia, for example, nursing has some of the highest rates of employee benefit claims for work-related mental diseases linked with mental stress (Safe Work Australia, 2010).

Indeed, it is estimated that 10% of the gross national product (GNP) lost in the UK per annum is due to job-generated stress outcomes such as sickness absence, turnover, increased recruitment and selection costs, medical outlays, and compensation claims (Arnold and Silvester, 2005). High rates of employee turnover can be expensive for a company because they raise costs, reduce overall efficiency, and disrupt other employees (Chartered Institute of Personnel Development CIPD, 2011). The Confederation of British Industry pointed out that the average cost to businesses of illness absence, including musculoskeletal diseases, in 2003 was GBP 11 billion (a 3.7% increase over 2002) or GBP 588 per employee (Mark and Smith, 2008). Statistics released in 2007 by the HSE stated that from 2005 to 2006 occupational stress, depression, and worry cost the UK economy GBP 530 million (HSE, 2007). Data from the European Union show that the cost of stress is calculated at EUR 20 billion (about GBP 16.5 billion) each year (Azagba and Sharaf, 2011). No statistics are available as to the monetary cost of occupational stress in Arab countries, but one must assume that there are costs to society as well as individuals.

After reviewing research on sources and effects of nurses’ stress, the differences between findings for primary causes and effects of nurses’ stress and the similarities between some causes of stress identified by the above researchers make it difficult to draw any firm conclusions. Therefore, it is important to determine the central and most common specific factors and impacts which may cause nurses’ stress in Saudi Arabia.

3.10 Conclusion

While there is an abundance of literature concerning nursing stress in different world regions, there is very little concerning Arab countries, particularly Saudi Arabia. Iqbal and Kokash (2011) claimed that literature on occupational stress in Saudi Arabia is very restricted due to the absence of scholarly research on occupational stress. After revising and reviewing the literature related to the constructs of this study in this chapter, the researcher has highlighted the gaps existing in current literature related to concepts including occupational stress and has observed that nursing is considered a highly stressful job compared with other careers (Shen *et al.*, 2005). Occupational stress researchers agree that stress is a severe dilemma in the health sector (Ornelas and Kleiner, 2003). Despite the growing number of studies of occupational stress (Bickford, 2005), nurses' stressors (McGrath, Reid and Boore, 2003) and occupational stress theories in many areas, there is a lack of literature in occupational stress in the management area. In addition, Lambert and Lambert (2001) found that most of the studies in this field have been conducted in the US and the UK. Specifically, the JD-R model has also been tested in Spain, Greece, Italy, Norway, Sweden, Finland, Germany, Belgium, South Africa, China, and Australia (Demerouti and Bakker, 2011).

There is, therefore, a necessity for further research which will give a holistic view of the real nature and complex sources of occupational stress in the healthcare sector (Beheshtifar and Nazarian, 2013), and to improve Saudi nurses' well-being, and to alleviate level of stress among them and its consequences on many nursing aspects (Al Hosis, Mersal and Keshk, 2013). As earlier reviews noted, stress is primarily a multi-factorial concept, which means that we should focus on more than one source of stress at a time if we are to draw meaningful conclusions from our data (Cooper and Marshall, 1978). Also, because of the particular circumstances of Saudi Arabia's culture, wealth, ambitious developmental plans, social history, and the speed by which changes have taken and are still taking place, there may exist sources of stress that are relatively "unique" to the Saudi work environment. Future studies may wish to explore these possibilities. Furthermore, the image of nursing is one of the challenges facing the nursing profession throughout the world, but different factors may be at play in the context of the Islamic society of Saudi Arabia. It is a highlighted concern that this topic requires in-depth exploration (Mebrouk, 2008). Indeed, Saudi nurses make up less than 30% of the total nursing workforce Kingdom-wide (Gazzaz, 2009). The literature has been much more efficient in emphasizing the problems than in identifying the solutions, and in order to avoid this cycle continuing, a greater focus must be placed on moving from discussion to

action (Happell *et al.*, 2013). This thesis aims to identify possible solutions, and identification of the gaps will also be helpful in highlighting the contributions of this study. The following chapter will present the research methodology of the study.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

In any research study the examination and selection of the appropriate methodology is both challenging and critically important. In this research, the researcher explores theoretical underpinnings, addresses the collection of data collection and the analysis thereof, and then draws conclusions (Walker, 1997). Collis and Hussey (2013) view methodology as the "overall approach to the entire process of the research study". Therefore, the identification of the most appropriate methodology will be instrumental in meeting research objectives and establishing the credibility of the work. With research philosophy, approach, strategy, choice, and procedures being inherent components of the methodology, consistency between research questions and methods (methodological and theoretical) is key (Churchill and Sanders, 2007).

This chapter examines the methodology in relation to the research objectives set out in Chapter 1. This research seeks: (1) to identify the occupational stress level among nurses in public hospitals in Saudi Arabia; (2) to identify the main job demands and job resources among nurses; (3) to examine the relationship between job demands and nurses' mental ill health (anxiety) and turnover intention; (4) to examine the influence of emotional exhaustion as a mediating construct on the relationship between job demands and nurses' mental ill health (anxiety) and turnover intention; (5) to examine the relation between job resources and nurses' turnover intention and happiness; and (6) to investigate the effect of work engagement as a mediating construct on the relationship between job resources and nurses' turnover intention and happiness. To achieve these objectives, this chapter presents the research design and the methodology used to conduct the study. Specifically, the debates here will consider all pertinent matters pertaining to the research philosophy, approach, sampling design, variables and measurements, data collection technique, and methods for data analysis.

4.2 Research philosophy

Research philosophy is referred to as the development of knowledge and the nature of that knowledge (Saunders, Thornhill and Lewis, 2016). The development of knowledge can be in the form of building a new theory or responding to a specific

problem in a particular context. The research philosophy adopted to conduct a research would shape the researcher's supposition about the way in which the world is viewed. Based on these assumptions the researcher can select the most suitable research strategy and the methods as part of that strategy (Saunders, 2011). A philosophical belief is often viewed as a paradigm and was defined as the "basic belief system or worldview that guides the investigator" by Guba and Lincoln (1994), who identified three aspects of paradigms: ontology, epistemology, and methodology. This section summarizes research philosophies and provides the rationale for the research philosophy adopted for this study.

Saunders, Thornhill and Lewis (2016) define ontology as an assumption about the nature of reality. In their examination of the concept of ontology, Hatch and Cunliffe's (2013) study participants were asked to describe their views of reality. The findings revealed that individuals define reality differently as "subjective" or "objective" depending on personal experiences.

Epistemology is "the theory of knowledge", reflecting opinions "of what we can know about the world and how we can know it" (Easterby-Smith, Thorpe and Jackson, 2012). Eriksson and Kovalainen (2015) stated that epistemology helps to determine what knowledge is and to define its sources and limits. Hatch and Cunliffe (2013) describe it as "knowing how you can know". They all emphasize the discovery of how knowledge is generated. The epistemology is the most important philosophical statement that guides the research (Myers, 2013).

The underlying paradigms in social science research, differing in ontology and epistemology, are positivism and phenomenology (or radical structuralism) (Easterby-Smith, Thorpe and Jackson, 2012).

Positivism assumes that reality is given accurately and is defined by measurable properties and is independent of the scholar's instruments (Collis and Hussey, 2009). Reality is based upon values of reason, truth, and validity obtained via direct observation and experimental and manipulative methods, and then measured empirically using mainly quantitative methods (Eriksson and Kovalainen, 2015; Lewis, Thornhill and Saunders, 2007). The label of positivism refers to the importance of what is given. This emphasizes the positivist focus on strictly scientific empiricist method designed to yield data and fact uninfluenced by human interpretation or bias (Saunders, Thornhill and Lewis, 2016). Positivism research may use existing theory to develop hypotheses. These hypotheses would be tested and confirmed, in total or part, or refuted, leading to the further development of the

theory which then may be tested by further research (Saunders, Thornhill and Lewis, 2016). In contrast, phenomenology identifies the “essence” of human experiences concerning a phenomenon (Creswell *et al*., 2011). and relates to “the study of the lived experiences of persons”, the view that these experiences are conscious ones (van Manen, 2014).

When discussing research philosophy, it is important to note that the above two paradigms underpinned on it all the philosophical paradigms research which are labelled as realism, interpretivism, objectivism, subjectivism, pragmatism, functionalism, and radical humanism.

As with the mixed-methods research, pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as to different forms of data collection and analysis in the mixed methods study (Creswell, 2014). Pragmatism is another branch of research paradigm that refuses to join the “paradigm war” between the positivist and interpretivist research philosophies (Tashakkori and Teddlie, 1998).

Pragmatism believes that objectivist and subjectivist perspectives are not mutually exclusive. Hence, a mixture of ontology, epistemology, and axiology is acceptable to approach and understand social phenomena (Wahyuni, 2012). Pragmatism “responds to the practical nature of reality, finding truth in the solutions of problems and the consequences of objects and actions” (Shaw, Connelly and Zecevic, 2010, p.514). In research, pragmatism is pluralistic and oriented toward “what works” in practice (Clark and Creswell, 2011). Pragmatist supporters start off with the research question to determine their research framework. They emphasize that one should view research philosophy as a continuum, rather than an option that stands in opposite positions. Pragmatist researchers favour working with both quantitative and qualitative data because it enables them to better understand social reality (Wahyuni, 2012). And according to Creswell (2014), pragmatist researchers have a freedom of choice the methods, techniques, and procedures of research that best meet their needs and purposes.

Considering the nature of occupational stress (the research subject) in the nursing sector (the research field), and the way to collect the data, the researcher has recognized that Pragmatism is the most suitable philosophy for research objectives.

4.3 Deductive, inductive, and abductive research approaches

It is important also to classify the research approach in terms of whether it is deductive, inductive, or abductive. This section discusses which of the three logical reasoning methods are most appropriate for this research. Creswell (2007) emphasizes the importance of demonstrating the research approach in order to increase the validity of social science research. This section sets out the deductive, inductive, and abductive approaches.

4.3.1 Deductive

The deductive approach owes much to what we would think of as scientific research and reasoning and occurs when the conclusion is derived logically from a set of assumptions, the result being accurate when all premises are true (Ketokivi and Mantere, 2010).

Blaikie (2009) lists six sequential steps through which deductive research will progress:

1. Deducing a hypothesis (a testable hypothesis about the relation between two or more concepts or variables) from the theory.
2. By applying existing literature, or by defining the conditions under which the theory is assumed to hold, and thereby deducing a testable proposition or number of propositions.
3. Testing the hypothesis and the logic of the argument that produced them, and comparing this argument with existing theories to see if it gives an improvement in understanding; if it does, then continue.
4. Testing the propositions by collecting suitable data to measure the concepts or variables and analysing them.
5. If the outcomes of the analysis are not compatible with the premises (the test fails), the theory is invalid and must either be rejected or modified, and the process restarted.
6. If the results of the analysis are compatible with the premises, then the theory is corroborated.

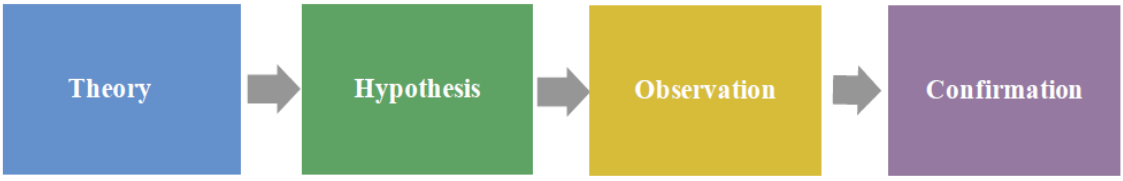

Figure 4.1: Deductive (top-down) approach
Source: Burney (2008)

Deductive research may be viewed as a classic approach but does have weaknesses. While the process of hypothesis testing is deemed as scientific, the theory that is the starting point of the reasoning is arguably subjective. Subjectivity can significantly impact on the formation of the hypothesis and its outcomes. Also, deductive research is limited in its ability to take into account unexpected (and even potentially significant) factors as they arise during the development of the theory.

4.3.2 Inductive

The inductive method starts with the investigations. Theories are formulated at the end of the research and as a result of observations (Goddard and Melville, 2004). Inductive research "includes the search for a pattern from observation and the development of explanations – theories – for those patterns through sequence of hypotheses" (Bernard, 2011). In other words, no theories would be used in inductive studies at the beginning of the study and the researcher is free to alter the direction of the study after the research process has commenced.

In the inductive approach, there is no theory at the beginning point of the research, and theories may evolve as a result of the research:

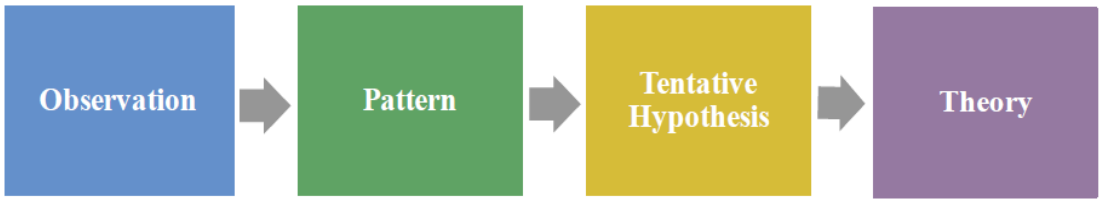

Figure 4.2: Inductive (bottom-up) approach
Source: Burney (2008)

It is noted that “inductive reasoning is frequently referred to as a ‘bottom-up’ approach to understanding, in which the researcher uses observations to create an abstraction or to illustrate a picture of the phenomenon that is being studied” (Lodico, Spaulding and Voegtle, 2010). In other words, in inductive researches, no known theories or patterns need to be tested during the research process. Research utilizing an inductive approach may be predominantly concerned with the context in which such events were taking place. Therefore, the study of a small sample of subjects might be more appropriate (in contrast to a large number as with the deductive approach) (Saunders, Lewis and Thornhill, 2009).

4.3.3 Abduction

Rather than moving from theory to data (as in deduction) or data to theory (as in inductive), an abductive approach moves back and forth, in effect combining deduction and induction (Suddaby, 2006). Abduction matches what many business and management researchers do: abduction begins with the observation of a surprising fact. It then works out a plausible theory of how this could have happened (Saunders, Thornhill and Lewis, 2016). Van Maanen, Sørensen and Mitchell (2007) note that some plausible theories can account for what is observed better than others, and it is these theories that will help uncover more surprising facts. Saunders, Thornhill and Lewis (2016) state that with the abductive approach the researcher must develop a conceptual model by his/her interview. He/she might then use this model to develop a series of hypotheses and design a questionnaire to collect data with which to test theses hypotheses. As abduction has been widely neglected by nurse scholars in this research, it is suggested that abduction may play a role in qualitative data analysis – specifically, in identifying codes, themes, and categories. Based on analyses of these data the researcher might then refine his/her conceptual model.

Table 4.1: Deduction, induction, and abduction: from reason to research

	Deduction	Induction	Abduction
Logic	In a deductive inference, when the premises are true, the conclusion must also be true	In an inductive inference, known premises are used to generate untested conclusions	In an abductive inference, known premises are used to generate testable conclusions
Generalisability	Generalising from the general to the specific	Generalising from the specific to the general	Generalising from the interactions between the specific and the general
Use of data	Data collection is used to evaluate propositions or hypotheses related to an existing theory	Data collection is used to explore a phenomenon, identify themes and patterns and create a conceptual framework	Data collection is used to explore a phenomenon, identify themes and patterns, locate these in a conceptual framework and test this through subsequent data collection and so forth
Theory	Theory falsification or verification	Theory generation and building	Theory generation or modification; incorporating existing theory where appropriate, to build new theory or modify existing theory

Source: Saunders, Thornhill and Lewis (2016)

4.4 Research approach

There are three common research approaches to conduct research, labelled as qualitative, quantitative, and mixed methods. The researcher predicts the type of data needed to respond to the research questions. For instance, is numerical, textual, or both statistical and textural data needed? Based on this assessment, the researcher selects one of the three aforementioned approaches to carry the research. Researchers typically choose the mixed-methods approach to respond to research questions requiring both statistical and textural data.

4.4.1 Qualitative approach

Qualitative research is a way of examining and knowing the meaning individuals or groups assign to a social or human problem (Creswell, 2009).There are various methods for carrying a qualitative research; however, qualitative studies can choose from a range of research strategies labelled as a case study, grounded theory, narrative research, and ethnography (Saunders, Lewis and Thornhill, 2012).

Creswell *et al.* (2003) describe how these methods meet different needs. For instance, case studies and grounded theory research discover processes, activities, and events, while ethnographic research analyses broad cultural-sharing behaviours of individuals or groups. Case studies, as well as phenomenology, can be used to study individuals. Qualitative data sources comprise: “Observation and participant observation (fieldwork), interviews and questionnaires, documents and manuscripts, and the researcher’s impressions and responses” (Myers, 2009). Qualitative research entails an inductive approach where the theory is an outcome of a research (Collis and Hussey, 2013).

4.4.2 Quantitative approach

Quantitative research is described as the precise total of some behaviour, knowledge, opinion, or attitude (Cooper and Schindler, 2008). In other words, quantitative research is defined as a study that addresses study objectives during empirical assessments that include statistical measurement and analysis approaches (Zikmund *et al.*, 2010). In a quantitative study the researcher tests or confirms a theory by examining premises or questions derived from it (Creswell, 2009). Quantitative research questions inquire about the relationships between variables that the researcher seeks to know (Creswell, 2009) and incorporate a deductive approach whereby the theory guides the research (Collis and Hussey, 2013). The quantitative approach is related with positivism which mainly seeks to test the theory in an attempt to increase predictive understanding of the phenomena (Saunders, Lewis and Thornhill, 2012). Quantitative studies usually require experimental and survey research strategies (Collis and Hussey, 2013) and conduct surveys through the use of questionnaires, structured interviews, or structured observation (Saunders, Lewis and Thornhill, 2012).

Table 4.2: Differences between quantitative and qualitative research Source: Saunders, Lewis and Thornhill (2012)

Areas	Qualitative research	Quantitative research
Research characteristics	Using a variety of data collection techniques, it studies participants' views and their relationship to develop a new theory	It examines the relationship between variables and are measured numerically and analysed statistically
Role of theory in the research	Inductive (the researcher draws generalizable inference out of observations or findings to build a new theory)	Deductive (hypotheses testing, after which the principle is confirmed or rejected)
Research philosophy	Interpretivism (where the researcher studies the topic within its context and uses an emerging design where categories are identified during the process)	Positivism (primarily attempting to test the theory in an attempt to increase predictive understanding of the phenomena)
Research strategy	Case study, grounded theory, narrative research, and ethnography	Experimental surveys

As illustrated in Table 4.2, there are clear differences between quantitative and qualitative research in terms of four parts: features, the role of theory in the research, research philosophy, and research strategy.

4.4.3 Mixed-methods approach

In the late 1980s, a small body of research looked at combining qualitative and quantitative approaches, leading to the development of mixed-methods research (Clark and Creswell, 2011). Mixed-methods research is the use of both quantitative and qualitative methods in the same research project (Wilkins and Woodgate, 2008). The philosophical assumption underpinning mixed-methods research was

based on the works of John Dewey (1859–1952) who held a pragmatic worldview (Clark and Creswell, 2011; Teddlie and Tashakkori, 2009). The mixed-methods approach presents a specific perspective of the world. Additionally, it also incorporates a merged qualitative and a quantitative approach; that is, the overall strength should be more useful than using qualitative or quantitative research separately (Cronholm and Hjalmarsson, 2011). Many scholars have brought onward the idea of merging qualitative and quantitative approaches (Creswell, 2009). The objective of merging the two approaches is to preserve the strengths and reduce the weaknesses in both approaches (Bergman, 2008). Clark and Creswell (2011) highlighted several points that call for implementing this approach. First, each of the quantitative and qualitative approaches draws focus to certain perspectives. Therefore, both approaches do not provide an overall outcome. Second, each approach has its own limitations. For instance, the quantitative approach is designed to gather information on a large scale without providing an in-depth understanding, while the qualitative approach can draw out an in-depth analysis that cannot be applied to a large population, leading the research to lose its ability to generalize any outcomes. Third, in certain situations, studies are required to collect data across different levels within an organization, as is the case in this research. Therefore, in order for these studies to develop a complete understanding, a mixed-methods approach should be implemented to gather the required data from the different levels. Finally, the implementation of a single approach might not provide answers to all of the research questions. According to Clark and Creswell (2011), mixed methods can be used when exploratory findings are needed to be generalized for two reasons. First, the region intended to be studied is uncharted or the research topic has not been explored properly before. This is the case with Saudi Arabia, which remains underexplored based on the gaps in the literature discussed previously. Second, the research targets a topic that contains vague variables and unknown elements, such as Saudi Arabian culture and participants' individual characteristics, as in this research.

Creswell (2012) introduces the concept of a "strand" – a component of a study that incorporates quantitative or qualitative research. The four factors involved when choosing an appropriate mixed-methods research design are: 1) the interaction level between the strands (independent or interactive); 2) the relative priority of the strands; 3) the timing of the strands; and 4) the procedures for mixing the strands (Clark and Creswell, 2011). Clark and Creswell (2011) discuss how to mix strategies for deeper understanding of the research problem. There are six possible ways to

mix the datasets: 1) the convergent parallel design; 2) the explanatory sequential design; 3) the exploratory sequential design; 4) the embedded design; 5) the transformative design; and 6) the multiphase design. Figure 4.3 depicts Prototypical Versions of the Six Major Mixed-Methods Research Designs.

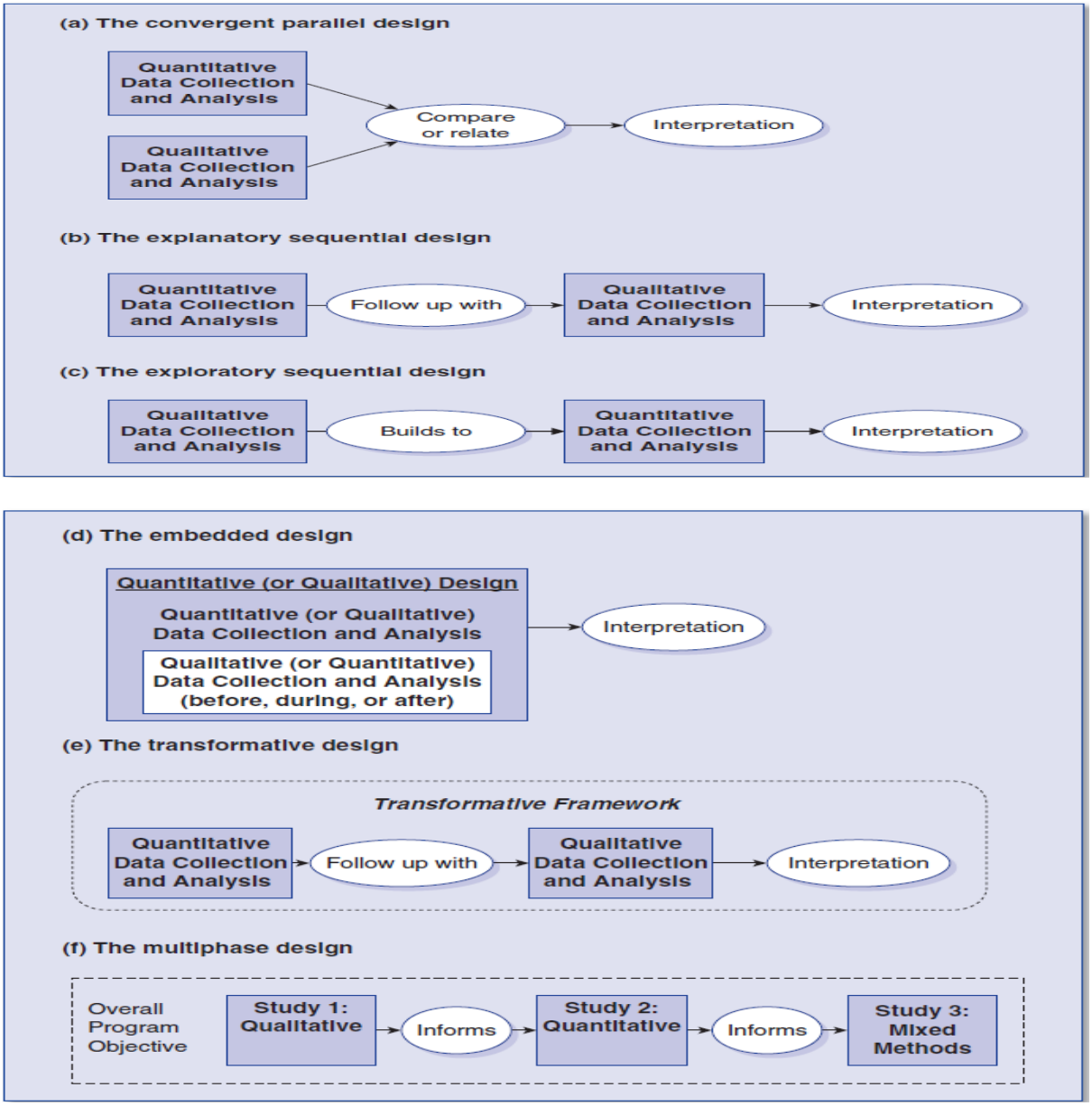

Figure 4.3: Prototypical versions of the six major mixed-methods research designs
Source: Clark and Creswell (2011)

The researcher here considers the mixed-methods approach, with the quantitative taking priority over the qualitative; the datasets are gathered and analysed sequentially as this is deemed to be the most appropriate technique.

In the footsteps of other researchers, Sandelowski (2000) examined various mixed-methods design templates that mix a combination of timing, weighting, and data (Tashakkori and Teddlie, 1998). Table 4.3 sets out the research designs and their criteria.

Table 4.3: Mixed-methods types of designs

Design Type	Variants	Timing	Weighting	Mixing	Notation
Triangulation	Convergence Data transformation Validating quantitative Data multi-level	Concurrent: quantitative and qualitative at same time	Ordinarily equal	Merge the data during the interpretation or analysis	QUAN+QUAL
Embedded	Embedded experimental Embedded corelational	Concurrent or Following	Unequal	Embed one type of data within a greater design using the other type of data	QUAN (qual) or QUAL (quan)
Explanatory	Follow-up explanations Participant selection	Sequential: Quantitative followed by qualitative	Quantitative Qualitative	Connect the data between the two phases	QUAN-> qual
Exploratory	Instrument	Sequential:	Quantitative	Connect the data	

	development Taxonomy development	Qualitative followed by quantitative	Qualitative	between the two phases	QUAL-> quan

Source: Creswell and Clark (2007); Clark and Creswell (2011)

As discussed above in this chapter, this study involves the sequential use of data collection techniques commonly associated with qualitative and quantitative research. This is depicted in Table 4.3 as QUAL→ quan (research interviews→ survey). This type of research can be classified as exploratory.

4.4.3.1 The exploratory design

As with the exploratory design, the intent of the two-phase exploratory design (see Figure 4.4) is that the results of the first phase (qualitative) can help improve or inform the second phase (quantitative) (Greene, Caracelli and Graham, 1989). This design is based on the assumption that an exploration is required for one of many reasons: measures or instruments are not available, the variables are unexplained, or there is no guiding framework or theory. Because this design starts qualitatively, it is best suited to exploring a phenomenon (Creswell *et al.*, 2003). This design is especially useful when a researcher needs to improve and test an instrument because one is not available (Creswell, Fetters and Ivankova, 2004) or to identify or confirm significant variables to consider quantitatively when the variables are unknown. It is also suitable when a researcher wants to generalize findings to different groups (Morse, 1991), to examine aspects of an emergent theory or classification (Morgan, 1998), or to explore a phenomenon in depth and then measure its prevalence.

4.4.3.2 Strengths of the exploratory design

As a result of its two-phase structure and the fact that only one kind of data is gathered at a time, the exploratory design shares many of the benefits (Creswell and Clark, 2007).

Its advantages include the following:

- The single phases make this design direct to describe, implement, and report.
- Even though this design usually emphasizes the qualitative aspect, the inclusion of a quantitative section can make the qualitative approach more acceptable to quantitative-biased audiences.
- This design is easily applied to multiphase research studies and also to single studies.

4.5 Research design

This section discusses the research design built from within the methodological constraints of mixed methods. The research design is defined as the general plan of how a researcher will go about answering the chosen research question (Saunders, Lewis and Thornhill, 2012). In other words, research design constitutes the outline for the collection, measurement, and analysis data (Cooper and Schindler, 2008). The research design is a “road map” that connects the empirical data to the research questions and ultimately to the findings and conclusions (Yin, 2013). The strategy will comprise a clear objective resulting from the research questions, and specify the sources of data collection, analysis of data, and ethical issues (Saunders, Lewis and Thornhill, 2012).

The present research was designed in three stages: 1) research definition; 2a) qualitative data collection and analysis and 2b) quantitative data gathering and analysis and main discussion; and 3) conclusion. As per Figure 4.5, the design of the research begins by identifying and understanding the research problem, and then reviewing in depth the occupational stress literature, in order to evaluate the literature gap and address the research questions. This then provides an appropriate conceptual framework. Stage 1 of the research design ends with selecting the most suitable research methodology. Stage 2 centres on the definition of the proper research design for mixed quantitative and qualitative methods of data collection and analysis. Stage 3 concludes the study (Figure 4.4).

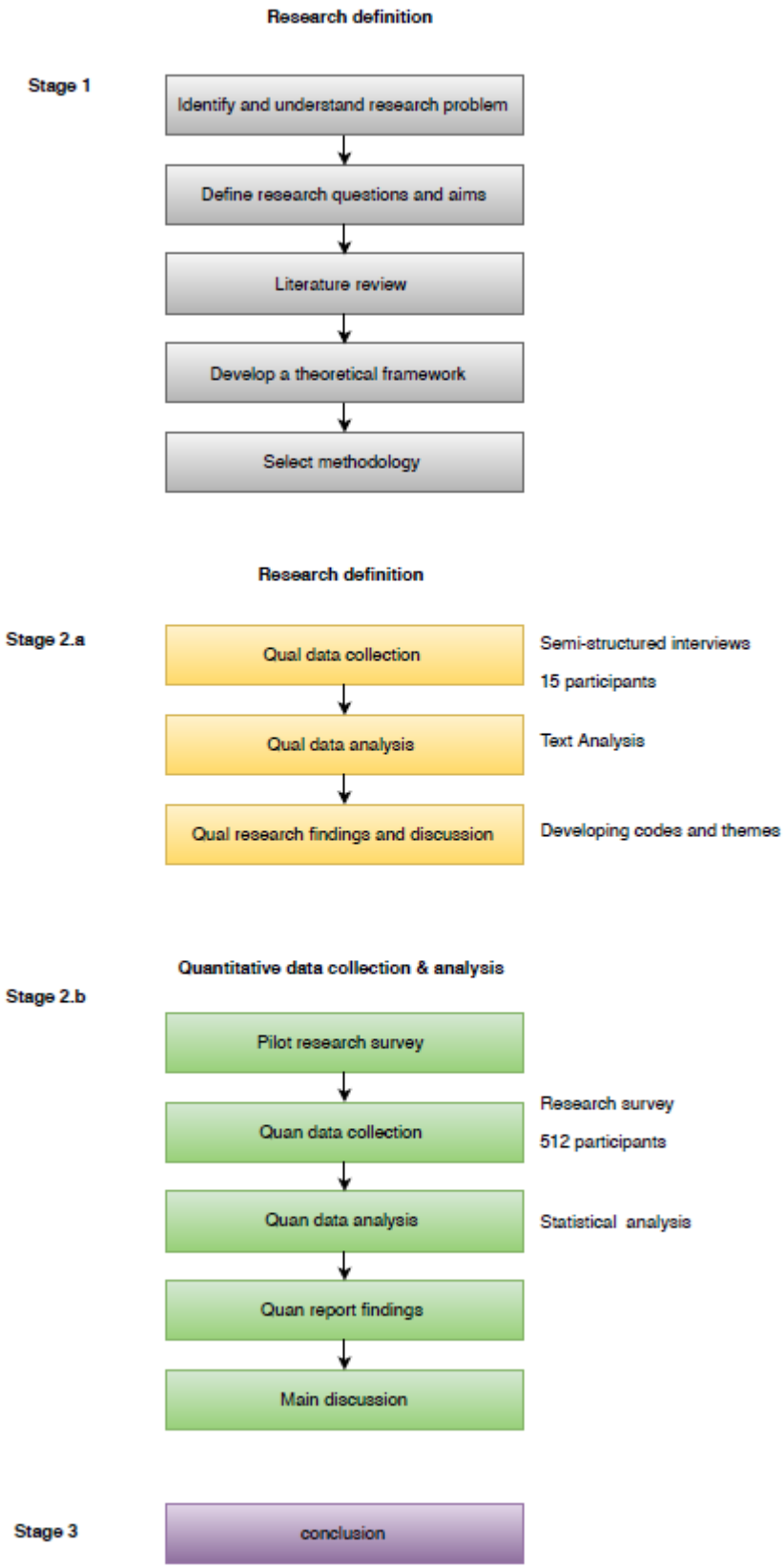

Figure 4.4: Research design

4.6 Research process

4.6.1 Phase one (qualitative)

This research is interested in rich descriptions and a deep understanding of the several factors affecting nurses' occupational stress in Saudi Arabia. As this area is under-researched and needs to be investigated further in the context of the KSA as a conservative society with a large number of foreign nurses (Elbarazi et al., 2017). The structure of the sequential exploratory mixed-methods design, qualitative data collection is the first phase of the study. The researcher first examined in the interviews the level of stress among nurses in their job in Saudi public hospitals, the main sources of stress, the main job resources that could help to reduce the level of stress, and the harm consequences in order to address the first and second objectives of this research. The qualitative approach is therefore the most appropriate method to start this study for deeper understanding; it will also assist in validating the items then formulating the questionnaire.

4.6.2 Sample size

In mixed-methods research, sample sizes will be determined by whether a qualitative or quantitative approach is adopted, and the size of a qualitative interview sample will be determined by the methodological and epistemological perspective of the researcher (Small, 2009; Baker, Edwards and Doidge, 2012). As this study is an exploratory sequential study the qualitative data collection needs to be purposeful and the quantitative sample as randomly and largely selected as possible (Creswell, 2014). Typically, qualitative studies are often associated with a small, purposive sample (Bazeley, 2003). For example, Adler and Adler (2011) regard as sufficient a sample of between 12 and 60; moreover, Creswell (2015) recommended using between 3 and 10 participants for a phenomenology approach.

In attempting to achieve the appropriate level of research validity and preserving the integrity of the study as social science research, the researcher aims for data saturation, which is stated by Glaser and Strauss (1967, cited by Mason, 2010) as being reached “when the collection of new data does not shed any further light on the issue under investigation”. Therefore, the researcher gives due regard to the value of the quality of the data analysis and the effort and time spent on the analysis of interviews, rather than quantity exclusively. It is critical to this research to develop

a persuasive analytical narrative based on “richness, complexity, and detail”, rather than on numerical logic alone (Baker, Edwards and Doidge, 2012). The researcher also gives due regard to the limitations arising from the size of the sample; because of nurses’ workload they did not have much time.

Moreover, sampling techniques are classified as either probability or non-probability. For qualitative data collection, non-probability sampling is considered the most suitable approach. Non-probability sampling (or non-random sampling) presents a variety of alternative methods to select samples based on subjective judgement. In the exploratory phase of some research projects, a non-probability sample may be the most efficient, although it will not allow the extent of the problem to be determined. The following is the list of the most common non-probability sampling methods: judgement sampling, quota sampling, convenience sampling, and extensive sampling (Saunders, Lewis and Thornhill, 2012).

The qualitative data in this study adopted convenience sampling, which implies that “some units in the population are more likely to be selected than others”(Bryman and Bell, 2007), but this was not considered to be problematic as generalization was not a fundamental objective of this part of the research. According to Sekaran (2009), the convenience sampling method is the dominant and fastest way of obtaining essential information because the interviewees are known to the researcher. The researcher was able to identify 15 respondents using this method.

4.6.3 Participants

The researcher conducted interviews with 15 interviewees (4 male and 11 female) who were in-patient nurses from different units (children’s surgery, female surgery, male surgery, and intensive care unit (ICU) from three different public hospitals in the capital city of Saudi Arabia (Riyadh) and (Al Khobar) city. The interviews were conducted face to face, audio-recorded, and then transcribed for further data analysis with the permission of interviewees. Table 4.4 provides a brief profile of the sample interviewees.

Table 4.4: Profile of sample interviewees

Code	Nationality	Date	Duration	Interview type
Female nurse 1	Saudi	22/3/2015	27 mins	Face to face
Female nurse 2	Filipino	22/3/2015	30 mins	Face to face
Female nurse 3	Indian	22/3/2015	35 mins	Face to face
Female nurse 4	Filipino	23/3/2015	25 mins	Face to face
Female nurse 5	Indian	23/3/2015	30 mins	Face to face
Female nurse 6	Saudi	23/3/2015	42 mins	Face to face
Female nurse 7	Filipino	24/3/2015	30 mins	Face to face
Female nurse 8	Filipino	24/3/2015	28 mins	Face to face
Female nurse 9	Saudi	24/3/2015	32 mins	Face to face
Female nurse 10	Filipino	25/3/2015	40 mins	Face to face
Female nurse 11	Saudi	25/3/2015	45 mins	Face to face
Male nurse 1	Filipino	25/3/2015	25 mins	Face to face
Male nurse 2	Saudi	26/3/2015	27 mins	Face to face
Male nurse 3	Filipino	26/3/2015	30 mins	Face to face
Male nurse 4	Saudi	26/3/2015	25 mins	Face to face

4.6.4 Research interviews

This section presents the types of interviews that are appropriate for qualitative study, the research-interview-process design, and interviewee selection. The qualitative research interview explores the meaning of central themes in the lives of the interview subjects. It is key to understand what the interviewees say. For this reason the researcher focuses on establishing “a factual and a meaning level” and exploring the background and story of each participant’s experiences (Steinar, 1996). Three typical forms of interview are discussed in this section: unstructured, semi-structured, and fully structured (see Figure 4.5).

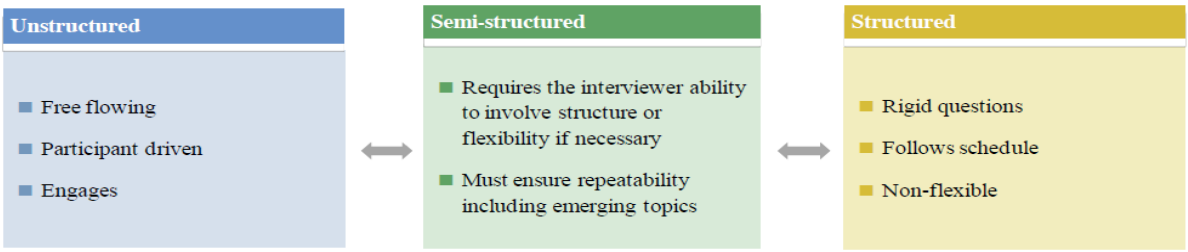

Figure 4.5: The interview structure spectrum
Source: Trochim (2000)

Unstructured interviews do not reflect any preconceived theories or ideas and are performed with little or no organization (May, 1991).

Semi-structured interviews consist of several key questions that help to define the areas to be explored, but also allow the interviewer or interviewee to diverge more information in order to pursue an idea or response in more detail (Britten, 2007). This provides flexibility to discuss in more detail any subjects raised by interviewees (Trochim, 2000).

Structured interviews are the least flexible and more strict as this type follows the researcher's agenda. It is akin to a personally led survey, with opportunity to introduce open-ended questions and record any replies in writing (McNamara 1999).

It was decided to use semi-structured interviews in order to maintain a focus on the objectives of the study during the interview. However, care was taken that the predetermined questions were flexible enough that the participant was able to speak freely. In other words, the schedule of a semi-structured interview does not have to be strictly adhered to, allowing the interviewee, rather than the schedule, to guide the interview (Griffiths, 2009).

4.6.5 Design of Research Interviews' Questions

The process of developing interview questions around occupational stress developed through the literature review:

・Occupational stress

・Key theories of occupational stress

・Occupational stress among nurses

・Main sources of stress

・Main consequences of occupational stress

The questions that were asked in the interviews were ten open-ended questions. Following Foddy (2009), the researcher formulated the interview questions to address the first two research objectives of this study – to identify the occupational stress level among nurses in public hospitals in Saudi Arabia, and to classify the main job demands and job resources among hospital nurses working in public hospitals.

Also, as the interviews were semi-structured, this helped to gain significant information related to the rest of the study objectives. The researcher used probing questions that encouraged nurses to give examples from their experience in order to explore the main issues of job stress and job resources in a consistent manner (shown in Appendix C).

4.6.6 Data collection

The objective of this section is to explain the procedures of qualitative data collection, in particular how the interviews were conducted. It has been suggested by Seidman (2006) that interviews are not simply about answering questions, but about understanding the lived experience of the interviewees.

As stated above, in order to observe the gaps in the current literature, the potential interviewees in this study were nurses, so as to provide a more comprehensive picture of intangibles. Specifically, unit nurses in Saudi Arabian public hospitals were targeted for interviews. The fieldwork was undertaken in March 2015. Ultimately, 15 interviews with in-patient nurses from different units (children's surgery, female surgery, male surgery, and ICU) at three different public hospitals (in Riyadh and Al Khobar) were conducted face to face, audio-recorded, and then transcribed for further data analysis with the permission of the interviewees. The interviews lasted 25–45 minutes. In terms of the location, the location had to be peaceful, comfortable, and convenient for the participants, and so the interviews were conducted in the hospital.

Generally, the process of conducting the interview was designed to be preparation, introduction, asking questions, and conclusion, but with a large degree of flexibility. Notes were taken by the researcher during each interview.

Preparation of interviewees' background was the initial step to be taken in order to conduct a successful interview. Previous researchers suggest that it is important for interviewers to have some prior knowledge about interviewees and their circumstances (Easterby-Smith, Thorpe and Lowe, 2008). Before conducting each interview, the researcher began the interview by asking questions such as: "How long have you been in Saudi Arabia? How do you find it here? How long have you been working here?" This was done to break the ice and as a warm-up before asking the interview questions (see Appendix C). Once the researcher had asked the introductory questions, the main questions were introduced. In general, semi-structured interviews are flexible and provide an opportunity for dialogue between the interviewer and interviewee (Rubin and Rubin, 2012). At the end of each interview, the nurses were thanked for their time and participation in the study and were given chocolate by way of a thank-you gift.

The main reason for conducting individual interviews was because it is an efficient and confidential way of collecting data. It can confirm the proposed constructs or generate new ones or more ideas that can be discussed in more depth. The interview guide contained an outline of topics with associated questions and was based on the conceptual framework developed from the literature in order to identify new factors and assess the constructs within the framework for further validation; some constructs were removed from the framework as they were not considered suitable. However, the constructs confirmed in this study are supported with the questions designed for the quantitative phase of the current research.

It is worth mentioning that in the individual interviews conducted, the respondents suggested that one characteristic of job resources (training) be omitted in the final questionnaire and that instead procedural fairness be added. And one factor was added to the job demands (sources of stress) in the final questionnaire – workload. The framework was then revised, and the survey was developed based on the measurements within literature.

4.6.7 Data analysis

This section clarifies how the analysis of the interview data was undertaken. According to Collis and Hussey (2009), there are two approaches to the analysis of qualitative data: quantifying methods and non-quantifying methods. For the purposes of the preliminary study, a non-quantifying method was adopted based on a thematic analysis of the data. According to Braun and Clarke (2006), thematic

analysis is “a method for identifying, analysing, and reporting patterns (themes) within data". And it is the first qualitative method of analysis that researchers should learn, as it provides essential skills that will be valuable for conducting many other forms of qualitative analysis. Therefore, it should be seen as a foundational method for qualitative analysis (Braun and Clarke, 2006). This analytical technique has a number of advantages, including its flexibility, for its allows for the categorization and coding of emerging patterns or themes from the data. Moreover, it has the ability to summarize the main features of a large figure of textual data, to highlight similarities and differences across the data set, and to create unexpected insights (Braun and Clarke, 2006). It can also extract the core meanings of participants’ experiences by defining specific themes and sub-themes emerging from the data. These themes and sub-themes reflect the participants’ experiences (Smith, Flowers and Larkin, 2009).

Six key phases of the thematic analysis method provided by Braun and Clarke (2006) are used in this research. The first phase included the researcher becoming familiar with the data by listening to the recordings and transcribing them and then reading them thoroughly to identify relevant passages that deal with the research objectives while taking notes and/or marking ideas for coding. As the data collection was by interview between the researcher and participants, the researcher had prior knowledge of the data and initial analytical thoughts. The second phase involved generating the initial codes from reading the transcribed interviews line by line. Codes refer to “the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998, p.63). The third phase re-concentrated the analysis on a broader level of themes that has identified prior analysis from research objectives, the whole data set that grouped together under similar codes sorted into themes (Appendix D). In phase four the researcher started testing the themes, as some themes were not really themes or some codes did not match the themes. The data within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes. According to Buetow (2010), the themes can be removed from the analysis if not sufficiently represented in terms of the number of participants and the importance. In phase five, the researcher defined and further refined the themes, which involved identifying the core of what every theme was about, and determining what feature of the data each theme captured. In the final phase the researcher produced a report on the outcomes of the thematic analysis and described how each theme fitted into the overall question posed. Appendix D

shows a table outlining the hierarchical structure of the themes and illustrative excerpts of quotations.

4.6.8 Data validation

The principles underlying naturalistic and/or qualitative research are based on the fact that validity is a matter of the trustworthiness, utility, and dependability that the evaluator and the different stakeholders place on it. Merriam (1998) states that in qualitative research, “reality is holistic, multidimensional and ever-changing”. Therefore, it is the task of the researcher and research participants to build validity into the different phases of the research from data collection through to data analysis and interpretation. In the main, validity is concerned with whether research is believable and real and whether it is evaluating what it is supposed to evaluate or what it purports to evaluate. Creswell (2007) sets out strategies for ensuring validity where there are different researchers and suggests that at least two of these strategies are adopted in any research. The strategies are listed in Table 4.5. Creswell worked collaboratively with other academics and industry experts at the formulation research strategies. Therefore, all of the questions formulated for all of the research surveys and interviews have been directly linked to the research aims and objectives. The application of mixed methods to collect and analyse empirical data was intended to increase the validity of the research and its findings.

Table 4.5: Validation strategies

Validation strategies	Adoption in the present research
Research collaboration	Peer review: This research was supervised by academic researchers with extensive industry experience, who reviewed the data and research process External audit: The researcher consulted an auditor external to the study (with no connection to this research), who examined the study's process (research steps, decisions, activities) and product (narrative accounts, conclusions) in order to assess its accuracy
The researcher solicits participants' opinions of the reliability of the findings and interpretations	The author has published study in international and national sources, and at PhD-related conferences
Rich and thick description	The findings of the quantitative research survey supported the qualitative data collected in semi-structured interviews
Randomization	In each organization, participation in the quantitative survey was determined randomly so as to avoid systematic bias in either sample group
Sample sufficiency	Samples were sized appropriately to achieve statistically significant and reliable results and consisted of participants who were in the best position to represent or have knowledge of the research topic
Sequential data collection and analysis	Collecting and analysing data concurrently created a mutual interaction between data and analysis

Source: Adopted from Creswell (2007)

The researcher is mindful of how a high level of validity can be achieved through the responsiveness and flexibility of interviewer–interviewee interaction. The researcher's experience in the field and her understanding of the research topic from a practical perspective enabled her to formulate and present the interview questions and any additional clarifying questions during the interviews. Thus, the researcher is confident that the validity of the current study has been secured.

4.7 Phase two: quantitative

After exploring the phenomenon in-depth by analysing the interviews that helped to design the measurement by using the categories in the qualitative data, ten factors were selected to measure the main job demands, job resources, and the level of stress among nurses. These factors are emotional demands, work–family conflict, workload, emotional exhaustion, anxiety, turnover intention, procedural fairness, perceived organizational support, work engagement, and happiness. A group of survey items were then developed for each category, based on the interview data. See Appendix D.

4.7.1 Sample size

According to Cooper and Schindler (2008), sampling is the process whereby some elements from the population are selected to represent the whole population. The sample size is the number of totals required to obtain actual findings (Fink, 2002). According to Collis and Hussey (2009), "the larger the sample, the better it will represent the population." As the ever-rising demand for research has produced a need for a suitable method of defining the sample size required to be representative of a given population, this study follows the classification of Krejcie and Morgan (1970), in determining the minimum sample size for generalization of the results. The relationship between sample size and the total population is illustrated in Table 4.6. Since the population of nurses in public hospitals in Saudi Arabia is approximately 64,408 (Ministry of Health Saudi (MOH), 2012) based on Krejcie and Morgan's (1970) formula a sample of 381 nurses is considered adequate. However, according to Zikmund *et al.* (2010), if the sample size is increased, errors are reduced. In other words, relatively large samples are always inclined to result in statistical significance. For the goal of this study, the sample size was 772

questionnaires distributed among nurses, 512 of which were completed and returned. This number is greater than the required sample size and hence 512 subjects are deemed an appropriate size.

Table 4.6: Determining sample size from a given population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.

4.7.2 Sampling technique

The purpose of sampling in the quantitative part of mixed-methods research is to draw a sample from the population and then generalize those results to the population (Patton, 2002). Accordingly, a representative sample represents the total population.

As mentioned above, sampling methods can be either probability or non-probability. For quantitative data collection, probability sampling is considered the most efficient approach, which means each member of the population has a non-zero probability of selection. Five main techniques can be used to select a probability sample: simple random, systematic random, stratified random, cluster random, and multi-stage random. Random sampling is where study participants are randomly identified from the population of people who meet the criteria for inclusion in the study (Emerson, 2015). Also in random sampling, the nature of the population is defined, with all members having an equal selection chance. It has been asserted that “the logic behind simple random sampling is that it excludes bias from the selection procedure and should result in representative samples” (Gravetter and Forzano, 2011).

The cluster random sampling technique, which is also known as area sampling, was used to select the sample of the quantitative phase in the present study. Area sampling is the most common type of cluster sample, particularly when the design comprises geographic clusters (Sekaran, 2006). The main purpose of cluster sampling is to examine economically but to retain the characteristics of the sample where the clusters are randomly selected (Zikmund, 2003). The clusters are considered homogenous as the subjects consisting of people with varied backgrounds and beliefs in one cluster have similar features with those in other clusters (Gay and Diehl, 1992).

In the present study, the geographic clusters are the different administrative regions in the Kingdom of Saudi Arabia. Altogether there are 13 regions in the Kingdom. Because the subjects are dispersed geographically in 13 different administrative regions throughout the Kingdom, cluster sampling is seen as the most appropriate sampling technique. Furthermore, because Saudi Arabia is a large area consisting of many regions (Aldossary, While and Barriball, 2008), collecting data from each region was impractical and impossible. Moreover, since it is believed that nurses in

public hospitals located in the different regions are similar to one another in terms of factors such as backgrounds and jobs performed, cluster sampling was seen to be an appropriate sampling technique to be used to achieve the research objectives.

According to Gay and Diehl (1992), this method of sampling requires six steps:

1. Define the population. In the present study the population is 64,408 hospital nurses.
2. Specify the sample size. In the present study the sample size is 772.
3. Define a logical cluster. The logical cluster in the present study is the administrative regions in the Kingdom of Saudi Arabia. Hospital nurses are located in each region in the Kingdom. There are 13 regions in Saudi Arabia.
4. An average number of population elements per cluster was estimated by dividing the population size of 64,408 nurses in public hospitals by the number of clusters (13 regions). This results in 4,954 hospital nurses (elements per cluster).
5. The number of the cluster was determined by dividing the determined sample size (772) by the estimated size of a cluster (4,954), which resulted in 0.15= 1 cluster or region and is sufficient.
6. Based on the above calculation one cluster/region will be sufficient.

However, this study chose two regions. In order to choose 2 regions out of 13 regions, a simple random sampling was used. Based on this procedure, the Riyadh and Al Khobar regions were selected, because the number of nurses in the Riyadh and Al Khobar regions were higher than the determined sample size.

Based on this procedure, data were collected randomly from nurses working in different units in the public hospitals in these regions.

4.7.3 Data collection

The researcher deemed a quantitative survey to be a useful data collection method, primarily for the reason that the findings of the qualitative phase could be validated and supporting information on the views of the respondents in terms of job demands and resources could be presented. A questionnaire is an efficient data-collection mechanism but only when the researcher is aware of what is required and the measures of the variables involved (Sekaran, 2006). Poorly designed questionnaires are usually associated with misleading conclusions drawn (Sreejesh,

Mohapatra and Anusree, 2014). In contrast, a well-designed survey can reduce errors and make the tasks of both participants and researchers easier (Sreejesh, Mohapatra and Anusree, 2014). Dillman (1978) formed a critical survey approach by entering the total design method of survey administration. Dillman's approach is applied to improve efficacy, practicality, cost-effectiveness, to reduce all kinds of errors, and to maximize response rate. Dillman's model has the next steps: developing survey construction and implementation. In terms of the survey design, Dillman (1978) suggested: using clear directions and attractive layout, placing the questions according to the topic, picking the first question, formulating the sheets, establishing an upward flow, giving directions on how to respond, using graphical design and various question-writing principles to help the task of reading and answering questions, using a booklet format, applying a photocopier to decrease the size of the survey, personalizing correspondence, and creating the front and back covers.

4.7.4 Questionnaire design

In this study, Dillman's (1978) questionnaire design as mentioned on data collection was adopted. Sekaran and Bougie (2009) affirmed that an appropriate survey design should place emphasis on three main factors: first, the wording, which is focused on the contents and objectives of the question, wording, and language (e.g. English and Arabic languages), the kinds of questions (e.g. closed questions or open questions, short or exact questions), the sequencing, and the grouping data (e.g. demographic questions); second, the measurement concerning classification, coding, measures and scaling, and validity; and third, the guidelines for completion, the general appearance, and the length of the questionnaire.

The questionnaire for this study was prepared in the form of the booklet. Two versions of the questionnaire were constructed (English and Arabic). For this study, the researcher applied a back-translation method as suggested by Brislin (1970). This study also used the following translation methods. First, the researcher interpreted the English version of the survey into Arabic (one-way translation). Second, the translated Arabic questionnaire was then given to two professional bilingual translators to be translated back into English (back translations). Finally, the version of the translated questionnaire was compared and revised. The purpose of the back-translation was to avoid translation difficulties and to ensure that the

meanings of each question were compatible with the English-version survey, which was the original version.

The complete survey was just four pages long (including the covers). Saunders, Lewis and Thornhill (2009) stated that one of the main causes of decreased response rates is the length of the survey. Therefore, the general rule is to keep surveys as succinct as possible. The survey was accompanied by the researcher's background information and guarantee as to the confidentiality of answers, as suggested by Smith and Dainty (1991). Each survey was numbered to help follow-up processes. A clear instruction was given for each questionnaire together with definitions of the principal expressions used in the questionnaire. This accords with the recommendations of Pallant and Pallant (2010) who state that the guidance of the questions are sufficiently clear for the respondents to answer the questionnaire correctly.

4.7.5 Ways of measuring occupational stress

According to a new study led by Sood, Priyadarshini and Aich (2013) of the School of Biological Sciences and the National Institute of Science Education and Research at the Institute of Physics Campus in India, stress can be accurately and more efficiently measured using molecular and survey tools. Shea and De Cieri (2011) claim that the need to measure stress in the workplace has resulted in numerous scales that have arisen mostly from two models of stress: the Job Demand-Control model developed by Karasek and colleagues (Karasek Jr 1979; Theorell, Karasek and Eneroth, 1990) and the Effort-Reward Imbalance model developed by Siegrist (Siegrist, 1996). These include the Job Diagnostic Survey (Hackman and Oldham, 1975), the Job Stress Survey (Vagg and Spielberger, 1999), and the Occupational Stress Inventory (OSI) (Osipow and Spokane, 1998). Some occupational stress scales arise directly from the Karasek model (Job Control Questionnaire) or the Siegrist model (Effort-Reward Imbalance Questionnaire). Two main approaches have generally been adopted to obtain data on occupational stressors using self-report methodology. Some researchers have developed occupation-specific questionnaires for use in particular types of job, whereas others have attempted to measure more general features of work that are relevant to any occupational setting. To some extent, employees are likely to experience similar stressors regardless of the context of their work. Factors such as time constraints, workload, role ambiguity, and low job control, for example, will be relevant to many

occupational settings (Kinman, 2006). This is in contrast to a review of work stressors commissioned by the HSE which concluded that, as jobs contain "relatively unique kinds of hazards", measures should be developed which are more specifically focused on particular organizations and employment (Rick *et al.*, 2001).

Two measures that present a comprehensive analysis of work stress and that have been widely used are the Job Content Questionnaire (Karasek *et al.*, 1998) and the OSI. The Job Content Questionnaire includes measures of the predictors of job strain and has been utilized as a diagnostic tool and for stress review studies, while the OSI was originally devised to examine occupational stress in white-collar workers and has been found to be valid for usage with blue-collar employees and health professionals (Rees, 1995). In addition, the General Health Questionnaire (GHQ) (Goldberg, 1978) and the Maslach Burnout Inventory (MBI) (Maslach and Jackson, 1981) have been used in occupational stress in nursing in Northern Ireland (McGrath, Reid and Boore, 2003). The former is widely used to assess mental health status. The MBI had the advantage of being specifically designed to investigate occupational stress, although it is used mostly in the US.

The effects of stress have been examined in a variety of methods through the use of two typical instruments: the GHQ detects mild psychiatric morbidity and the MBI measures occupational stress (McGrath, Reid and Boore, 2003). The GHQ is a self-report instrument designed to detect present temporary psychiatric disturbance of a non-psychotic nature (Goldberg, 1978). It was originally developed for use in general practice sites, although it is now broadly used in many research applications (Cairns *et al.*, 1987) and personal communications. McGrath, Reid and Boore (2003) stated that there are several forms of the GHQ – for example, the GHQ 30, 60, 20, 28 and 12, where the numbers in the title refer to the number of items used. The MBI provides scores on three subscales, which represent features of burnout syndrome. These are emotional exhaustion, depersonalization, and lack of individual achievement. The emotional exhaustion subscale appraises feelings of being emotionally stretched and exhausted from work. The depersonalization subscale measures an unfeeling and impersonal response towards the receivers/end customers of one's work. The personal achievement subscale evaluates feelings of ability and success in one's work with people. Each subscale is measured regarding both frequency (how often people have these feelings) and intensity (the strength of these feelings) (McGrath, Reid and Boore, 2003).

In addition, the Expanded Nursing Stress Scale (ENSS) has been used to measure nurses' occupational stress. The ENSS is an extended and updated revision of the

classic Nursing Stress Scale (NSS) developed by Gray-Toft and Anderson (1981). The NSS was the first tool to target nursing stress rather than general job stress (Kamal *et al.*, 2012). The development of the NSS stimulated French *et al.*(2000) to recognize stressful circumstances not reflected in the NSS and to develop an expanded version useful for diverse work settings. The ENSS included 57 items in nine subscales: (a) death and dying, (b) conflict with physicians, (c) insufficient emotional preparation, (e) problems with peers, (f) obstacles relating to Supervisors, (g) work load, (h) uncertainty about treatment, (i) patients and their relatives, and (j) unfairness (French *et al.*, 2000). These are standard measures of stress that incorporate elements of the interactional and transactional models discussed earlier in this chapter.

However, more research and development are required in relation to the measurement of the experience of stress and related emotion and the overall stress process (Cox *et al.*, 2000; Cox and Griffiths, 2010).

4.7.6 Instrument measurement

As showed in Table 4.7, the measures used in this study were drawn from the literature. A total of a teen construct (emotional demands, work–family conflict (WFC), workload, emotional exhaustion, anxiety, turnover intention, perceived organizational support (POS), procedural fairness, work engagement, and happiness) was formed along with 58 items. This study used the Likert scale (Vagias, 2006). For rating the questions or to collect the respondent's opinion, a five-point rating scale was used in this study where 1 = strongly disagree, 2 = slightly disagree, 3 = neutral, 4 = slightly agree, and 5 = strongly agree. The following rating scale was also used: 1= never, 2 = rarely, 3 = about as often as not, 4 = often, 5 = always. The five-point scale was adopted because it is the most common scaled-response form used in recent researches (Gwinner, 2006) and can provide the most accurate measurement (Joseph *et al.*, 2010). In addition, it is also considered appropriate to test the proposed hypothesis (De Vellis and Dancer, 1991). A neutral rating was included in case there were respondents who felt neutral about certain topics; according to Gwinner (2006), neutrality is a legitimate opinion that exists among respondents and can be used to show neutrality or mixed views.

Table 4.7: Instrument measurement

Constructs and references	Item codes	Item measurement	Studies used the Same measurement
Emotional demands (Van Veldhoven and Meijman, 1994)	ED1	Has your work been emotionally demanding?	(Xanthopoulou *et al.*, 2013; Xanthopoulou *et al.*, 2007)
	ED2	In your work, are you confronted with things that personally touch you?	
	ED3	Do you face emotionally charged situations in your work?	
	ED4	In your work, do you have to deal with demanding patients?	
	ED5	Do you have to deal with patients who do not treat you with the appropriate respect and politeness?	
	ED6	In your work, have you ever dealt with patients who incessantly complain, although you always do everything to help them?	
Work–family conflict (Netemeyer, Boles and McMurrian, 1996)	WF1	The demands of my work interfere with my home and family life.	(Nohe *et al.*, 2015; Karatepe and Kilic, 2007; Grzywacz *et al.*, 2007; Dixon and Sagas, 2007)
	WF2	Due to work-related duties, I have to make changes to my plans for family activities.	
	WF3	My job produces strain that makes it difficult to fulfil family duties.	
	WF4	The amount of time my job takes up makes it difficult to fulfil family responsibilities.	

Constructs and references	Item codes	Item measurement	Studies used the Same measurement
Workload (French *et al*., 2000)	WL1	Having to work through breaks is extremely stressful.	(PN, Latha and Prabhu, 2012; Saleh, Saleh and AbuRuz, 2013; Milutinović *et al.*, 2012)
	WL2	Demands of the patient classification system are very stressful.	
	WL3	Having to make decisions under pressure is stressful.	
	WL4	Not enough time to respond to the needs of the patients' families makes me stressed.	
Emotional exhaustion (Maslach, Jackson and Leiter, 1997; Maslach and Jackson, 1986)	EX1	I feel emotionally drained from work.	(Nyssen, Hansez *et al*., 2003; Sargent *et al.*, 2004; Jacobs and Dodd, 2003; Storm and Rothmann, 2003)
	EX2	I feel used up at the end of the working day.	
	EX3	Working with people all day is really a strain.	
	EX4	I feel burnt out from work.	
	EX5	I feel frustrated by my job.	
	EX6	I feel like I am working too hard in my job.	
	EX7	Working directly with people creates too much stress.	
	EX8	I feel fatigued when I get up in the morning and have to face another day on the job.	

Constructs and references	Item codes	Item measurement	Studies used the Same measurement
Anxiety (Spitzer *et al.*, 2006)	AN1	Feeling nervous, anxious or on edge.	(Kroenke *et al*., 2007; Kroenke *et al*., 2010; Lowe *et al*., 2008)
	AN2	Not being able to stop or control worrying.	
	AN3	Worrying too much about different things.	
	AN4	Trouble relaxing.	
	AN5	Being so restless that it is hard to stay still.	
	AN6	Becoming easily annoyed or irritable.	
	AN7	Feeling afraid as if something awful might happen.	
Turnover intention	TI1	I intend to leave my organization during the next 12 months.	(Hendrix, Ovalle and Troxler, 1985; Watanabe, 1994; Yonetani, 2004; Bluedorn, 1982; Netemeyer, Boles and McMurrian, 1996)
	TI2	I will change my job if I get a good offer.	
	TI3	I am actively seeking another employment opportunity.	
	TI4	I have searched for an alternative job since I joined this organization.	

Constructs and references	Item codes	Item measurement	Studies used the Same measurement
Procedural fairness (Blader and Tyler, 2003; Tyler and Blader, 2000)	PF1	Decisions and processes concerning my job are made in fairways.	(Blader and Tyler, 2009; Zhao, Chen and Brockner, 2015)
	PF2	There is a high degree of fairness with issues and decisions in my work.	
	PF3	There is a general sense among workers that things are handled in fairways at work.	
	PF4	High levels of effort are made to be fair to employees when decisions are being made.	
Perceived organizational support (Eisenberger *et al.,* 1986)	OS1	The organization values my contribution to its well-being.	(Eisenberger *et al.,* 2001; Eisenberger *et al.*, 2002; Shanock and Eisenberger, 2006; Perrot *et al.,* 2014)
	OS2	The organization fails to appreciate any extra effort from me.	
	OS3	The organization would ignore any complaint from me.	
	OS4	The organization shows very little concern for me.	
	OS5	The organization takes pride in my accomplishments at work.	
	OS6	The organization really cares about my well-being.	
	OS7	Even if I did the best job possible, the organization would fail to notice.	

Constructs and references	Item codes	Item measurement	Studies used the Same measurement
Work engagement (Schaufeli, Bakker and Salanova, 2006)	WE1	In my job, I feel as if I am bursting with energy.	(Schaufeli, Bakker and Salanova, 2006; Xanthopoulou *et al*. 2007; Xanthopoulou *et al*., 2009)
	WE2	In my job I feel strong and vigorous.	
	WE3	My job inspires me.	
	WE4	I am enthusiastic about my job.	
	WE5	I am proud of the work that I do.	
	WE6	I get carried away when I am working.	
	WE7	I feel happy when I am working intensely.	
	WE8	When I get up in the morning, I feel like going to work.	
Happiness (Hills and Argyle, 2002)	HA1	I don't feel particularly pleased with the way I am.	(Lewis, Maltby and Day, 2005; Maltby, Day and Barber, 2005; Cruise, Lewis and Guckin, 2006)
	HA2	I feel that life is very rewarding.	
	HA3	I am well satisfied with everything in my life.	
	HA4	I think I don't look attractive.	
	HA5	I can find time for everything I want to.	
	HA6	I feel fully mentally alert.	

In addition to checking for clarity of the questions, the researcher also examined the questionnaire instruments' reliability, which is described as the consistency of a measure of a construct (Bryman and Bell, 2015). And the most common method used to measure this is known as Cronbach's α. As a rule of thumb for Cronbach's α, a figure of ≤0.90 is excellent reliability, 0.70-0.90 is high reliability, 0.50-.70 is moderate reliability, and ≤0.50 is low reliability (Hinton, McMurray et al. 2004).

Table 4.8 shows the Cronbach's alpha values of all constructs used in the pilot study without deleting any items. As presented, the alpha values ranged from 0.79 to 0.97. These values were greater than the threshold value of .70, indicating that the instruments applied to measure the key variables were reliable.

Table 4.8: Result of Cronbach's Alphas of the main variables in pilot study

Number of Items	No of items deleted	Variables	Alpha
6	None	Emotional demands	0.79
4	None	Work–family conflict	0.92
4	None	Workload	0.86
8	None	Emotional exhaustion	0.87
7	None	Anxiety	0.92
4	None	Turnover intention	0.84
7	None	Perceived organizational support	0.97
4	None	Procedural fairness	0.95
8	None	Work engagement	Between 0.85 and 0.92
6	None	Happiness	0.91

4.7.7 Pilot study

A pilot study can be described as a small-scale project that collects data from respondents who are similar to the target respondents of the study (Zikmund *et al*., 2010). It is essential to pilot-test the survey before using it for data gathering. Improving the survey and allow the researcher to get an assessment of the validity and reliability of the questions are the main purposes of the pilot test (Saunders, Lewis and Thornhill, 2012). Validity involves the procedure of asking a skilled group of specialists to comment on the representativeness and appropriateness of the questionnaire, whereas consistency is concerned with the coherency of replies to questions (Saunders, Lewis, and Thornhill, 2012). Also, Dillman (1978) proposed that the pilot study is carried out to ensure that the questions measure what they are supposed to, the questions are explained similarly by all respondents, the questionnaire generates a positive reaction, questions are answered accurately, and the survey does not infer any bias. For the above reasons, the researcher conducted a pilot study. The questionnaires were distributed to 10 nurses in a public hospital in Riyadh, the capital city of Saudi Arabia. Adopting Dillman's pre-testing method, two versions of the questionnaire were constructed (English and Arabic). Arabic was used for Saudi nurses so they could understand the questions deeply. Table 4.9 summarizes the stages of pre-testing procedures adopted by Dillman (2000) that this study followed.

Table 4.9: Survey pilot process (Adopted by Dillman, 2000)

Stage 1	Questionnaire was tested by nurses to confirm question completeness, efficiency, relevancy, and format integrity'.
Stage 2	Observation and "think loud" procedures test if the respondents could complete the survey.
Stage 3	Small pilot study finished all the procedures proposed in the main study.
Stage 4	During the last amendment procedure, the researcher checked for mistakes and errors prior to the questionnaire distribution.

A pilot questionnaire was distributed to a small number of nurses in Saudi Arabia to ensure question completeness, efficacy, and format integrity. The pilot survey was given out at the end of May 2015. Ten nurses finished this survey. The objective

was to test that its instruments were accurate, fit, reliable and valid. In fact, the pre-test questionnaire gave valuable feedback for the survey. Nurses made many insightful suggestions about question wording, removal of several questions, replacement of questions, and format of questions. For example, the nurses noticed that some items were repeated. All these suggestions and issues were acted upon and completed in the final version of the questionnaire used for the data generation in this survey which was distributed to nurses' listed hospitals in June 2015 (Appendix D). The figures from the pilot study have not been included in the final dataset. The purpose of conducting a pilot study was to ensure that the respondents understood the questionnaire and not to collect data.

Two weeks after the first round of the email questionnaire, the follow-up process of the survey started with a cover letter describing the significance of the research. The second follow-up of questions took place at the end of June 2015. To persuade nurses to complete the questionnaire, the researcher made numerous telephone calls and return visits to all five hospitals (which involved 10 personal visits to distribute the surveys by meeting the head nurses and to distribute the surveys among the nurses and also to return to collect the same). The procedures of survey development and survey implementation are presented in Table 4.10.

Table 4.10 Survey procedure adopted by Dillman (2000) Questionnaire

Survey Development **Pilot**	Questionnaire design	• Ordering of questions including the cover letter. • Explanation of the significance of the study. • Consistent use of large and small letters and several colour schemes. • Attach the questionnaire to the email.
	Pilot questionnaire	• Send out the pilot survey. • Analyse the feedback from the pilot. • Finalize the survey according to the feedback.
Survey Implementation	Questionnaire distribution	• Check and periodically back up the replies. • This process lasted two weeks.
	Questionnaire follow-up	• Check and periodically back up the replies. • This process lasted two weeks. • Check and periodically back up the replies. • This process lasted two weeks.
	2nd Questionnaire follow-up	• The final reminder to answer the questionnaire. • Check and back up the responses from time to time.

4.7.8 Data analysis

Data analysis begins with data cleaning to ensure that there are no missing values. To code the data, and screen to clean the data, the Statistical Package for the Social Sciences (SPSS) was used. After that, descriptive statistics were created from the sample have been collected and reliability tests were carried out to confirm the consistency of the measurements. Then to validate the theoretical model, Structural Equation Modelling (SEM) was conducted.

4.7.9 Validity

This research used convergent and discriminant validity to confirm the measurements of the variables. Convergent validity is described as the extent to which tested variables of a specific variable share a high portion of the difference in common (Hair 2010). Measuring convergent validity requires three tests: factor loading, average variance extracted (AVE), and composite reliability. Subsequently, discriminant validity is carried out by comparing the AVE values for any two variables with the square of correlation estimate between these two constructs. Discriminant validity is defined as "the degree to which two conceptually similar concepts are distinct" (Hair 2010).

4.7.10 Reliability

Reliability can be defined as the extent to which a variable or set of variables is consistent with what it is/they are intended to measure (Hair, 2010). Generally speaking, reliability is inversely related to measurement error; in other words, the higher the reliability, the greater the relationships between a construct and the indicators, meaning that the construct explains more of the variance in each indicator (Hair, 2010). A coefficient alpha usually measures internal consistency; the coefficient alpha demonstrates whether or not the different items converge (Zikmund *et al.*, 2010). As a rule of thumb, a figure of ≤0.90 is excellent reliability, 0.70-0.90 is high reliability, 0.50-.70 is moderate reliability, and ≤0.50 is low reliability (Hinton, McMurray et al. 2014). In this study, there was a high level of reliability as all constructs had a reliability of above 0.70.

4.7.11 Factor analysis

Generally, there are two main approaches to factor analysis – the exploratory approach and the confirmatory approach. Exploratory factor analysis (EFA) is conducted when the researcher is unsure about the number of aspects that occur in a set of variables, while the confirmatory factor analysis (CFA) is performed when the researcher has theoretical expectations about the number of factors and which variables correlate to which factor. In other words, the CFA is suitable for testing

construct validity as it tests how well the researcher's "theory" about the factor structure suits the real observations (Zikmund *et al.*, 2010). The current study aimed to test the hypothesis that a relationship between observed variables CFA was considered as justifiable and suitable.

4.7.12 Structural equation modelling

This study selected the SEM technique in Analysis of Moment Structures (AMOS) to confirm the hypotheses and the performance of the suggested conceptual model. SEM is a statistical methodology that applies a confirmatory method to the analysis of a structural theory bearing a phenomenon. SEM tests the hypothesized model by simultaneously statistically analysing all of the variables in order to determine the extent to which it is consistent with the data. SEM was considered for this study since it fits the aim of testing the hypotheses, including multiple regression analysis among a group of dependent and independent variables (Ullman and Bentler, 2003).

A structural equation model contains two kinds of models recognized as the confirmatory factor analysis (CFA) and the structural model (Hair *et al*., 2006). CFA is a statistical method used to confirm the factor structure of a set of tested variables. The structural model confirms the relations between the elements as hypothesized. If goodness of fit is sufficient, the hypothesized relations among variables is supported; whereas if it is insufficient, the acceptability of such relations is rejected (Byrne, 2010). Hair *et al.* (2010) propose that at least four tests of model fit should be used for CFA and the structural model. Chi-square to (X^2) to the degree of freedom (Df), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), incremental fit index (IFI), Tucker-Lewis Index (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA) were used in this study to examine both CFA and the structural model. Furthermore, the hypotheses were tested using the standardized estimate, critical ratio (t-value), and critical value (p-value).

4.8 Ethical considerations

Research ethics govern the manner in which the research is conducted and how the results are reported (Collis and Hussey, 2013) – for instance, avoiding damage to contributors and the right to confidentiality of some of the ethical considerations

(Collis and Hussey, 2013). All ethical requirements of this research have been considered. The contributors were informed about the aim and significance of the research and the importance of their participation in the research. The participants were also informed that they could withdraw from the research at any time. Furthermore, the participants were guaranteed that their privacy would be protected. Brunel University Research Ethics Committee was the guide for the code of practice for this research. As reported by the Committee, the researcher and researcher's supervisor had to sign the research ethic form and submit it before handling the data.

4.9 Conclusions

This chapter explains the research methodology including how the philosophies, approach, and particular method adopted for this study and the stages of the research process. This study adopted a philosophy of pragmatism, which worked with both quantitative and qualitative data because it enables them to better understand social reality. The research approach adopted was abductive reasoning. As the researcher collected the data at one specific point in time, this study is considered cross-sectional. Also, this chapter discusses participants and instruments, data collection procedures, and the statistical tests to analyse the data and test the research hypotheses.

The researcher discovered that mixed methods were best suited to this research because mixed-methods research can be dynamic and versatile and can extend the scope of the research and improve the analytical power of studies (Sandelowski, 2000). Accordingly, qualitative data were collected by way of semi-structured interviews and then quantitative data were collected by way of a questionnaire after the pilot study.

The previous literature review discussed in Chapter 3 supports the primary data collection. The following chapter will present the data analysis of the qualitative phase.

CHAPTER 5: STAGE ONE RESULTS AND DISCUSSION

5.1 Introduction

As described in Chapter 4, the preliminary study took the form of interviews with fifteen medical-surgical ward nurses in Saudi public hospitals which were invited to participate in this project on the basis that they could provide a sufficiently representative sample to explore the key research question: what are the main sources of occupational stress that influence nurses' well-being?

This stage of the study sought to validate a priori the conceptual framework and to identify additional relevant constructs that might not be identified in the conceptual framework. A semi-structured interview was conducted which included 10 questions, the main purpose of which was to identify and generate discussion around the main sources of occupational stress and well-being among nurses in Saudi public hospitals. The questions were open-ended, allowing for the response the respondent wanted to give. This chapter presents personal demographics first, then the subsequent sections present the findings of occupational stress levels among nurses and then present the findings relating to the job demands (sources of stress) of the nurses. Subsequent sections present the findings related to job resources that influence nurses' well-being and their retention, followed by the strategies that might help to cope with and reduce stress. The chapter concludes by examining the contribution of the preliminary study in developing the model that was used as the basis for the main study.

5.2 Findings

The semi-structured interviews were designed to encourage participants to speak freely of their perceptions and experiences after the topic of discussion was presented. The thematic interviews were based on 10 predetermined questions, and some follow-up questions were presented when necessary. The participants' comments during the interviews were recorded in order to add meaning to their responses.

5.2.1 Personal demographics

Common stressors were examined for nurses working in medical-surgical wards in Saudi public hospitals, both male and female, Saudi and non-Saudi, and single and married.

5.2.1.1 Nationality

Respondents were asked to indicate their nationality, which is a key factor in the study, in order to ascertain any common variables among nurses from different nationalities. However, expatriate nurses make up the highest proportion of nurses working in the country. The sample for the interview was 6 Saudi nurses and 9 Asian nurses (Indian and Filipino). The nursing workforce in Saudi Arabia relies primarily on expatriates who are recruited from different countries. For instance, the majority of expatriate nurses working in Ministry of Health (MOH) facilities are Indian and Filipino (Tumulty 2001; Al-Omar 2003; Almalki, FitzGerald and Clark, 2011a).

5.2.1.2 Gender and marital status

Interviewees were 4 men and 11 women, with the women dominating the sample. The majority of the nurses (12 out of 15) in the sample were married. This may indicate family responsibilities which are in conflict with work responsibilities.

5.2.1.3 Job role

Fifteen nurses participated to create a picture of the role and responsibilities of nurses in the hospital. The majority of respondents claimed that they had many roles and that sometimes they were not performing a nursing role but other roles such as transporting patients, making beds, and ordering medications. However, taking care of the patients was the primary role of 15 of the nurses.

5.3 Thematic analysis

The interview data was analysed using thematic analysis, which is a method for identifying, analysing, and reporting patterns (themes) within data. It slightly organizes and describes the data set in (rich) detail (Braun and Clarke, 2006). The thematic analysis follows the research objectives set out in Chapter 1 (Introduction).

Appendix D shows a table outlining the hierarchical structure of the themes and illustrative excerpts of quotations.

5.3.1 Theme 1: The prevalence of stress in nursing work

The interviewees were asked if the job of nursing caused them stress and, if yes, to what extent they felt stress (10 being the maximum and 1 being the minimum). Surprisingly the majority of participants considered that being a nurse in a Saudi public hospital was a very stressful job, and the Likert scale helped to triangulate this finding. Table 5.1 below shows the responses as a function of gender.

Table 5.1: Extent of stress

Gender	1 10 Min Max
Female	10
Female	10
Female	10
Female	9
Male	10
Male	9
Female	9
Male	8
Female	10
Female	9
Female	10
Male	9
Female	10
Male	10
Female	10

The majority of the sample, irrespective of gender, expressed feeling high levels of stress. They believed that their work as a nurse in public hospital in Saudi was very stressful. This is in line with the findings of Kawano (2008), Xianyu and Lambert (2006) who reported that nursing has been identified as an occupation with high levels of stress. Interviewees attribute this stress to a number of factors. First, some participants explained that the job of a nurse was acceptable but that roles were given to them in the hospital that went beyond the role of nursing role.

In this regard, the following are the responses of two nurses with more than five years' experience in Saudi public hospitals:

> "I would say when I was in the college before my graduation I was happy to be a nurse. The job itself is very helpful and emotional work, but the stressors that I face are making me feel much stressed."
>
> (Saudi female nurse 1)

> "Now it's the end of my shift, I am completely exhausted. I was planning to do things after I finished duty today, but I think I will go home and sleep. as a nurse I feel stress more than any one imagine."
>
> (Filipino female nurse 2)

The participants expressed stress from a number of sources, which are further explored when specific stressors are addressed later in this chapter. As described in the Chapter 4 (Research Methodology), the interview guidelines asked participants about their experiences with respect to a number of common workplace demands (stressors) as defined by the literature review. The research here also posed a number of qualitative questions linked to experiences that are stress-specific to nurses in Saudi public hospitals, as identified from a review of the research literature on this specific workforce.

5.3.2 Theme 2: Unearthing common sources of stress

This section has three subthemes: workload, work–family conflict (WFC), and emotional demands. It discusses the interview findings relating to the main sources of stress among nurses and the influence of these stressors on emotional exhaustion. This accords with the study of Beauregard (2014) which claimed that not all employees respond similarly to stressors in the work environment.

5.3.2.1 Workload

The interviews discovered findings with respect to workload. 14 of 15 interviewees held the view that workload was the main source of stress in the hospital and that they face it every day. This finding is consistent with some of the previous studies (Nabirye *et al.,* 2011; Hamaideh *et al.* 2008; Mohamed, Gaafar and Abd Alkader, 2011; Happell *et al.*, 2013; Lim, Bogossian and Ahern, 2010; Topper, 2007; McVicar, 2003; Dolan *et al.*, 1992) which related workload to stress, emotional

exhaustion and different types of negative outcomes that affect nurses 'and organizations' well-being.

The following quotations from some of this present study's participants support this:

> " … a heavy workload is a major stressor. For example, the paper work is more work than the patients. I think our work has become more like office work than working with patients. Before, I used to finish work at the end of my shift. Now I sometimes stay two hours after my shift to complete my tasks."
>
> (Filipino male nurse 3)

Previous studies identified the relationship between workload and aspects of burnout, such as emotional exhaustion, and argue that there is a strong relationship between the two concepts (Crawford, LePine and Rich, 2010; Fernet *et al.,* 2013; Van den Broeck *et al.*, 2008). This is confirmed by the majority of nurses, as illustrated in this study by the following nurses' comments:

> "I'm doing more than one person's work and it's hard to get everything done as there is so much to do and this job makes me feel exhausted. Sometimes even in my break time I have to work because I have to submit everything before I go home, otherwise I have to stay until I finish."
>
> (Indian female nurse 3)

> "I am an honest person and like to perform my job to the best of my ability in order to maintain my own reputation and the hospital image and its reputation for excellence. But it is now repeatedly affecting my health. I cannot concentrate on my other tasks effectively. I am often forced to rush things to get everything done and after my shift I feel really tired."
>
> (Filipino female nurse 4)

> "When you don't have the time, you may fail to check something fundamental. For example, you might fail to check a blood sugar [level], you might fail to check for bleeding complications, or you might fail to check a blood pressure. You actually make mistakes because you don't have control and of course this situation will make you emotionally exhausted."

(Saudi male nurse 2)

Some participants described the extra workload that does not fall within a nurse's role and how they expressed shock and disappointment as they came to realize that bedside care or transporting patients are part of their job description. Their responses indicated that they did not know about the nature of nursing work and the tasks expected of nurses:

> "I didn't know that we would sometimes have to clean the patients' room work or transport patients to the x-ray room or operation room. All of these tasks increase our workload."

(Filipino female nurse 8)

Based on the majority of opinions, it can be concluded that workload is one of the main sources of stress that nurses face in Saudi public hospitals and that the emotional exhaustion is positively associated with the nurses' workload and the strongest predictor of nurses' emotional exhaustion. These findings are consistent with the JD-R model which assumed that one of the underlying psychological procedures playing a part in the progress of exhaustion is long-lasting job demand (i.e. workload) which can lead in the long term to exhaustion (Schaufeli and Taris, 2014; Bakker and Demerouti, 2014).

5.3.2.2 Work–family conflict

Each time a nurse extends his/her working time or is under pressure, he/she loses this time from his/her family. Most respondents claimed that the conflict between work and family/home is stressful for them, especially married respondents. They believe that these conflicts are the reason for higher rates of negative outcomes. The effects can be absenteeism, emotional exhaustion, higher turnover, reduced feelings of happiness, decreased family satisfaction, exhaustion, and anxiety. These results accord with previous studies (Beauregard,2011; Liu *et al.*, 2015; Moreno-Jiménez *et al.,* 2009; Moen *et al.*, 2015, Karatepe, 2013; Panatik *et al.*, 2012). This is confirmed by the following nurse's comment:

> "I'm facing a conflict between job demands and family life, especially when I have too much work to do or when something occurs that is not in our routine. For instance, if we have work to finish, we have to extend our working time, even if there is something in the family, such as sick children. This exhausts me."

(Saudi female nurse 6)

Another nurse highlights his memory loss due to combined stressful factors such as work demands and work–family conflicts:

> “My working days are extremely long and stressed. When I go home I am completely exhausted and all I need is sleep. I am not in a good mood to even chat with my family. I am unable to maintain the balance between my work and responsibility towards my family.”

(Saudi male nurse 2)

> “Before I started my work here I was thinking of bringing my family to Saudi Arabia. But now I can’t, it’s just too hard. I wouldn’t have time for them if I brought them and I am sure that if I did bring them, I would be very stressed.”

(Filipino male nurse 3)

One female nurse commented on the impact of her job on her relationship with her partner:

> “A lot of my free time is spent sleeping. My husband gets a bit fed up with my constant tiredness.”

(Filipino female nurse 7)

> “I have a big responsibility towards my family. When I get home from hospital I start my family shift. During my free time, I have to spend some time with my husband. This is not just me; most of my married colleagues at hospital suffer from the same pressures.”

(Saudi female nurse 9)

The respondents spoke about feelings of guilt associated with leaving their children at critical milestones in their lives. Some of these female participants pointed out that while their young children may develop an emotional attachment with the person who is always home with them, older children may develop anger and resentment towards their own mothers for being away when needed most. As one of the interviewees pointed out:

> “My poor children. I cannot remember when they crawled, stood or walked. I was so busy I did not witness these major milestones. It really hurts … I did not give them the attention and care they needed.”

(Saudi female nurse 11)

In contrast to the above, one nurse took a different perspective:

> “I don't see the conflict between work and home. I am Filipino and I live alone here, so I don’t have a problem with personal life or shift hours.”
>
> (Filipino female nurse 10)

Overall, the vast majority of participants agreed that work–family conflict (WFC) is considered a common job stressor that can lead to negative outcomes. As WFC places additional demands on both the work and family domains, it is likely to be associated with higher emotional exhaustion. This can explain the WFC experienced by the majority of the nurses.

5.3.2.3 Emotional demands

The nurse’s role is to assist in meeting the healthcare needs of patients. Nurses help the patient to adapt to their situation and to work through feelings and concerns. The extant literature reports that patient violence is a major public health concern that has received growing attention (Gates, Gillespie and Succop, 2011). Interviewees stated that some patients are too dependent on nurses and are not willing to take responsibility for their own improvement in health; other patients are difficult to manage because they are abusive or violent. Nurses also work closely with the patient’s relatives and inform them about the patient’s illness and discuss with them the patient’s treatment plan. It would appear that interacting with relatives is equally as difficult and demanding as working with patients. 12 of the 15 participants reported that stress is associated with the emotional demands of patients and their families.

This potential stressor is explored with reference to the emotional demands of the patient and the emotional demands of the patient’s family.

5.3.2.3.1 Patients’ emotional demands

The majority of the sample, irrespective of gender and nationality, faced high emotional demands from patients in their work that caused them to feel emotionally exhausted. As registered nurses, they need to communicate effectively with patients and provide them with emotional support. Nurses develop communication skills that not only allow them to talk sensitively about patients’ conditions but also give them the ability to assess what the patient wants. Some participants expressed great difficulty in communicating with patients in some situations:

> "My work as a nurse is emotional demanding. For instance, when I have to deal with a patient who doesn't want to accept her situation and tries to shout and scream, the stress of an aggressive, volatile patient demanding medication sometimes makes me feel powerless, stressed, and emotionally exhausted, but we have to be patient and deal with this type of situation."
>
> (Filipino female nurse 4)

> "I sometimes treat patients who are very demanding and who every minute want something and even though you have many patients and a lot of work, you have to do it. For me it's emotionally very stressful when I have to stay focused and keep watching a patient's vital signs in case they are abnormal, i.e. I don't want to miss anything."
>
> (Saudi female nurse 6)

One nurse reflected upon her past experience of working with children. He explained how hard it was to keep an emotional distance:

> "I feel miserable and I worry and feel upset if the patient is suffering uncontrollable pain and the cause is unknown, especially if they are a child."
>
> (Filipino male nurse 1)

Thus, the preliminary findings suggest that there is a relationship between patients' emotional demands and emotional exhaustion, and these findings are consistent with the findings of Gates, Ross and McQueen (2006) who found that assaulted nurses were significantly more likely to feel occupational stress, role anxiety, anger, job dissatisfaction, decreased feelings of safety, and fear of future assaults. However, many of the previous studies have found evidence of a link between emotional demands and negatives outcomes (Briner *et al.*, 2008; Heuven *et al.*, 2006; Tuckey and Hayward, 2011; Schaufeli, Bakker and Rhenen, 2009).

5.3.2.3.2 Emotional demands of patients' families

Some families are difficult to manage because they refuse to follow the nurses' advice, instructions or hospital rules or because they are demanding. Stress and emotional exhaustion associated with interacting with patients' relatives were reported by most of the interviewees:

> “Some relatives have unrealistic expectations about the patient’s extent of recovery or speed of recovery. If the patient doesn’t improve as fast as they thought, they often blame us for being incompetent and not doing enough. We have to constantly explain the patient’s condition to them, but they don’t seem to listen or don’t want to listen. They don’t comprehend that we are here to help.”
>
> (Filipino female nurse 7)

> “Some families have outlandish expectations of nurses. They treat you with a lack of respect.”
>
> (Filipino female nurse 10)

> “Sometimes we deal with very demanding patients’ families. They just demand and complain. Even when we try our best they are not satisfied and this is makes us exhausted.”
>
> (Saudi male nurse 4)

Based on the majority opinions of the interviewees, it can be concluded that coping with patients, families, and visitors places increased stresses on the daily routine care and that uncooperative family members and patients are a major stressor (Mehta and Singh 2015, Gates, Gillespie and Succop, 2011). Emotional demands in general are considered as a stressor among nurses and cause them to feel emotionally exhausted. This is consistent with the JD-R model (Bakker and Demerouti, 2007; Demerouti and Bakker, 2011; Demerouti *et al.*, 2001; Huynh, Xanthopoulou and Winefield, 2014).

5.3.3 Theme 3: Detection of job resources

When the researcher asked the interviewees which resources made them happy, allowed them to do their work and reducing the job stress they faced, most gave two answers: perceived organizational support (POS) and procedural fairness (PF). These increase work engagement and the feeling of happiness among the nurses in the hospital.

5.3.3.1 Perceived organizational support

Discussion with the nurses led to the emergence of two categories explaining the participants' perception of managerial support and supervisor support. Each of them is explained below with direct reference to the data.

5.3.3.1.1 Managerial support

The findings revealed that nurses' happiness and work engagement are related to perceived organizational support (POS). POS has been linked to increased employee retention. This finding is consistent with the finding of Madden, Mathias and Madden (2015) who presented empirical proof of the negative relationships at work between POS and intent to turnover. Of the 15 participants,10 agreed with that, and felt that if the process was better tailored to gain more information about their interests, expectations and skills, then stress from the work environment would be greatly reduced and work engagement would be positively affected:

> "I believe that perceived organization support will help nurses. Also it will help to reduce the level of stress because at least we would be aware that our voice was being heard and I am sure the perceived organizational support would impact on nurses' work engagement positively. For example, when we know that the hospital's management care about our well-being and try their best to make us happy, this is a motivation to work hard."
>
> (Indian female nurse 5)

> "Unfortunately, the hospital doesn't appreciate our work even when we work very hard and some days we work extra time. And if we miss little things, we get into big trouble."
>
> (Saudi male nurse 2)

> "I think the organization should provide very good support to its employees. How can it expect us to engage 100% and continue in our job when there is uncertainty of support? The support gives us an amazing feeling that makes us feel loyalty and love towards the hospital and our job."
>
> (Filipino female nurse 8)

However, there was a consensus among staff nurses that nursing and hospital management does not listen to their concerns.

> "We [as nurses] need support from our seniors and the administration in order to shine and be engaged. We want to learn and develop. The Director of Nursing should meet with us and should listen to us at least twice a year. I am sure there are things she does not know about; unit managers may not report everything to her."
>
> (Saudi female nurse 9)

> "I hope we get support from the management – for example, for what we need in the department and more attention for the nurse."
>
> (Indian female nurse 3)

> "One of the major problems here [a government hospital] is the lack of recognition. Whether you work or you do not, it is the same thing. We are not asking for money; a letter of appreciation may have a great impact such as increased work engagement and improved happiness level of the nurse."
>
> (Saudi female nurse 6)

It was clear from the interviewees that this type of support from the hospital's management is very much appreciated by the nurses. It not only creates a feeling of belonging towards the hospital but also boosts the morale of the employees, increasing their level of work engagement and buffering the negative effect of stress on job outcomes. This finding is consistent with a number of previous studies – such as those of Caesens and Stinglhamber (2014), Sulea *et al.* (2012), Wang, Kong and Chair (2011), Jawahar, Stone and Kisamore (2007), Dwyer and Fox (2006), and Brotheridge (2001) – which found that POS had a positive impact on work engagement, well-being, lower levels of burnout, intentions to quit and stress. On the contrary, when an employee needs support and it is not provided by the organization, the employee tends to develop an undesirable attitude towards their management.

5.3.3.1.2 Supervisor support

Some interviewees maintained that supervisor support is a very important antecedent of POS to encourage nurses in their work and to have a positive impact on nurse well-being and job outcomes. Perceived supervisor support had a

significant positive effect on many of the dependent variables, including increase in co-worker support, work engagement, use of indirect coping mechanisms, and decreased job stress (Vera *et al.,* 2015; Sundin, Hochwälder and Lisspers, 2011; Happell *et al.,* 2013). The following quotations confirm the positive impacts of supervisor support:

> "My supervisor is really very supportive. Even though I always run behind time in my tasks, she always tries to help even if she is very busy. I really appreciate her support and, to be honest, I am so happy that she is my supervisor."
>
> (Filipino male nurse 2)

> "Here in our unit I am very happy. We try to help and resolve any minor problems with our supervisor and he is very helpful. However, if I think that our supervisor will not be cooperative, I will try my best to change my unit because supervisor support is very important to nurses."
>
> (Filipino female nurse 4)

> "I always thank God that I have this supervisor and because of that I am very keen to stay in this unit and not change because I know that not all supervisors are like her. I know that one of my colleague's supervisors causes her anxiety."
>
> (Saudi female nurse 9)

Analysis of the interview proposes that POS is mostly dependent upon how seriously the hospital's management and supervisors attempt to understand the problems of the nurses.

5.3.3.2 Training

There was little evidence from participants' responses that training programs in their workplace helped to reduce stress for nurses and this answer confirms previous studies. However, the majority of the sample (12 out of 15) stated that training was available in the hospital but that they did not have time to attend it because the heavy workload prevented them from attending training. In addition, there was no relationship between training and work engagement, and this view was highlighted in the following quotations:

“Here in the hospital there are many training courses for the nurses and of course we can’t attend all of them because of our work situation. However, from my point of view I don’t think the training will help us to reduce the stress or to feel happy.”

(Filipino female nurse 8)

Similarly, other participants commented:

> “Training is good for the work experience. We will feel more confident and more professional, but it will not reduce our feelings of stress or make us more engaged.”

(Filipino male nurse 1)

> “Every day we have a small conference from 11 to 1, but this time is the busiest time for morning shift nurses.”

(Filipino female nurse 10)

In contrast, there was evidence from a smaller number of female respondents (2 out of 15) that agreed training courses do help to reduce stress. One nurse stated:

> “I think the training program will help to reduce the pressure if your stress is caused by lack of experience.”

(Indian female nurse 3)

The majority of findings suggest that there is no relationship between training and increased happiness or reduced stress, which is contrary to the findings of Huynh, Xanthopoulou and Winefield (2014) who that found training can help nurses to achieve their work goals by providing an environment in which they can grow and learn new things, and this in turn can help make their job more meaningful and challenging (engagement).

5.3.3.3 Procedural fairness

12 of 15 nurses held the view that procedural fairness is an important influence on their happiness and retention in the hospital and that it is very important in helping nurses reduce stress regardless of gender or nationality. This is confirmed by the literature (Cole et al., 2010). On the other hand, jobs with low procedural fairness will affect employees’ well-being (Proost, Verboon and Van Ruysseveldt, 2015). This is consistent with some statements of interviewees. For instance, one nurse claimed that female nurses had more tasks than male nurses:

“I don’t know why they give female nurses more responsibility than males – maybe because some male nurses are careless so they trust the females more, even though this makes us more stressed when we see unfairness in tasks.”

(Saudi male nurse 4)

Other nurses convey disappointment with the evaluation scores received:

> “Here we are working almost the same working hours with the same stressors; however, at the end of the day some of us are shocked from our evaluation. This is not fair and sometimes I really think about leaving because of the favouritism in the work.”

(Saudi female nurse 1)

> “I was very disappointed and very sad in the appraisals because they did not reflect the correct image of my performance and this is not fair.”

(Filipino female nurse 4)

> “I have been working here since 2012. Unfortunately I feel unfairness in the treatment between Saudi and non-Saudi nurses, especially if the supervisor and the nurse are friends, whereas we non-Saudi nurses are treated differently. They are not tolerant with us and if we say anything about different treatment, they justify it by saying that the Saudi nurses have more responsibilities outside the hospital, not like us whose families are not in Saudi. In my opinion, we have the right to be treated fairly because fair treatment in the workplace will impact positively on the organization and also on employee ‘well-being’.”

(Filipino female nurse 2)

Similarly, one female nurse stated:

> “As non-Saudi nurses we understand that this is their country, so of course the opportunity is for them, but in some cases we really need fairness for all of us. In my opinion, fairness in your workplace is vital and makes you happy, especially in our caring profession.”

(Filipino female nurse 8)

> “It’s difficult for me to deal with my supervisor. He shows favouritism to some nurses in this ward. From my experience I am not very happy with my supervisor. I am seriously thinking about leaving because I can’t handle it anymore.”

(Filipino male nurse 1)

Justice is a broad and multifaceted concept in different branches of a philosophical concept with the meaning of non-discrimination and fair differences (Fathabad *et al.*, 2015). And these preliminary findings of this study suggest that there is a relationship between procedural justice, turnover intention, work engagement, and nurses' happiness, either positively or negatively.

5.3.4 Theme 4: Job stressors and job-resource outcomes

The interview guidelines sought to establish whether the sources of stress that nurses face in their job and the main job resources that might be provided, affected their health, their personality, and their job. It has been reported that occupational stress can lead to a number of negative outcomes and this is consistent with the study of Moustaka and Constantinidis (2010). The interviews' findings emphasized the impacts of job stresses and job resources on the well-being of both the nurses and the organization. While the majority of the sample, irrespective of gender, were agreed that work stresses affect them mentally, a large proportion of them (10 out of 15) were really considering leaving the job. Meanwhile, not one of participants denied the positive outcome of job resources on nurses' well-being. Therefore the outcomes are grouped into the following subthemes: mental health (anxiety), turnover intention, and happiness.

5.3.4.1 Anxiety

In terms of anxiety, 11 of the interviewees specified that the stresses they suffered had a direct impact on their feelings of anxiety. Cheung and Yip (2015) claimed that there is significant correlation between anxiety and stress symptoms. This was confirmed by some of the interviewees' comments:

> "I often have only the time to do the most urgent [tasks]. I mean the patient care. But I don't have enough time for other tasks, so I have to finish them at the end of the day and this makes me suffer from anxiety."

(Filipino male nurse 1)

One participant talked about being unable to stop thinking about the job after finishing their shift. She stated that it was difficult to "switch off" from the pressure of work when at home or away from the hospital:

> “My situation now when I go back home after a stressed day is that I think about whether I did all my tasks that day and whether I gave all the patients their medication, and sometimes I feel a surge of anxiety that maybe I forgot to do something.”
>
> (Filipino female nurse 2)

With respect to the same point, male nurses had a different experience:

> “Stresses that we face here will of course affect our mental health. We have a massive workload that leads us to feel anxiety. Pray to God that it doesn’t reach depression level.”
>
> (Filipino Male nurse 3)

Another participant commented that being a nurse with family responsibilities as well had consequences on mental health:

> “In my point of view, work demands and family demands cause a feeling of anxiety for me.”
>
> (Indian female nurse 5)

In terms of changing work role, a number of participants (3 out of 15) specified it caused a feeling of anxiety:

> “I feel anxious when they change my job role. I mean, when they need help from another ward and I have to go, I feel very worried because sometimes they send me to units in areas in which I don’t have much experience.”
>
> (Filipino female nurse 8)

Only one of the interviewees mentioned depression:

> “I am a very social person, but since I started working I can’t manage my work and my life responsibility. This really makes me depressed about my circumstances. I want to do better than this.”
>
> (Saudi male nurse 4)

Participants’ responses were consistent with the findings of Zheltoukhova, O’Dea and Bevan (2012) in which a study of patient groups with doctor-diagnosed musculoskeletal disorders (MSDs) in the UK pointed out sources of stress such as workload and the reactions of nervousness, anxiety, frustration, or annoyance when exceeding personal abilities and feeling threatened. Also their answers confirmed

the findings of Gates, Ross and McQueen (2006) that assaulted nurses were significantly more likely to feel occupational stress, role anxiety, anger, job dissatisfaction, decreased feelings of safety, and fear of future assaults. Based on the majority of opinions, it can be concluded that many of the consequences of stress at work described by participants related to anxiety and symptoms of worry.

5.3.4.2 Turnover intention

Intention to quit was a stress outcome specified by the majority of participants (10 out of 15) who claimed that stress had consequences linked to their job. Such participants explained that the conditions within their job encouraged them to actively seek other employment or go back to their country of origin because of many reasons such as procedural unfairness. This problem was highlighted in the following quotations:

> "Any worker in any job who doesn't feel that the procedure is fair, without any doubt, will think about leaving, especially if he or she gets a good offer, so equality in the workplace is essential. I have considered leaving the job, because here nurses do not receive fairness in many things like salary, holidays, and treatment."
>
> (Filipino female nurse 2)

> "When management and nurses both trust in each other, and there is a lack of bias and they are treated equally and they give the nurses the same salary regardless of their nationality, I will never think about leaving, but unfairness in treatment and the differences of dealing between the nurses seriously make me think about leaving and going back to the Philippines."
>
> (Filipino Female nurse 7)

> "I'm always looking for a better offer and hoping something else comes up for me."
>
> (Saudi male nurse 2)

Another participant mentioned workload as a cause of thinking about leaving:

> "I am exhausted because of the workload that we had it. Of course, if I got a better opportunity, I would leave."
>
> (Saudi female nurse 11)

Conversely, two of the interviewees mentioned that even they were not fully satisfied with their work and had a lot of job stress; they would still have to stay:

> "I am not truly happy, but I can't quit because I need the salary to help my family."

(Filipino male nurse 3)

> "At my old hospital, I used to work shifts. I had daily quarrels with my husband. Money is very important these days; we have more children and more responsibilities. We have debts to be paid, and this is why I am keeping quiet and will remain working in the hospital."

(Saudi female nurse 1)

One female nurse disclosed:

> "Now I am single and I don't have children so I still can manage the stress, but if I get married, I may think about it because I know with the huge workload we have how difficult it will be on me."

(Filipino female nurse 2)

Based on the majority opinions, it can be concluded that when an organization provides support and procedural fairness to its employees, it not only boosts the happiness of employees but also reduces their intention to leave. Therefore, the happiness and turnover intention of the nurses is associated with job resources (POS, procedural fairness) whether negatively or positively. This is consistent with the theoretical findings that claimed the positive impacts of job resources, whether on an organization or an individual. However, empirically, there are a number of studies which found a correlation between these variables (Alhamwan and Mat, 2015; Fathabad *et al.*, 2015; Thirapatsakun, Kuntonbutr and Mechida, 2015).

5.3.4.3 Happiness

The findings revealed that providing workers with resources needed in their job can increase nurses' happiness and work engagement. It has been suggested in previous studies that job resources such as social support from co-workers and supervisors, feedback, perceived organizational support (POS), autonomy, and learning opportunities are positively linked with work engagement which turn to happiness (Bakker and Demerouti, 2007; Huynh, Xanthopoulou and Winefield, 2014). This was confirmed by some of the interviewees:

> “All positive processes the hospital provides to nurses absolutely have positive outcomes on the nurses’ well-being because they have a positive attitude towards their work and they will be happy doing the jobs they do.”

(Saudi male nurse 4)

> “For sure, if the hospital management care about us and about our rights, I am sure all of the nurses, not just me, will be very happy and this will give us more energy and resilience while working.”

(Saudi female nurse 1)

> “When I started work here I was very happy. I really loved the nurse role but not anymore. However, if the hospital’s management became more flexible and had a better understanding of the nurses and gave us the help that we need, I think this would make the nurses happy and have more loyalty to their workplace.”

(Saudi male nurse 2)

In addition, the findings also show that the perceptions of procedural justice are related to nurses’ happiness. As one of the interviewees pointed out:

> “The most important thing for us is fairness of treatment. In my point of view if there is procedural fairness among all nurses regardless of gender and nationality, this will have a positive effect and increase nurses’ enthusiasm.”

(Filipino female nurse 4)

Based on the common responses it can be concluded that job resources have a positive relationship with nurses’ happiness and work engagement and other positive consequences. These results are consistent with the article of Ozkara San, ‘Concept Analysis of Nurses’ Happiness’ (Ozkara San, 2015).

5.3.5 Theme 5: Stress-management strategies

This section details the findings associated with the stress-management strategies of nurses to deal with job stress as reported by different research participants and as part of their responses to questions 6, 7, 8 and 9 listed in the interview guide.

This subheading is divided into two themes. The first theme is individual strategies of stress management and presents the most effective strategies of nurses to

manage their stress. The second theme is organizational stress-management strategies which focuses on what the organization can provide that can help to reduce nurses' stress. The findings are derived from the nurses' responses to the interview questions.

5.3.5.1 Organizational stress-management strategies

In this theme, participating nurses reported different organizational strategies which could be divided into the following: improving the levels of respect and care for nurses, increasing staff, and increasing flexibility. These strategies can help to manage and alleviate occupational stress.

A large proportion of the sample, irrespective of gender or nationality, were of the opinion that improving the level of respect and care given to nurses was an important strategy for reducing exposure to stress and stress outcomes. The concept of respect and care referred to a number of dimensions associated with giving nurses words and feedback, as some participants felt that they were not appreciated for the help that they were providing to the organization. Therefore nurses are seeking social support strategies (Chang, Tugade and Asakawa, 2006), also called problem-focused strategies (Lazarus and Folkman, 1984). They argued that encouragement and being thanked by the management and doctors as well for their work to the organization would make them feel more welcomed and reduce feelings of stress.

The following quotations are an example:

> "'Thank you' would have gone a long way to making me feel happy with the job. We also need a good listener that will listen to the stressors that we face."
>
> (Filipino female nurse 4)

> "Unfortunately, (Saudi) medical doctors sometimes do not show respect to Saudi nurses and believe that expatriate nurses are more skilled and highly qualified."
>
> (Saudi female nurse 6)

Based on the interviewees' views, it can be concluded that care and respect for nurses is a good organizational strategy that can help to reduce the level of occupational stress among nurses. All the interviewees were struggling with the

effects of shortage of staff. They reported that one of the main strategies that they asked hospital management to apply was to increase the number of staff:

> "This is a very busy government hospital with a severe nursing shortage. During the morning shifts nurses may take up to seven patients each; in the afternoons and nights, two nurses may cover the whole unit of 19 patients."

(Indian female nurse 3)

Most respondents talked about the international nursing shortage and agreed that Saudi Arabia should have its own supply of nurses who understand patients and are more sensitive to their needs. Their accounts suggested that having more qualified Saudi nurses, who speak the language and understand the patients' spiritual as well as physical needs, should be a national priority. Regarding this point, one female nurse stated:

> "The total number of graduates is increasing yearly. Many students have graduated this year (bachelor degree government universities), but hospitals do not give the Saudi nurses opportunities to get a job."

(Saudi female nurse 11)

Similarly, one male nurse said:

> "I think the best solution to reduce most stressors among nurses is to increase nursing staff in specific units – for example, the units that have patients with critical cases and demanding patients."

(Filipino male nurse 1)

The male nurse in the quote below was unhappy about the severe shortage which is forcing nurses to do all type of nursing and non-nursing work:

> "We actually give bed baths. Why do we have to do these tasks for the patients? There should be other staff [nursing assistants] for this work, but we do not have them in our unit."

(Saudi male nurse 4)

Based on the majority of views, it can be concluded that the strategy of increasing staff will have positive outcomes for organizations and nurses. This finding confirms previous findings (Al-Mahmoud, Mullen and Spurgeon, 2012). One of the most frequently suggested policies to reduce work stress is flexibility. Thus, organizations should recognize conflicting inter-domain demands on staff, and provide and

encourage the use of flexible solutions to address employee problems and also to reduce turnover intention and decrease WFC. This supports the findings of (Dawson *et al*., 2014; Mostert and Oosthuizen, 2014).

One nurse participant claimed:

> "The hospital does not have policies for flexible scheduling and part-time options. I hope the administration allows nurses more responsibility in the conduct of their duties."

(Filipino male nurse 1)

In order to improve retention, increased attention should be focused on career development and flexibility in the hospital. Some nurses criticized the principal of the hospital for lack of flexibility in the hospital management. For example, one male nurse said:

> "One day I felt unwell so I just wanted to go down to outpatient to see a doctor. I asked my supervisor and it took three hours to get approval to go. He said I had to get the approval from the management department. Why I couldn't get it from the supervisor? It's weird."

(Saudi male nurse 4)

5.3.5.2 Individual stress-management strategies

The respondents had different ways of trying to manage their stress, and these were apparent from the reported responses to question 6 listed in the interview guideline. Two subthemes emerged: time management and sharing feelings.

A number of participants indicated that the main stress-management mechanism was the ability to manage time. As one of the interviewees pointed out:

> "After three years of working on the job, the stress was affecting me negatively. Therefore I attended a time management course to help me to manage my time, and solve my problem especially in my work because there was really not enough time to finish my tasks and as everyone know as nurses we face many difficulties. Now, for example, before I go to bed I write a to-do list for the next day and I can see that it is helping me."

(Filipino female nurse 2)

Almost half of the participants (6 out of 15) agreed that time management skills help to some extent to reduce and manage occupational stress. These findings are consistent with (Chernomas and Shapiro, 2013; Chang, Tugade and Akasawa, 2006). The majority of the participant nurses relieved stress by sharing feelings with relatives and friends. The following nurses defined their coping strategies:

> "I try to get rid of the stress by talking with my friends or colleagues and when I face any problems that make me stressed, I do not hesitate to ask them for advice and help. They are always helpful and their advice works."
>
> (Indian Female nurse 5)

> "When I finish a morning shift I go to my mum's home and have my dinner and a chat with her. This makes me feel better."
>
> (Saudi female nurse 1)

When nurses feel they are overburdened with many demands, feel overloaded and cannot deal with these demands, they tend to complain and show their unhappiness. For instance:

> "I complain to the head nurse or the supervisor and I show them that I am not happy. Sometimes they help, and even if they do not, at least I show them that I am stressed."
>
> (Filipino Male nurse 1)

The above individual strategies have been shown to be common coping strategies among hospital nurses in other countries as well (Happell *et al.,* 2013; Gholamzadeh, Sharif and Rad, 2011; Zhou and Gong, 2015).

All of these preliminary findings show the importance of the problem-focused strategies which are directed towards managing or changing a stressful situation, or which involve addressing the problem that causes distress, to cope with occupational stress among nurses in public hospitals of Saudi Arabia (Bennett *et al*. 2001; Lambert, Lambert and Ito, 2004; Happell *et al.*, 2013; Gholamzadeh, Sharif and Rad, 2011; Lazarus and Folkman, 1984).

5.4 Revised model

A revised model of the job demands-resources and its consequences was developed on the basis of the preliminary study findings. In total, 13 main hypotheses are used in the following analysis (in the main study) for hypotheses-testing purposes. Below is the revised conceptual framework for the study.

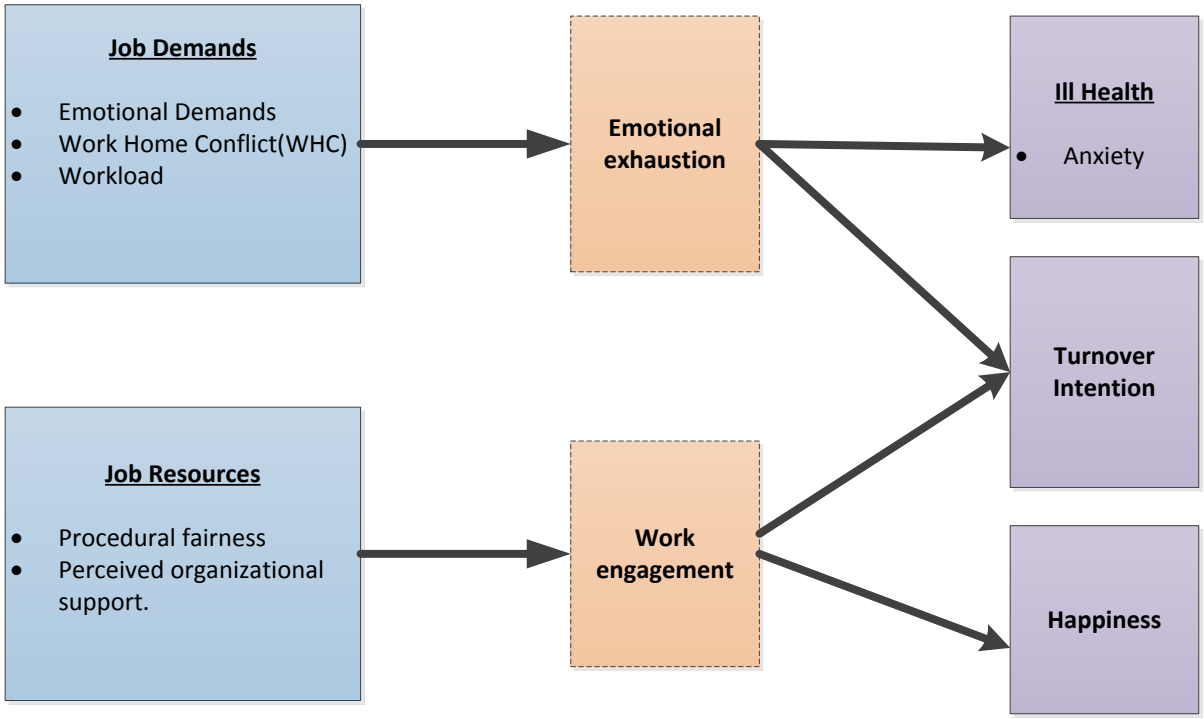

Figure 5.1: Revised conceptual framework

5.5 Conclusion

This chapter presents the results from the qualitative semi-structured interviews with 15 male and female medical-surgical units' nurses in Saudi public hospitals. The chapter began by detailing the demographic information collected, before presenting a thorough thematic analysis of the qualitative questions posed during the interview process.

There are a number of conclusions which can be drawn in relation to the main research question addressed by the study which concerns the main sources of stress that affect nurse's well-being. The results confirm the applicability of the existing model of Demerouti *et al.* (2001). However, this current preliminary study reveals new items related to the study context. Additionally, the preliminary study emphasizes two factors, namely, nurses' workload and procedural fairness, which have never tested before in this model with the same mediations and outcomes. Therefore, the findings of the preliminary study provide evidence of the universality of some of the Western-based theory relating to occupational stress.

As mentioned in Chapter 4, the results of the qualitative stage are used to develop hypotheses for the main survey in this study, to determine the main constructs and confirm the measurement items. The next chapter presents the conceptual framework and hypotheses of the study.

CHAPTER 6: CONCEPTUAL FRAMEWORK AND HYPOTHESES

6.1 Introduction

In this chapter, the researcher develops the conceptual framework and the research hypotheses, based on the qualitative results (phase one) which may agree or disagree with previous literature that have been mentioned in this study. Therefore, this chapter begins with the development of the framework, and then discusses the constructs relationships. Based on constructs relationships, hypotheses are proposed, and conclusions are drawn in the final section.

6.2 Framework development

Figures of models have been developing over the past half-century and they have sought to present the relationship between the psychosocial work environment and health and well-being (De Croon *et al*., 2000). A number of studies have utilized these models in the assessment of work-related stress (WRS): the Job Demand-Control (-Support) model of work stress (Karasek, 1979; Karasek and Theorell, 1990); the Person–Environment Fit model of French, Caplan and van Harrison (1982); the Effort-Reward Imbalance model (Siegrist, 1996) (Ravalier, 2013); and the Job Demand-Resources model (JD-R) (Demerouti *et al*., 2001; Schaufeli and Bakker, 2004). This study applies the JD-R theoretical framework because it has a number of strong points, as set out in detail in Chapter 3. Furthermore, as found by van Veldhoven *et al.*'s (2005) study relying on data from 37,291 Dutch employees and comparing the demand-control-support (DCS) model with the JD-R model, the JD-R model most accurately predicts the relationships between work characteristics, health, and well-being. Similarly, the study of Lewig and Dollard (2003) of Australian call-centre workers revealed that the JD-R model represented emotional exhaustion and job satisfaction better than the DCM or the ERI models do. The JD-R can be viewed as an overarching model that can be applied to different occupational workplaces irrespective of the specific demands and resources involved depending on the occupational context under study. Also, the JD-R model includes and extends both the DCM and ERI models and is much more accurate and flexible (Bakker and Demerouti, 2007). A number of studies support the dual pathways to employee well-being proposed by the model, and indicate that the model can predict significant organizational results (Bakker and Demerouti,

2007). Finally, Llorens *et al.* (2006) reported that the JD-R model is robust across a range of methodologies. This framework is therefore deemed the best choice in order to fill the existing gaps in the literature, answer the research questions, and address the main issue of the factors of nurse stress in Saudi public hospitals.

In practical terms, based on the qualitative phase of this study, the JD-R framework has been developed. The conceptual framework for this study contains ten major constructs that include emotional exhaustion and work engagement as mediating. These variables are: emotional demands, work–family conflict (WFC), and workload (collectively, job demands), perceived organizational support and procedural fairness (collectively, job resources), and emotional exhaustion and work engagement (collectively, the mediators between these job characters) and the outcomes of these stressors which are anxiety, turnover intention, and happiness. Figure 6.1 proposed the basic conceptual framework for this study. The next section investigates the relationship between these variables, and then proposes the hypotheses of this study.

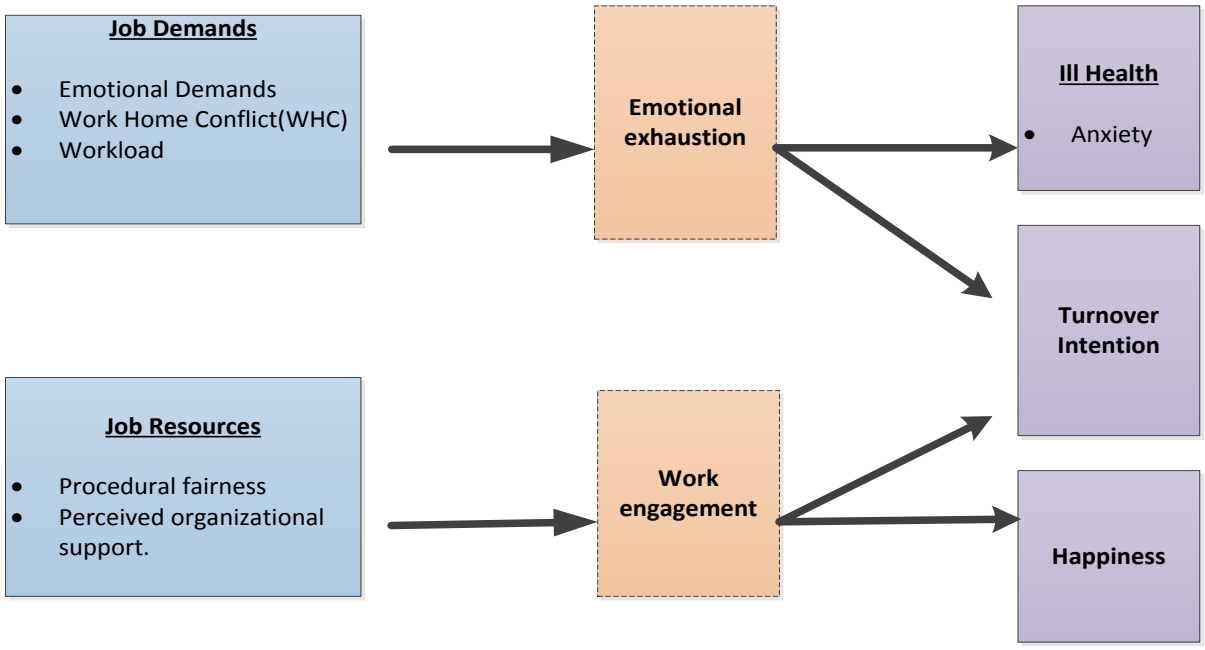

Figure 6.1: Research conceptual framework

6.3 Hypotheses development

The sections below present specifically the relationship between the job demand and job resources with the mediator variables and the outcomes. It then proposes the hypotheses.

6.3.1 The relationship between job demands, emotional exhaustion, turnover intention and anxiety

The majority of the interview participants suffered high level of stress because of many sources of stress that left them feeling exhausted. This finding is compatible with numerous studies that have identified the relationship between job demands, stressors, or characteristics (e.g. workload, role stressors, role conflict, job insecurity, time pressure, physical environment, and customer contact) and aspects of burnout such as emotional exhaustion. Also, these studies argue that there is a strong relationship between the two concepts (Crawford, LePine and Rich, 2010; Fernet *et al.,* 2013; Van den Broeck *et al.,* 2008).

Theoretically, job demands, which comprise physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological effort, should be associated with specific physiological and/or psychological costs (Demerouti *et al*., 2001). Bakker, van Veldhoven and Xanthopoulou (2010) found, in the JD-R model, job demands to be “the most urgent indicators of job stress”. Job demands are considered as work stressors and will be different in all workplaces. For instance, when assessing occupational stress and job satisfaction among nurses working at hospitals in the city of Karad in India, Bakker and his colleagues (2004) found that occupational stress is significantly correlated with emotional exhaustion. Their study (which was conducted in several different sectors and job positions) found a solid positive relationship between job demands (workload, emotional demands, WFC) and exhaustion. As stated earlier, job demands create a health impairment process that depletes employees’ mental and physical resources, resulting in burnout. Thus, job demands may have a direct positive correlation with burnout (Bakker and Demerouti, 2007; Crawford, LePine and Rich, 2010).

In another recent study of Belgian frontline managers (FLMs), Van Bogaert *et al*. (2014) pointed to key aspects of the manager role such as work/time pressures, role conflict, and low decision authority as particular contributors to WRS leading to

emotional exhaustion. The findings of many empirical types of research of differing occupations suggest this positive association (Bakker and Demerouti, 2007; Crawford, LePine and Rich, 2010). In the context of safety, workers with demands placed upon them will have restricted resources to manage the physical and cognitive demands of work and safe performance, ultimately resulting in burnout (Nahrgang, Morgeson and Hofmann, 2011). Karatepe's (2013) study of frontline hotel employees and their managers in Romania found that excessive job demands elevate employees' emotional exhaustion, because emotional exhaustion develops as a reaction or a response to excessive job demands.

In contrast, Jung, Yoon and Kim (2012), who investigated the effect of role stressors (i.e. ambiguity and conflict) on emotional exhaustion and turnover intention in a Turkish hotel setting, found no relationship between job demands and turnover intention. However, Chen, Lin and Lien's (2011) study that tested the effect of job stress factors, including role ambiguity and conflict, on turnover intention indicated that stress did increase turnover intention (Chen, Lin and Lien, 2011). Moreover, Babakus, Yavas and Karatepe (2008) in their study of frontline employees (e.g. food servers, front desk agents, concierges, and bartenders) of three-, four-, and five-star hotels in Ankara, Turkey's capital, found that job demands have the strongest impact on turnover intentions. Furthermore, supervisors or managers in nursing work have very important roles in nurse retention and their turnover behaviour (Alhamwan and Mat, 2015). Also, research shows that job demands affecting emotional exhaustion are also closely related to employees' turnover intentions (Ito and Brotheridge, 2005). In another study done by Lee *et al.* (2014) of brokers of large-scale chain real-estate brokerage companies in Kaohsiung City, results indicated that WFC significantly and positively influences turnover intention; when WFC for the brokers increases to the point that they can no longer endure it, their turnover intention increases. This finding is consistent with Netemeyer, Brashear-Alejandro and Boles (2004) who argued a positive correlation between WFC and turnover intention.

However, a number of researchers have supported a positive relationship between workload, stress, and turnover intention – for instance, Qureshi *et al.*'s (2013) study of 109 employees from the textile industry of Pakistan. Also, Xiaoming *et al.*'s (2014) study of the medical staff in Kaohsiung Chang Gung Memorial Hospital presented remarkable effects of workload on turnover intention. In another study by Zheltoukhova, O'Dea and Bevan (2012) of patient groups with doctor-diagnosed musculoskeletal disorders (MSDs) in the UK, workload was found to be a cause of

nervousness, anxiety, frustration, feeling pressured, or annoyance when personal abilities were exceeded and workers felt threatened. Such reactions changed the normal physical and mental conditions of a person, changed the behaviours, and burnt out the person. This finding accords with Ferguson, Frost and Hall's (2012) study of teachers in northern Ontario when they found that workload and student behaviour were found to be significant predictors of depression and anxiety. From the analysis of the interviews the main sources of stress are emotional demands, work–family conflict (WFC), and workload. The next section discusses the relationship of these stressors with emotional exhaustion.

6.3.2 The relationship between emotional demands and emotional exhaustion

Many recent researches have started to explore the relations between emotional demands and stress (Briner *et al*., 2008). Emotional job demands have been highlighted more lately as having a vital impact on health and well-being (Brotheridge and Lee, 2002). Emotional demands refer to emotionally charged interactions and stress at work (Heuven *et al*., 2006; Totterdell and Holman, 2003). Generally speaking, the demands of the individual must be balanced with the demands of the employer. Emotional events will often impact performance; however, employees must attempt to manage their emotions to create a satisfactory public image (Kendall, Ph, and Neill, 2000). It is known that emotional demands are a major cause of workplace distress for staff and that the effect of such demands vary greatly (Mehta and Singh, 2015; McVicar, 2003). Emotional demands as job demands are deemed a major predictor of health problems and the most important antecedent of the exhaustion component of burnout (Bakker and Demerouti, 2007). Tuckey and Hayward (2011) found a significant positive relationship between emotional demands and psychological distress and exhaustion, thereby drawing attention to the potential consequences of emotional demands outside the work. Notwithstanding the scholarly discussion as to the precise nature of burnout and how it should be assessed, the emotional demands of human-service work are generally accepted to lead, over a period of years or decades, to burnout or burnout-like outcomes. Other outcomes may also occur: early retirement, absenteeism, physical ill health, and changing careers (Briner *et al.,* 2008). Emotional demands were also found to be significantly related to emotional exhaustion by Schaufeli and Bakker (2004). Gates, Ross and McQueen (2006) found that assaulted nurses were significantly more likely to feel occupational stress, role anxiety, anger, job dissatisfaction, decreased feelings of safety, and fear

of future assaults. Schaufeli, Bakker and Rhenen (2009) stated that high levels of emotional demands and the low levels of job resources lead to increased future burnout scores. According to Bakker, Demerouti and Verbeke (2004), employees will struggle to direct their attention and energy when emotional demands are high, because they must exert greater effort and this, in turn, will negatively impact their performance. In their study on volunteers, Huynh found a positive correlation between emotional demands and exhaustion, and that exhaustion was linked to ill health and turnover intentions. Briner *et al.* (2008) asserted in their report on the nature, causes, and consequences of harm in emotionally demanding occupations that emotional demand levels vary greatly within professions (such as human-service workers and customer-service workers) and that emotional demands exist in many jobs.

In addition to the above studies and the arguments in the literature review chapter, the nurses' interviews confirm this relationship between emotional demands and emotional exhaustion. The interviewees stated that some patients are too dependent on them and are not willing to take responsibility for their own improvement in health; other patients are difficult to manage because they are abusive or violent. For example, one Saudi male nurse stated: "Sometimes we deal with very demanding patients' families. They just demand and complain. Even when we try our best they are not satisfied and this is makes us exhausted." The researcher therefore assumes that, in the context of nursing in public hospitals in Saudi Arabia, emotional demands are positively related to emotional exhaustion and negative ill health outcomes (depression, anxiety) and intention turnover. The following hypothesis is therefore proposed:

H1: There is a positive relationship between emotional demands and emotional exhaustion.

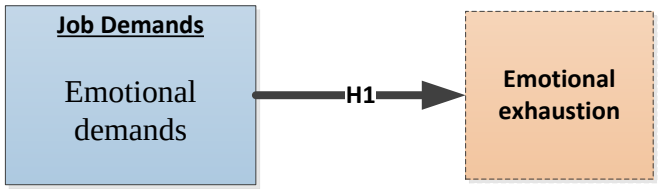

Figure 6.2: The relationship between emotional demands and emotional exhaustion

6.3.3 The relationship between work–family conflict and emotional exhaustion

Most respondents of this study claimed that the conflict between work and family/home is stressful for them. It is not easy to separate the most important constituents of human life: work and family (Jamadin *et al.*, 2015). Changing workforce demographics have highlighted the importance of balancing work and family life (Byron, 2005). If these two vital life elements are not successfully balanced, WFC can increase. WFC has also been termed as a negative spill over from work to family, work interfering with family, or work–family interference (Eng *et al.,* 2010). Jamadin *et al*. (2015) emphasized that several studies have been found examining the association between WFC and job stress. The research on WFC and job stress is rising because it is a growing problem (Kaye and Gray, 2007).

The conservation of resource (COR) model provides a useful framework for understanding the relationship between emotional exhaustion and WFC (e.g. Brotheridge and Lee, 2005). One important conceptual issue concerns the direction of the relationship between emotional exhaustion and WFC. In many studies, WFC has been viewed as a predictor of emotional exhaustion (e.g. Lambert, Hogan and Altheimer, 2010; Rupert *et al.,* 2009), while others have conceptualized emotional exhaustion as a predictor of WFC (e.g. Westman, Etzion and Gortler, 2004). A study by Innstrand *et al.* (2008) has fully delineated the dynamic relationship between WFC and burnout. Innstrand *et al*. (2008) followed a sample of 2,235 respondents from a variety of professions over the course of two years in an effort to investigate the longitudinal relationships between WFC and emotional exhaustion. They compared three path models: WFC to exhaustion, exhaustion to WFC, and a reciprocal model. Results indicated that the reciprocal model was the best fit to the data. In line with the COR theory's prediction of loss spirals, the results indicated that WFC and emotional exhaustion predict each other over time. Increased WFC has been associated with increased emotional exhaustion among correctional officers (Lambert, Hogan and Altheimer, 2010),

In addition, Panatik *et al*.'s (2012) study in Malaysia identified the strongly correlation between WFC and WRS. Similarly, Jamadin *et al*. (2015) found a significant positive relationship between WFC and WRS. When there is low-level family conflict, job stress will also be low-level. WFC has been found to relate positively with many negative outcomes that impact on the individual, the family, and work (Eby *et al.,* 2005; Bellavia and Frone, 2005). For example, the impact of WFC has been found to be detrimental to employees' mental and physical health

(Moen *et al.,* 2015; Torkelson and Muhonen, 2003). Adverse (mental) health outcomes associated with WFC are psychosomatic complaints and medication use (Burke and Greenglass, 1999), depression and poor physical health (Frone, Russell and Barnes 1996; Frone, Russell and Cooper, 1997), and hypertension (Frone, Russell and Cooper, 1997). Moreover, van Daalen and his colleagues (2009), Karatepe (2013) and Liu *et al.*(2015) reported that employees who experience high levels of WFC report more feelings of emotional exhaustion than employees who experience lower levels of WFC. However, WFC is not caused by the variable of gender alone (Carnicer *et al.*, 2004). Sultana (2012) identified that the inability to socialize and poor quality time with children and family lead to working women feeling stressed. Moreover, demanding work schedules and unfinished work will negatively impact on women's relationships with their spouses.

In addition, 6 of the15 respondents in this study agreed with the previous researches, as they mentioned that WFC can lead to emotional exhaustion and negative outcomes such as anxiety and turnover intention. one Saudi female nurse said:

"I have a big responsibility towards my family. When I get home from hospital I start my family shift. During my free time, I have to spend some time with my husband. This is not just me; most of my married colleagues at hospital suffer from the same pressures."

Accordingly, the evidence and arguments presented in this thesis, together with those set out in the literature review(and the majority of participants who agreed that WFC is considered a common job stressor that can lead to negative outcomes) confirm the relationship between WFC and exhaustion, and WFC and ill health (anxiety), and therefore the following hypothesis is proposed:

H2: There is a positive relationship between work–family conflict and emotional exhaustion.

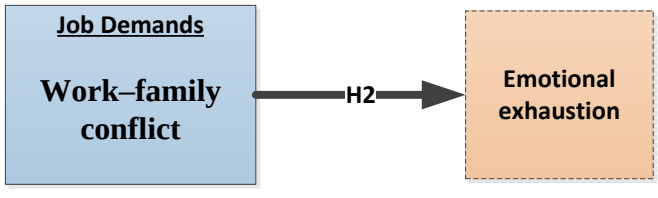

Figure 6.3: The relationship between work–family conflict and emotional exhaustion

6.3.4 The relationship between workload and emotional exhaustion

Workload has been defined as employees' own perception of having more work than they can manage even if given a longer time to do it (Shirom, Nirel and Vinokur, 2006). Parasuraman *et al.* (1996) defined overload as "the perceived magnitude of work-role demands, and the feeling that there are too many things to do and not enough time to do them". Deliberate understaffing and unrealistic task criteria are among the factors that make employees have increased workloads in the hospitality industry (Deery, 2008). And one of the core explanations for the negative attitudes, occupational stress, and job dissatisfaction among nurses is workload (Bryant *et al*., 2000; McVicar, 2003). Workload is a main predictor of burnout (Shirom, Nirel and Vinokur, 2006). This is confirmed by 14 nurse interviewees who stated that workload was one of the main sources of stress that made them feel exhausted. One Indian female nurse commented that she was doing many of her job tasks in her break time as she had to finish the tasks before the end of her shift and the stress of that made her feel exhausted. Karatepe's (2013) empirical study of frontline hotel employee–manager dyads in Romania found that employees who are frequently faced with workload and conflict between work and family roles feel emotionally exhausted. Workload is a significant predictor of emotional exhaustion. These findings are congruent with other empirical studies (Janssen, Schaufeli and Houkes, 1999). Prieto *et al*. (2008) investigated the relationship of job demands and burnout in 274 teachers (57% of whom were female) drawn from secondary schools in Spain. Van Vegchel *et al.* (2004), Janssen and Nijhuis (2004), and Taris *et al.* (2010) all found a statistically significant increase in emotional exhaustion among persons with high workload or high quantitative demands/overload.

According to the JD-C model, job demands (i.e. workload) have a negative influence on stress reactions such as job-related anxiety, and exhaustion, mostly when workforces lack autonomy or job control (De Jonge and Kompier, 1997). The JD-R model assumes that one of the underlying psychological procedures that plays a part in the progress of burnout is long-lasting job demands (i.e. workload) which might lead in the long term to exhaustion. In a German survey study of 959 hospital-based nurses, workload was found to be the strongest predictor of nurses' emotional exhaustion (Kowalski *et al.,* 2010). This accords with Lambert *et al.* (2007) who, having explored the link between organizational justice and job stress, found that role overload is the strongest predictor of job stress which is closely

related with emotional exhaustion. Figure 6.4 displays the relationship between workload and emotional exhaustion. Karimi (2014) explored the level of occupational stress and the effect of role overload, role conflict, and role ambiguity on occupational stress among Iranian nurses. This study adopted a quantitative association study methodology and the study sample included 135 nurses selected randomly from hospitals in the south west of Iran. The outcome showed that there was a major, direct, and positive relationship between role overload, role conflict, role ambiguity, and occupational stress. Role overload has been found to have harmful effects on employee well-being (Turel, Serenko and Bontis, 2011). As workers become more anxious, physical and mental health drops. Jones *et al.* (2007) recommended that future research can be performed on specific industries to gain a deeper understanding of the role–overload phenomenon as it belongs to specific industry circumstances.

Based on previous findings of the literature review and this study's findings, the following hypothesis is proposed:

H3: There is a positive relationship between workload and emotional exhaustion.

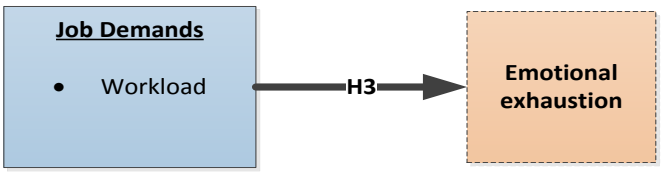

Figure 6.4: The relationship between workload and emotional exhaustion

6.3.5 The relationship between emotional exhaustion, turnover intention and anxiety

Burnout is most generally conceptualized as a three-dimensional construct including emotional exhaustion, cynicism, and low professional efficacy (Schaufeli, Taris and Rhenen, 2008). Despite there being some discussion about the nature of burnout with alternative conceptualizations in a variety of ways (Schaufeli and Taris, 2005), emotional exhaustion is involved in all of them as the main dimension with the core meaning of burnout captured (Halbesleben and Bowler, 2007). Moreover, some studies have proposed that emotional exhaustion exhibits somewhat stronger and more consistent relationships than do the other two dimensions with outcome

variables (Halbesleben and Bowler, 2007). Accordingly, emotional exhaustion can be the single component of burnout (Halbesleben and Bowler, 2007; Janssen *et al.*, 2004). In this research, we concentrate on the emotional exhaustion element of burnout, by referring to the feelings of being emotionally over-expanded (Maslach, Schaufeli and Leiter, 2001). Findings in an empirical study by Laschinger *et al.* (2009) of burnout of 612 Canadian staff nurses suggest that emotional exhaustion is a strong predictor of nurses' turnover intentions.

Workers' turnover intention is one of the most current issues in the field of human resource management (HRM). Moreover, the problematical turnover phenomenon is also still one of the most expensive matters for HR managers in their efforts on human capital. Even though turnover intention has been one of the most investigated phenomena in HRM, scholars still return to restudying this phenomenon because of its effect in any industry. Furthermore, turnover intention has direct and indirect effects; both effects are serious, difficult, and severe (Alhamwan and Mat, 2015). In this study the qualitative results revealed that intention to quit was a stress outcome specified by the majority of participants (10 out of 15) who claimed that stress had consequences linked to their job. Such participants explained that the conditions and exhausted feeling in their job encouraged them to actively seek other employment.

Previous research has shown that when nurses are not sufficiently supported by leadership and their work environment, they suffer emotional exhaustion and leave not only their current jobs but also the nursing profession (Hayes *et al.,* 2012). High levels of nurse emotional exhaustion have been associated with stressful work environments, lack of workplace support, and intention to leave (Heinen *et al.,* 2013). One of the most well-known nursing workforce survey tools is the RN4CAST (Sermeus *et al.,* 2011). In an RN4CAST study of 10 European countries, there were significant relationships between emotional exhaustion and intention to leave (Heinen *et al.,* 2013). In another relationship of emotional exhaustion, the study of Cox, Pakenham and Cole (2010) among HIV/AIDS volunteers from state AIDS Councils throughout Australia found that when volunteers are exhausted, they lack the energy to complete their duties. Consequently, these negative feelings may be generalized and may lead to anxiety and depressive symptoms. This finding accords with Laschinger *et al.* (2004) who found high levels of emotional exhaustion which contributed to increased physical and mental health symptoms among Ontario acute care frontline clinical managers (FLMs). This was also supported by 11 of the 15 interviewees in this study. For instance, one Filipino male nurse

commented that he often only has the time to do the most urgent tasks and that he does not have enough time for other tasks, and because he has to finish them at the end of the day this makes him suffer from anxiety. Figure 6.5 illustrates the relationship between emotional exhaustion, anxiety and turnover intention.

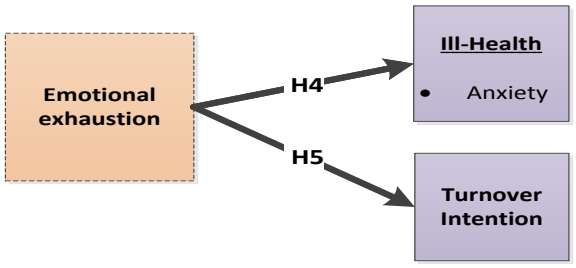

Figure 6.5: The relationship between emotional exhaustion, anxiety and turnover intention

Consistent with previous researches, and as the qualitative analysis shows, this research assumes that emotional exhaustion influences turnover intention and ill health (anxiety) as represented in the following hypotheses:

H4: There is a positive relationship between emotional exhaustion and anxiety.

H5: There is a positive relationship between emotional exhaustion and turnover intention.

6.3.6 The relationship between job resources, work engagement, turnover intention, and happiness

Job resources are central to the JD-R model. Job resources refer to aspects in the work situation that are experienced as stimulating and that have motivational potential, as has been demonstrated abundantly in research about the relationship between job resources and work engagement (Bakker and Demerouti, 2007; Bakker, Demerouti and Schaufeli, 2003; Schaufeli and Bakker, 2004). Therefore, in the second process proposed by the JD-R model, job resources lead to engagement and positive outcomes (Schaufeli and Bakker, 2004).

Conceptually similar findings have been reported by Bakker *et al.* (2007). In their study among Finnish teachers working in elementary, secondary, and vocational schools, they found that job resources particularly influenced work engagement when teachers were confronted with high levels of pupil misconduct. Research

indicates that when resources are provided by organizations, the employees experience work engagement, and that this work engagement is related to positive outcomes such as organizational commitment (Hakanen, Bakker and Schaufeli, 2006; Hu and Schaufeli, 2011) and proactive behaviour (Salanova and Schaufeli, 2008). Job resources are therefore able to produce positive behaviour, both in terms of reciprocation and because when employees feel supported at work they experience positive emotions (i.e. happiness). Previous researches conducted from 1999 to 2015 that examined the concept of nurses' happiness confirmed that job resources enhance the job happiness of the nurses (Ozkara San, 2015). According to Salanova and Schaufeli (2008), the presence of work engagement among workers is an indicator of their intrinsic motivation. The previous cross-sectional studies of Hakanen, Bakker and Schaufeli (2006), Saks (2006), Xanthopoulou *et al.* (2007), and Xanthopoulou *et al.* (2009) indicate that the following job resources are related positively to work engagement: autonomy, social support, supervisory coaching, performance feedback, and opportunities for professional development. Such previous researches' results emphasized the results of Schaufeli, Bakker and Rhenen (2009) which found that work engagement is likely to be promoted by resources through a motivational process that satisfies employees' basic needs for relatedness, competence, and autonomy, which in turn makes it easier for employees to achieve their work goals. The motivational process set out in the JD-R model has much support from scholars. The main element of this process – work engagement –is positively related to job resources (Hakanen, Bakker and Schaufeli, 2006). Schaufeli and Bakker (2004) concluded that job resources (i.e. social support from colleagues, performance feedback, and coaching) improve employees' engagement

In contrast, studies that link job resources to withdrawal, such as turnover intention, are considerably fewer (for exceptions, see Kim and Stoner, 2008; Madden, Mathias and Madden, 2015). At this point De Cuyper *et al.* (2011) concluded in their study of 1,314 Finnish university staff and 308 hospital workers that job resources were important for two reasons: on the positive side, job resources and social support from colleagues in particular may reduce turnover intention (direct relationship); on the negative side, poor job resources in the form of lack of control may make highly employable workers more inclined to quit (interaction). In addition, Thirapatsakun, Kuntonbutr and Mechida (2015) assert in their study among 890 professional nurses in Thailand that perceived organizational support has a negative relationship with turnover intention. Also Fathabad *et al.* (2015) found among 310 nurses in hospitals

of Urmia University that organizational fairness and turnover had an inverse relationship with each other. Therefore the greater the fairness in an organization, the greater the likelihood that workers will stay.

Below presents specifically the main job resources among nurses in Saudi's public hospitals and the relationship between different types of job resources together with work engagement.

6.3.7 The relationship between procedural fairness and work engagement

Of the 15 nurses interviewed, 12 held the view that procedural fairness is one of the main job resources they look for that helps to increase their work engagement. For instance, a Saudi female nurse stated that she was not happy with the evaluation scores that she got as she mentioned that her role is very harder than other nurses. She was shocked when the other nurses got higher scores than her and this decreased the level of her work engagement.

However, little is known about the potential impact of organizational justice on employee health or engagement (Fujishiro and Heaney, 2009). It seems reasonable to suppose that when individuals are treated fairly they will feel better about their jobs. Indeed, some research has found that justice predicts related constructs, such as increased work engagement, satisfaction, or reduced turnover intentions (Cole *et al.,* 2010; Moliner *et al.,* 2008; Cohen and Single 2001). In another relation with fairness in the workplace, Forghani, Pouyandeh and Esfahani (2013) in their research of the 125 workers of Mihan dairy company in the city of Hamedan (Iran) examined the effects of perceived organizational fairness on the employees' happiness. The results of their research pointed out that there is a major positive relationship between procedural justice and the employees' happiness. This means that an increase in the perceived organizational fairness leads to increased workers' happiness. On the other hand, jobs with low procedural fairness will affect employees' well-being (Proost, Verboon and Van Ruysseveldt, 2015).

Of most relevance to the current research, two studies have provided empirical evidence that organizational justice is one of several antecedents of work engagement (Moliner *et al.,* 2008; Saks, 2006).In terms of the association between procedural justice and work engagement, previous research by He, Zhu and Zheng (2014), which examined how procedural justice affects employee engagement among 222 employees of a leading financial service organization in the United Kingdom, confirmed the positive relationships between procedural justice and job

engagement. Therefore, examining how and why procedural justice affects employee engagement is not only of significant theoretical value for both justice and employee engagement scholarship, but also has important practical implications for managing employee engagement in organizations. However, there is slight doubt that perceptions of injustice will produce lower levels of worker engagement. Workers who are not treated fairly in their workplace are more likely to withdraw and display negative behaviour. It is also likely that involved workers who have a perceived level of injustice might become less engaged (Dicke, Holwerda and Kontakos, 2007). It is supposed that very few studies have empirically examined the procedural fairness impact on employees working in the healthcare sector, and the shortage of empirical findings is observed (McAuliffe *et al.*, 2009), especially in the Saudi Arabia context. There are therefore opportunities for further research to explore fairness in the workplace (Dicke, Holwerda and Kontakos, 2007),as highlighted by the interviewees in this study confirming the importance of this factor.

Based on the above findings this research assumes a positive relationship between procedural fairness and work engagement, which can be hypothesized as follows:

H6: There is a positive relationship between procedural fairness and work engagement.

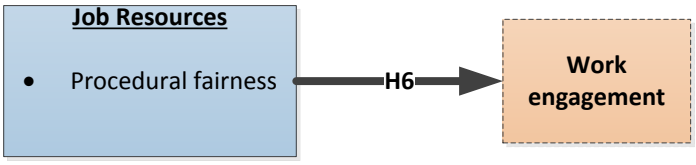

Figure 6.6: The relationship between procedural fairness and work engagement

6.3.8 The relationship between perceived organizational support and work engagement

Organizational support is a key organizational concept in employee retention, as it is known to increase employees' job satisfaction and organizational commitment (Colakoglu, Culha and Atay, 2010). Allen *et al.* (2008) define organizational support as "how much the organisation values employees' contributions and cares about them".

The qualitative findings of this study found that perceived organizational support (POS) is a very important job resource that generates increased work engagement. For example, an Indian female nurse believed that perceived organizational support will help nurses and impact on nurses' work engagement so that when they see the management of the hospital and the supervisors support them, their work engagement will increase and their level of happiness will increase. The nurses' comments accorded with the study of Colakoglu, Culha and Atay (2010) which found that a high level of organizational support had the effect of balancing the benefits contributed by an organization and those by an individual. POS is likely to move an employee from the position of needing to continue to work within their organization (continuance) to wanting to work there (affective). In a study of public-sector nurses in Thailand, Pongruengphant and Tyson (1997) found the greatest work stressor to be the lack of organizational support. Liu's (2004) study of POS identified employees with low organizational support as having the lowest desire to work to help the organization achieve its goals. In line with this idea, Eisenberger and Stinglhamber (2011) have suggested that POS has a positive influence on work engagement by, among others, reinforcing employees' intrinsic interest in their tasks.

Surprisingly, within the literature on the JD-R model, few scholars have examined the positive influence of POS (i.e. a job resource) on work engagement (Caesens and Stinglhamber, 2014) (e.g. Kinnunen, Feldt and Mäkikangas, 2008; Sulea *et al*., 2012)

Eisenberger and Stinglhamber (2011) claimed that few studies have empirically investigated the relationship between POS and work engagement. Specifically, a study conducted by Kinnunen, Feldt and Mäkikangas (2008) showed significant positive correlations between POS and the three dimensions of work engagement. Additionally, another study (Sulea *et al.*, 2012) demonstrated that POS had a positive impact on work engagement which, in turn, led to more organizational citizenship behaviours and less counterproductive behaviours at work. A study by Mathumbu and Dodd (2013) among 106 nurses at the Victoria Hospital in Alice, Eastern Cape, South Africa concluded that POS and work engagement are positively related. Nevertheless, Eisenberger and Stinglhamber (2011) proposed that by reinforcing workers' intrinsic interest in their job, POS would increase work engagement. More precisely, according to Eisenberger and Stinglhamber (2011), POS would increase employees' interests for their tasks in several ways: by creating among employees the belief and the expectation that their organization will

offer them the support and the material or emotional resources when necessary; by generating among employees the expectation that they will be rewarded for high performance; by satisfying their socio-emotional needs such as their need for self-esteem or for support; and by reinforcing their self-efficacy. To the best of the researcher's knowledge, few studies have empirically investigated the relationship between POS and work engagement.

Based on the above findings, this research assumes a positive relationship between organizational support and work engagement, which can be hypothesized as follows:

H7: There is a positive relationship between organizational support and work engagement.

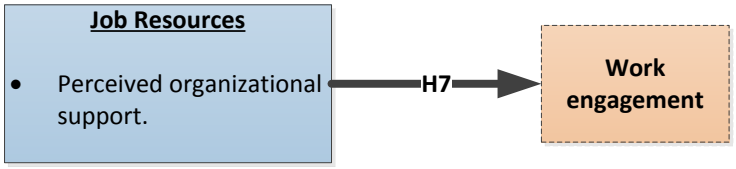

Figure 6.7: The relationship between organizational support and work engagement

6.3.9 The relationship between work engagement, happiness, and turnover intention

Schaufeli *et al.* (2002) identified work engagement as a positive, fulfilling, work-related state of mind which is characterized by vigour, dedication, and absorption. Vigour is itself characterized by high levels of energy and mental resilience in the workplace. Dedication is described as strong involvement in one's work and feeling significant, enthusiastic, and challenged in the workplace. Absorption is characterized by full concentration in one's work and being so happily engrossed that time passes quickly and one finds it difficult to detach oneself from work or the workplace (Schaufeli and Bakker, 2004). And happiness in the workplace includes many different aspects such as work engagement and job satisfaction (Field and Buitendach, 2011).

There are relatively few studies emphasizing an association between work engagement and happiness. However, the qualitative findings of this study confirm

this relationship. A Saudi male nurse stated: “All positive processes the hospital provides to nurses absolutely have positive outcomes on the nurses’ attitude towards their work and they will be engaged and happy doing the jobs they do.” This relationship was confirmed by Field and Buitendach’s (2011) study of 123 assistance staff from a tertiary teaching organization in South Africa. It observed a significant positive correlation between work engagement and happiness. Although few studies have been done to discover the relationship between work engagement and happiness, one of them concluded that work engagement lead to enhanced happiness, but it also claimed that the reverse is possible. Happiness reflects a positive emotional state that may lead to higher ratings of engagement (Huynh, Xanthopoulou and Winefield, 2014). The literature suggests that there is a link between these variables. The possible connection between these variables is that happiness encompasses many constructs, one being that of work engagement (Money, Hillenbrand and da Camara, 2009).

In contrast, a cross-sectional quantitative study by Takawira, Coetzee and Schreuder (2014) was conducted on a non-probability purposive sample of 153 academic and non-academic staff in a South African higher education institution. It concluded that high levels of work engagement led to lower turnover intentions. Halbesleben (2010) found a negative relationship between work engagement and turnover intention. This view is supported by several researchers who found that work engagement is negatively related to turnover intention (Du Plooy and Roodt, 2010; Harter, Schmidt and Hayes, 2002). These researches’ findings are compatible with the nurses’ opinions in this study which showed that nurses linked the support of the organizational with nurses’ loyalty and desire to continue in their job.

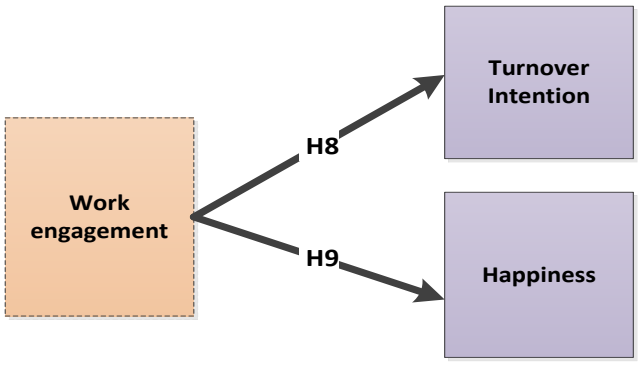

Figure 6.8: The relationship between work engagement, turnover intention and happiness

Specifically, in this subsection, H8 and H9 are proposed to investigate the relationship between work engagement, happiness, and turnover intention:

H8: There is a negative relationship between engagement and turnover intention.

H9: There is a positive relationship between engagement and happiness.

6.3.10 Mediating role

Venkatraman (1989) defined mediation as the existence of a significant intervening mechanism between antecedent and consequent variables, whereas Baron and Kenny (1986) put it in a slightly different way, namely, that three conditions should be satisfied before one can test for mediation. First, the independent and mediator variables must be correlated. Second, the independent and dependent variables must be correlated. And third, the mediator and dependent variables must be correlated. Establishing mediation requires that the effect of an independent variable on a dependent variable be less when the mediator is included in a regression equation than it is when the mediator is not included.

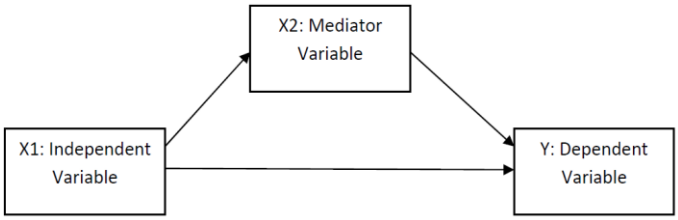

Figure 6.9: Mediation model of Baron and Kenny (1986)

Malhotra *et al.* (2014) indicated that mediation does not require X's total effect on Y to be significant (i.e. the second step in Baron and Kenny approach is not necessary). Thus, analysis of a mediated relationship should be focused on the indirect effect. Figure 6.10 shows the One-Mediator Mediation Model with no direct effect a, b.

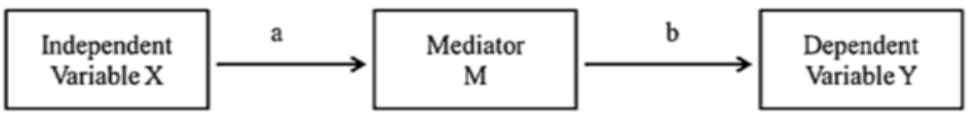

Figure 6.10: The One-Mediator Mediation Model with no direct effect a,b

6.3.11 Emotional exhaustion as a mediator between job demands (emotional demands, work–home conflict, workload) and anxiety and turnover intention

There is much research that shows there is a harmonious relationship between emotional exhaustion and different types of job demands that can have a positive influence on employees' turnover intention (Knudsen, Ducharme and Roman, 2009). Knudsen, Ducharme and Roman (2009) in their study of top administrators concluded that the association between job demands and turnover intention was completely mediated by emotional exhaustion. Empirical evidence concerning the relationship between emotional exhaustion and turnover intention is abundant. It has been suggested that emotional exhaustion is an essential mediating variable in the relationships between role stress factors and job outcome variables, including turnover intention (Fogarty *et al.*, 2000). Cho, Choi and Lee (2014) in their study of 366 airline employees in Korea found that the role stress factors had substantial indirect effects on turnover intention through emotional exhaustion. More specifically, emotional exhaustion mediates the relationship between workload and turnover intention.

Another study by Huynh, Xanthopoulou and Winefield (2014) of 887 volunteer emergency service workers in South Australia supports prior studies' findings by showing that exhaustion could be a mediator between demands (emotional demands and WFC), ill health (depression and anxiety), and turnover intentions. In the same context, Laschinger *et al.* (2012) tested the JD-R model in a sample of 420 newly graduated nurses working in acute care hospitals in Ontario, Canada. They found that the effect of job demands (workload and bullying exposure) on mental health has been mediated by emotional exhaustion. In summary, numerous studies testing the JD-R model have demonstrated the mediating effect of burnout and engagement as dual processes that influence health and organizational outcomes (Halbesleben, 2010). Figure 6.11 shows the relationship between job demands, emotional exhaustion, anxiety and turnover intention.

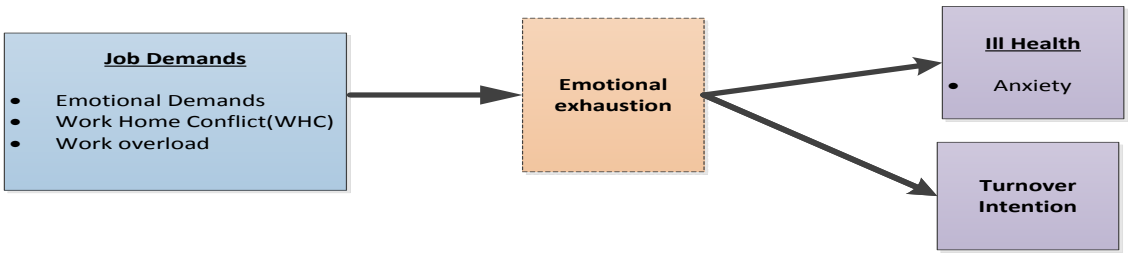

Figure 6.11: The relationship between job demands, emotional exhaustion, anxiety and turnover intention

This mediating role of emotional exhaustion is expressed by the following hypotheses:

H10a: Exhaustion mediates the positive relationship between emotional demands and anxiety.

H10b: Emotional exhaustion mediates the positive relations between work–family conflict and anxiety.

H10c: Emotional exhaustion mediates the positive relations between workload and anxiety.

H11a: Exhaustion mediates the positive relationship between emotional demands and turnover intention.

H11b: Emotional exhaustion mediates the positive relations between work–family conflict and turnover intention.

H11c: Emotional exhaustion mediates the positive relations between workload and turnover intention.

6.3.12 Work engagement as a mediator in the relationship between job resources (perceived organizational support, procedural fairness) and happiness and turnover intention

Yuan and Tetrick (2015) claimed that the mediating role of job engagement has not received adequate scholarly attention. In agreement with the origin of the JD-R model, many studies employing this model concentrate on burnout and engagement

as important results (Bakker and Demerouti, 2007). A growing number of studies recognize more positive consequences and negative results (Schaufeli and Taris, 2014). These investigations often consider these consequences as being mediated by work engagement and burnout, as proposed by the JD-R model.

However, the studies that focus on the mediator role of job engagement between job resources and employees' happiness are very rare. It is reasonable to expect job engagement to act as a mediator in the relationship between job resources and employees' happiness. However, Huynh, Xanthopoulou and Winefield's (2014) study of 887 volunteer emergency service workers in South Australia shows that the effects did not validate the mediating role of engagement in the positive correlation between resources (perceived organizational support and training) and happiness. He conducted a research based on the JD-R model to investigate the roles of mediators in the relation between job features and volunteer well-being. The results revealed that engagement mediated the negative relation between perceived organizational support and turnover intentions.

However, Saks (2006) in his study by 102 employees working in a variety of jobs and organizations in Canada indicated that work engagement mediates the relationships between perceived organizational support, procedural justice, and intention to quit and also that work engagement mediates perceived organizational support, procedural justice, and job satisfaction which is related to happiness. Weaver (1978) reported that the employee whose happiness is significantly related to job satisfaction is also likely to experience satisfaction in other parts of life as well.

Thus, based on the literature provided in Chapter 3 and arguments presented here, the model for this study's hypotheses is that job resources (perceived organizational support and procedural fairness) will influence employees' happiness and turnover intention, which is affected work engagement, and that work engagement mediates the relationship between job resources (perceived organizational support and procedural fairness), employees' happiness, and turnover intention**.**

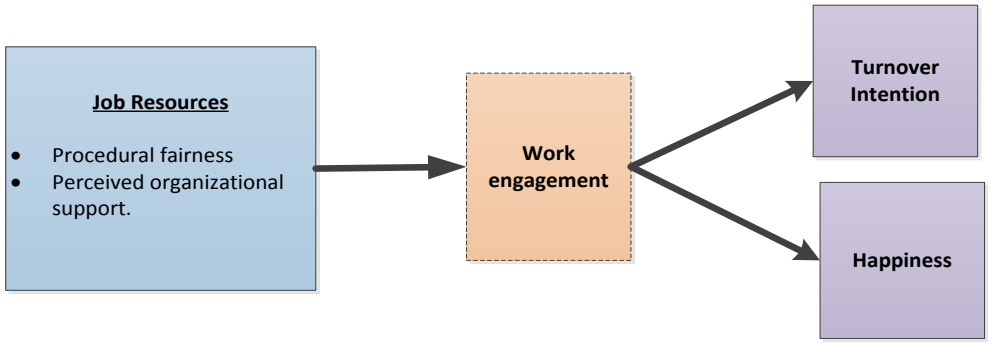

Figure 6.12: The relationship between job resources, work engagement, turnover intention and happiness

For the purpose of this study, the following relationships are hypothesized:

H12a: Work engagement mediates the positive relationship between procedural fairness and turnover intention.

H12b: Work engagement mediates the positive relationship between perceived organizational support and turnover intention.

H13a: Work engagement mediates the negative relationship between procedural fairness and happiness.

H13b: Work engagement mediates the negative relationship between perceived organizational support and happiness.

6.4 Demography

Together with occupational stress and job demands and resources factors, there are demographic variables which may significantly affect the occupational stress levels of nurses and which may also act as considerable determinants to predict employees' mental ill health problems, turnover intention, and happiness. Nurses may be influenced by any of the above variables. Demographic characteristics are an important consideration in identifying and reducing job stress and burnout. Rintaugu (2013) reported that the following demographic factors can influence the causes of stress: age (which is a common demographic variable found in most studies); gender (throughout recent history, nursing has been known as a primarily female-oriented profession); marital status (nurses may become married and unmarried throughout their jobs); nationality; academic qualifications; and experience. This is in contrast with the findings of the qualitative phase of this study

as the findings show that the majority of the sample, irrespective of gender, expressed feeling high levels of stress and find their work as a nurse in public hospital in Saudi very stressful. This finding agreed with of Hunnur and Bagali's study (2014), which found that occupational stress dimensions are not significantly impacted by variables such as age, education, qualifications, and work experience.

6.5 Conclusion

The review in this thesis of the literature on WRS and nurse stress, together with its predictors, identifies two job stressors to predict stress: job demands and job resources. The identification and examination of the factors that cause WRS and those which may reduce WRS and their outcomes for the employees are essential.

Following the literature review in Chapter 2, this chapter develops a model of WRS (job demands-resources (JD-R) model) which incorporates two main categories: job demands and job resources. Job demands include those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological effort and are therefore associated with certain physiological and/or psychological costs (Demerouti *et al.*, 2001). Job resources include those physical, psychological, social, or organizational aspects of the job that: (a) are functional in achieving work goals; (b) reduce job demands and the associated physiological and psychological costs; or (c) stimulate personal growth, learning, and development (Bakker, 2011; Bakker and Demerouti, 2007). All of the above factors have positive and negative outcomes that impact on employees. For this reason the researcher incorporates both of the factors that depend on demands and resources in unique formation in a correlative conceptual model in order to identify job demands as increasing WRS in the nursing environment and job resources as decreasing such WRS. This chapter also provided an in-depth exploration of the predictors of WRS. Consequently this thesis develops, in an integrative framework, various hypotheses pertaining to the different relationships among job-demands factors, exhaustion and mental ill health, turnover intention, job resources factors, work engagement, turnover intention, and happiness. The next chapter seeks to test theses hypotheses of the extended JD-R model, to test the reliability and validity of the dependent and independent variables as well as the mediators and the fit of the model. It then presents the results of the main survey that relate to nurses' occupational stress in the sample hospitals.

CHAPTER 7: RESULTS OF THE MAIN STUDY

7.1 Introduction

The findings from the preliminary study indicate that job demands (emotional demands, work–family conflict (WFC), and workload) are the main sources of stress that lead to vital negative outcomes, and that job resources help to reduce the level of stress among nurses. Therefore, the main study took the form of a survey with the nurses working in public hospitals in Saudi Arabia in order to validate and generalize the findings of the preliminary study as well as to examine the mediator role of emotional exhaustion and work engagement.

The results of the survey (which was set out in Chapter 4) are explained in this chapter. Analysis of Moment Structures (AMOS) version 22 was adopted to carry out Structural Equation Modelling (SEM) on the findings of the collected survey. In this research, SEM technique was used to approve the hypotheses and the performance of the suggested conceptual framework. The results of the SEM analysis are shown in this chapter as follows: section 7.2 presents the demographic profile of the respondents; section 7.3 presents the level of stress among the participants; section 7.4 presents the confirmatory factor analysis (CFA), construct validity, and the structural model and hypotheses testing; section 7.5 shows the reliability assessment; section 7.6 presents validity assessment; section 7.7 explains structural model and hypotheses testing; and section 7.6 presents the conclusion of the chapter.

7.2 Demographic profile

This study collected data from public-hospital nurses in Saudi Arabia between June and August 2015. As explained in Chapter 4 (Research Methodology), 772 surveys were distributed in this study and a total of 579 questionnaires were returned. After the cleaning stage, a total of 67 questionnaires were excluded as they were incomplete or inconsistent. Consequently, a total of 512 surveys moved forward for further analysis. As this research was to apply SEM to analyse the suggested theoretical framework, it required a large sample (Hair, 2010). According to Comrey and Lee (2013), and Tabachnick, Fidell and Osterlind (2001), sampling in SEM classifies 100 as being poor, 200 as being fair, 300 as being good, 500 as being very good, and 1,000 or greater as being excellent. Based on this classification, the

sample size of this study is very good as it has collected 512 surveys. The demographic profiles of these 512 respondents are reported in Tables 7.1–7.5.

The gender of the respondents is presented in Table 7.1. The results reveal that 457 of respondents (representing 89.3% of the study sample) were female and only 55 of the sample (representing 10.7%) were male.

Table 7.1: Gender breakdown of the respondents

Gender	Frequency	Percent
Female	457	89.3
Male	55	10.7
Total	512	%100

The age of the respondents is presented in Table 7.2. The figures show that 275 of the sample (53.7%) were between the ages of 20 and 29. 145 of the sample (28.3%) were between the ages of 30 and 39, 69 (13.5%) were between the ages of 40 and 49, and only 23 (4.5%) were over 50 years old.

Table 7.2: Age of the respondents

Age	Frequency	Percent
20–29	275	53.7
30–39	145	28.3
40–49	69	13.5
Over 50	23	4.5
Total	512	%100

299 of the respondents (representing 58.4 % of the sample) were married, whereas 190 (37.1%) were single, 17 (3.3%) were divorced, and 6 (1.2%) were widowed.

Table 7.3: Marital status of the respondents

Marital status	Frequency	Percent
Married	299	58.4
Single	190	37.1
Divorced	17	3.3
Widowed	6	1.2
Total	512	%100

The education level of the respondents is presented in Table 7.4. The education level of 154 of the respondents were at diploma level (representing 30.1%). The education level of the majority of the respondents was Bachelor in Nursing (64.3%). Further, the table illustrates that 4.3% of the respondents were at postgraduate level, followed by 1.4% at PhD level. However, a Saudi study by Al-Omar (2003), on sources of work-related stress (WRS) among the Ministry of Health (MOH) hospital staff including nurses, showed that WRS was not influenced by the educational level of nurses (Gulavani and Shinde, 2014).

Table 7.4: Education level of the respondents

Education Level	Frequency	Percent
Registered Nurse Diploma	154	30.1
Bachelor in Nursing	329	64.3
Masters in Nursing	22	4.3
PhD in Nursing	7	1.4
Total	512	%100

The respondents' work experience as a nurse is presented in Table 7.5. Nearly one half of the respondents (49.8%) had work experience as a nurse of 1–5 years,

followed by 17.6% with 6–10 years' experience. 7% of the respondents had work experience of 11–16 years and 6.6% had experience of 16 years and over.

Table 7.5: Work experience (as a nurse) of the respondents

Work experience	Frequency	Percent
Less than 1 year	90	17.6
1–5	255	49.8
6–10	97	18.9
11–15	36	7.0
16 and above	34	6.6
Total	512	%100

Table 7.6: Nationality of the respondents

Nationality	Frequency	Percent
Saudi	125	24.4
Non-Saudi	387	75.6
Total	512	%100

387 of the respondents (representing 75.6 % of the sample) were non-Saudi, whereas just 125 (24.4%) were Saudi.

In general, the description of the sample of study mirrored somewhat the characteristics of the general population of nurses in the Kingdom as highlighted in by the Ministry of Health (MOH, 2015). The majority of nurses in Saudi MOH hospitals (75.18%) were female, and foreign nurses represented 61.7% of the total nurses in all Saudi hospitals. These results indicated that the sample of this study appeared to be representative of the population of nurses in Saudi MOH hospitals.

7.3 Levels of stress

Here the researcher measured the level of stress with a single-item measure which allows a respondent to “consider all aspects and individual preferences of the certain aspects of the construct being measured” (Nagy, 2002, p.79). Scarpello and Campbell (1983), for example, claimed that using a single question to measure overall job satisfaction will be the best way: “Overall, how satisfied are you with your job?”. Therefore, it is supposed that respondents automatically consider different aspects of the construct when asked global single-item questions such as the above (Fuchs and Diamantopoulos, 2009).

As can be seen in Table 7.7, almost half of the respondents (48.6%) strongly agreed that being a nurse is very stressful, followed by 35.5% who slightly agreed with this statement. 12.1% of the respondents felt neutral, 2.1% slightly disagreed, and 1.6 % strongly disagreed.

Table 7.7: Being a nurse is very stressful

Work experience	Frequency	Percent	Mean
Strongly agree	249	48.6	4.28
Slightly agree	182	35.5	
Neutral	62	12.1	
Slightly disagree	11	2.1	
Strongly disagree	8	1.6	
Total	512	%100	

7.4 Structural equation modelling

To confirm the hypotheses and the performance of the suggested conceptual framework, this research has adopted the Structural Equation Modelling (SEM) method applying Analysis of Moment Structures (AMOS) version 22. A structural equation model includes two kinds of models, identified as the measurement model or confirmatory factor analysis (CFA), and the structural model (Hair, 2010). The

CFA is concerned with the relationship between a set of measurement items and their respective elements based on theory, whereas the structural model is concerned with the relationships between the factors as hypothesized. The sections below set out the result of the CFA and the structural model for this study.

7.4.1 Confirmatory factor analysis

Before conducting the main analysis, factor analysis was performed on all items that measured the independent variables (job demands and resources), mediating variable (emotional exhaustion and work engagement), and dependent variables (anxiety, turnover intention, and happiness). Factor analysis is an established tool that helps determine the construct adequacy of a measuring device (Cooper, Schindler and Sun, 2006). Tabachnick and Fidell (2007) suggest that it is comforting to have at least 300 cases for factor analysis. A sample of 100 cases is acceptable, but a sample size of more than 200 cases is preferable (Coakes, Amar and Granados, 2010). The researchers generally would not analyse a sample of fewer than 50 cases, and preferably the sample should be 100 or larger (Hair, 2010). In this study, CFA was conducted on the data collected from 512 nurses, and AMOS 22 was carried out to test the measurement model. As recommended by Hair *et al.* (2006), the validity of the CFA should be evaluated by two steps: (1) goodness-of-fit indices, and (2) construct validity. Accordingly, this study considers these two stages to validate its CFA.

7.4.1.1 Goodness-of-fit indices

The initial CFA was carried on ten constructs along with 58 items. As presented in Figure 7.1, these ten constructs are: emotional demands (EDD), work–family conflict (WFC), workload (WL), procedural fairness (PF), perceived organizational support (POS), emotional exhaustion (EXX), work engagement (WEE), anxiety (ANN), turnover intention (TII), and happiness (HAP). Every variable was loaded with its measurement item and was tested by CFA analysis. According to Hair *et al.* (2010), at least four tests of model fit should be applied for CFA and the structural model. This study applied seven goodness-of-fit indices: normed chi-square (CMIN/DF), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), incremental fit index (IFI), Tucker-Lewis Index (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA).

Table 7.8: Goodness-of-fit indices for initial CFA

Model Fit Indices	Recommended Criteria	Default Model
CMIN/DF	≥ 1.0 and ≤ 5.0	2.823
GFI	≥ 0.90	0.767
AGFI	≥ 0.90	0.742
IFI	≥ 0.90	0.824
TLI	≥ 0.90	0.812
CFI	≥ 0.90	0.823
RMSEA	≤ 0.80	0.060

As presented in Table 7.8, the early figures show that CMIN/DF reached an acceptable fit of 2.823 and was more than 1.0 and less than 5.0 .The results also indicated that GFI (0.767) and AGFI (0.742) gave a poor fit as Hair (2010) and MacCallum, Browne and Sugawara(1996) claimed that a good fit is if the values of GFI, AGFI, IFI, TLI, and CFI are ≥ 0.90; an acceptable fit is if those values are between 0.8 and 0.89; and a poor fit is if those values are below 0.8. Similarly, the results for IFI (0.824) and TLI (0.812) were below the guidelines of ≥ 0.90 for the model. The figure for CFI was (0.823), well below the ≥ 0.90 guideline for this model. RMSEA met the recommended criteria of ≤ 0.80 and achieves a good-fit figure of 0.060. Overall the figures generated from initial CFA indicate some model fit indices with insufficient values since they are under the lowest recommended criteria. Therefore, greater clarification of the model is required (Anderson and Gerbing, 1988). By associating the indicators to a different factor or removing them and by linking the indicator to multiple factors or applying correlated measurement errors, clarification of the model can be performed (Anderson and Gerbing, 1988).

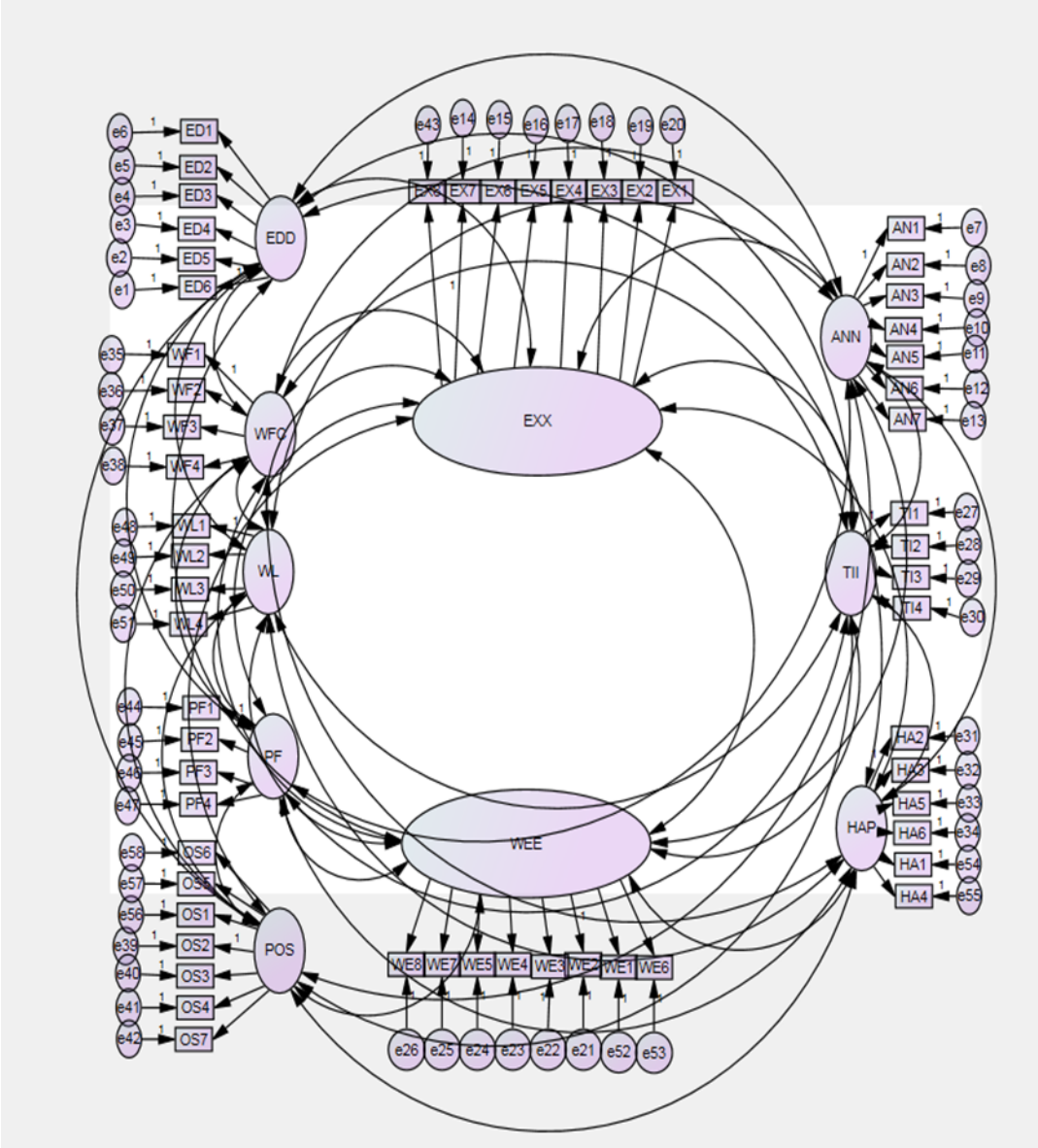

Figure 7.1: Initial confirmatory factor analysis (CFA)

Further, one can improve the goodness-of-fit model by checking the standardized residuals, modification indices, and specification searches (Hair, 2010). This study developed the model fit by running these stages and deleting some items from emotional demands, perceived organizational support, work engagement, and happiness. After removing the problematic items from the initial model, another test was run as shown in Figure 7.2. The results of the final CFA were satisfactory, as presented in Table 7.9.

Table 7.9: Goodness-of-fit indices for final CFA

Model Fit Indices	Recommended Criteria	Default Model
CMIN/DF	≥ 1.0 and ≤ 5.0	2.029
GFI	≥ 0.90	0.865
AGFI	≥ 0.90	0.844
IFI	≥ 0.90	0.927
TLI	≥ 0.90	0.919
CFI	≥ 0.90	0.926
RMSEA	≤ 0.80	0.045

The final CFA model with 47 items indicated that all the figures illustrated a good fit for the measurement model. The results for CMIN/DF showed a value of 2.029 which met the recommended criteria of ≥ 1.0 and ≤ 5.0. GFI increased to 0.865 which is a value of good fit. AGFI also achieved a good fit of 0.844 and comfortably exceeds the minimum requirement. The results for IFI, TLI, and CFI are 0.927, 0.919, 0.926, respectively, and all exceed the recommended value of ≥ 0.90. RMSEA also met the recommended value of ≤ 0.80 with a figure of 0.045.

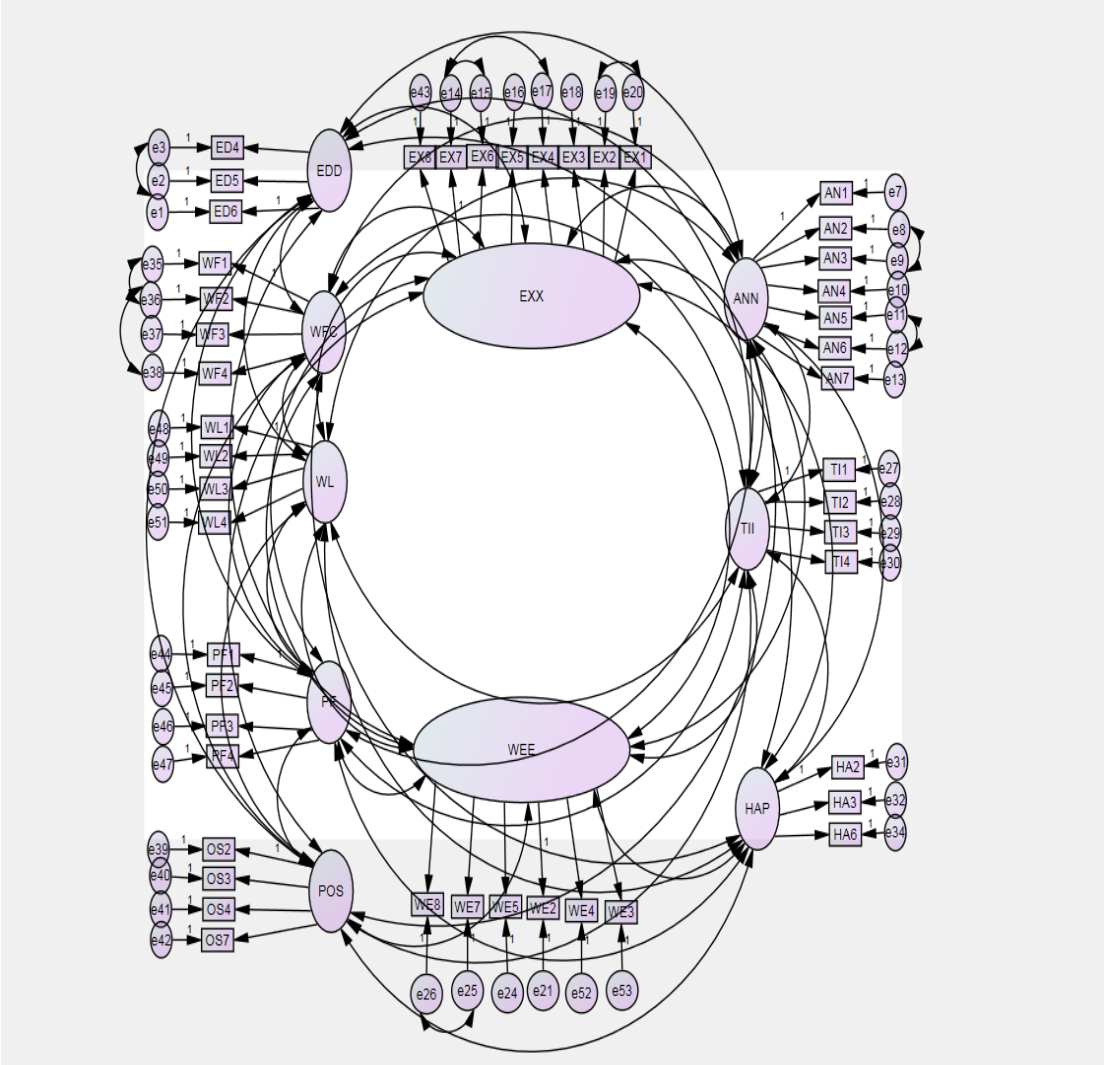

Figure 7.2: Final confirmatory factor analysis (CFA)

7.5 Reliability assessment

After factor analysis testing and deleting the problematic items, the reliability of the final set of variables was checked again to confirm the consistency of a measure of a construct. As stated in Chapter 4, the excellent method of examining reliability is Cronbach's alpha. The Cronbach's alpha figures for all ten constructs of the main study are displayed below in Table 7.10. The findings report that all constructs have a reliability of above 0.70, which expresses high reliability for all the constructs. However, the reliability for some factors was lower than the pilot study as the respondents in the pilot study were 10 nurses from one hospital. But the main study's respondents were 512 nurses from five hospitals. However, the difference between the pilot study's and the main study's reliability were found to be small.

Table 7.10: Reliability assessment

Variables	No of Items	Cronbach's Alpha	Type
Emotional demands	3	0.7354	High reliability
Emotional exhaustion	8	0.9052	High reliability
Anxiety	7	0.9231	Excellent reliability
Work engagement	6	0.8673	High reliability
Perceived organizational support	4	0.8210	High reliability
Work–family conflict	4	0.8837	High reliability
Happiness	3	0.7116	High reliability
Turnover intention	4	0.8740	High reliability
Procedural fairness (justice)	4	0.9097	High reliability
Workload	4	0.8394	High reliability
Cronbach’s alpha	47	0.8662	High reliability

7.6 Validity assessment

Validity is the extent to which the measurement of the constructs exactly represents the concept of interest. In order to confirm that a scale is unidimensional, conforms to its conceptual definition, and meets the required level of reliability, scale validity is required (Hair, 2010). Convergent and discriminant are consider as the most commonly permitted forms of validity, and these are applied in the present study. The details of each form are set out in the following sections.

7.6.1 Convergent validity

Convergent validity means that the indicators measuring a certain construct share a high proportion of variance (Hair, 2010). Convergent validity is evaluated by using factor loading, average variance extracted (AVE), and composite reliability to achieve the objective of this study. As a rule, factor loading should have all standardized regression weight of over 0.50, and all critical ratios (t-value) should be higher than 1.96 (Hair, 2010). AVE calculates the whole amount of variance in the signs accounted for by the latent construct. The rule of thumb is that AVE value should be bigger than 0.5. As revealed in the equation below, it can be calculated as the result of all squared standardized factor loadings (squared multiple correlations) divided by the number of factors. However, previous research has argued that AVE below .50 can still be acceptable, provided composite reliability (CR) is strong, and the item-to-total correlations exceed 0.40 (Bettencourt, 2004).

$$\mathbf{AVE} = \frac{\sum_{i=1}^{n} Li^2}{n}$$

Note: In the formula indicated above, λ represents factor loadings (standardized regression weights) and expresses the whole number of items. CR measures the internal consistency and, as a rule of thumb, it should be higher than 0.70 (Bagozzi and Yi, 1988). The formula that is utilized to calculate CR is as follows:

$$\mathbf{CR} = \frac{(\sum_{i=1}^{n} \mathrm{L}i)^2}{(\sum_{i=1}^{n} \mathrm{L}i)^2 + (\sum_{i=1}^{n} ei)}$$

Table 7.11: Convergent validity

Construct	Item	Factor loading	Critical ration t-value	AVE	CR
EDD	ED4	0.534	9.433	0.47	0.725
	ED5	0.713	11.970		
	ED6	0.792	----------		
WFC	WF1	0.722	----------	0.668	0.888
	WF2	0.731	17.113		
	WF3	0.895	19.151		
	WF4	0.902	19.146		
WL	WL1	0.701	----------	0.576	0.844
	WL2	0.821	16.109		
	WL3	0.806	15.919		
	WL4	0.699	14.130		
PF	PF1	0.816	----------	0.718	0.911
	PF2	0.907	24.490		
	PF3	0.868	23.173		
	PF4	0.795	20.455		
POS	PS2	0.666	----------	0.538	0.823
	PS3	0.734	13.540		
	PS4	0.805	14.299		
	PS7	0.722	13.373		
EXX	EX1	0.712	16.332	0.546	0.906
	EX2	0.712	16.333		
	EX3	0.725	16.689		
	EX4	0.828	17.110		
	EX5	0.727	16.738		

	EX6	0.723	19.032		
	EX7	0.768	----------		
	EX8	0.711	16.328		
WEE	WE2	0.606	----------	0.522	0.865
	WE3	0.839	14.338		
	WE4	0.868	14.593		
	WE5	0.722	13.005		
	WE7	0.648	12.003		
	WE8	0.603	11.364		
ANN	AN1	0.759	----------	0.624	0.921
	AN2	0.816	19.025		
	AN3	0.808	18.810		
	AN4	0.784	18.271		
	AN5	0.801	18.655		
	AN6	0.772	17.864		
	AN7	0.788	18.388		
TII	TI1	0.713	----------	0.641	0.876
	TI2	0.718	15.302		
	TI3	0.888	18.522		
	TI4	0.867	18.234		
HAP	HA2	0.685	----------	0.468	0.722
	HA3	0.787	11.917		
	HA6	0.562	10.280		

7.6.2 Discriminant validity

Discriminant validity is described as “the degree to which two conceptually similar concepts are distinct” (Hair, 2010). It can be assessed by comparing the AVE values for any two constructs with the square of association estimate between these two constructs. Discriminant validity is major when AVE exceeds the squared correlation estimates between constructs. Table 7.12 shows a significant level of discriminant validity as AVE is greater than the squared correlation estimate for all the constructs.

Table 7.12: Discriminant validity

	PF	EDD	ANN	EXX	WEE	TII	HAP	WFC	POS	WL
PF	0.848									
EDD	-0.108	0.688								
ANN	-0.198	0.322	0.790							
EXX	-0.287	0.612	0.678	0.739						
WEE	0.225	-0.029	-0.334	-0.234	0.722					
TII	-0.196	0.274	0.349	0.325	-0.321	0.801				
HAP	0.284	-0.170	-0.316	-0.271	0.529	-0.170	0.684			
WFC	-0.222	0.231	0.378	0.411	-0.201	0.306	-0.173	0.817		
POS	-0.132	0.275	0.245	0.318	-0.019	0.161	-0.021	0.296	0.733	
WL	-0.027	0.467	0.278	0.494	-0.005	0.177	-0.029	0.292	0.236	0.759

7.7 Structural model and hypotheses testing

Following the validity of CFA, the next step is to examine the structural model as it will prove the relations between the factors as hypothesized. As recommended by Hair (2010), a structural model should apply at least four tests of model-fit indices. Accordingly, this research has applied seven goodness-of-fit indices: normed chi-square (CMIN/DF), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), incremental fit index (IFI), Tucker-Lewis index (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA).

Table 7.13: Goodness of fit for structural model

Model Fit Indices	Recommended	Default Model
CMIN/DF	≥ 1.0 and ≤ 5.0	2.124
GFI	≥ 0.90	0.855
AGFI	≥ 0.90	0.838
IFI	≥ 0.90	0.918
TLI	≥ 0.90	0.911
CFI	≥ 0.90	0.917
RMSEA	≤ 0.80	0.047

As displayed in Table 7.13, all the figures represent a good fit for the structural model. CMIN/DF reached a satisfactory fit of 2.124 and is well above the minimum requirement of ≥ 1.0 and ≤ 5.0. The results for GFI, an absolute fit index, is 0.855, and AGFI indicated a figure of 0.838. These are good values for this model. IFI, TLI, and CFI are 0.918, 0.911, and 0.917, respectively, and are all above the recommended value of ≥ 0.90. The results of RMSEA also met the recommended criteria of ≤ 0.80 and reached an adequate figure of 0.047.

7.7.1 Hypotheses testing

By analysing the path significance of each relationship, the study hypotheses are tested. The standardized estimate, critical ratios, and p-value were utilized to test all hypotheses in this study. By dividing the regression weight estimate by standard error (SE), the critical ratio (t-value) is achieved. When a t-value is above 1.96 and a p-value of is ≤.05, the relationship will be significant. The results of path estimates for the hypotheses in this study are shown below in Table 7.14. The findings indicate that eight casual paths of nine are significant as the t-values are above 1.96, and the p-value is ≤.05.

The relationship between emotional demands and emotional exhaustion is significant with a path estimate of 0.059, a t-value of 7.834, and a significant p-value of ≤.05, and hence hypothesis (H1) is supported. Work–family conflict is also significantly connected to emotional exhaustion with a path estimate of 0.041, a t-value of 6.136, and a significant p-value of ≤.05. Similarly, workload has a direct positive impact on emotional exhaustion with a significant path estimate of 0.060, a t-value of 3.820, and a p-value of ≤.05, and hence H3 is supported.

Table 7.14: Hypothesis testing

Hypotheses	Variables	Estimate	SE	CR t-value	P-value	Finding
H1	EDD > EXX	0.460	0.059	7.834	***	supported
H2	WFC > EXX	0.250	0.041	6.136	***	supported
H3	WL > EXX	0.230	0.060	3.820	***	supported
H4	EXX > ANN	0.608	0.047	12.867	***	supported
H5	EXX > TII	0.309	0.051	6.016	***	supported
H6	PF > WEE	0.170	0.036	4.725	***	supported
H7	POS > WEE	-0.001	0.040	-0.027	.978ns	rejected
H8	WEE > TII	-0.400	0.078	-5.155	***	supported
H9	WEE > HAP	0.694	0.085	8.165	***	supported

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; ns = not significant

The relationship between **emotional exhaustion** and anxiety is significant with a path estimate of 0.047, a t-value of 12.867, and a significant p-value of ≤.05. Likewise, emotional exhaustion is significantly related to turnover intention with a path estimate of 0.051, a t-value of 6.016, and a significant p-value of ≤.05. Consequently, both hypotheses 4 and 5 are supported. PF has a positive and significant relationship with work engagement with a path estimate of 0.036, a t-value of 4.725, and a p-value of ≤.05. **Perceived organizational support** (POS) is insignificantly related to **work engagement** with a path estimate of 0.040, a t-value of -0.027, and with a p-value (0.978) exceeding the minimum requirement ≤.05. Therefore, H7 is rejected. However, **work engagement** is related to **turnover intention** with a path estimate of 0.078, t-value of -5.155, and a significant p-value of ≤.05. Also, work engagement is connected to happiness with a path estimate of 0.085, a t-value of 8.165, and a p-value of ≤.05. Thus, hypotheses 8 and 9 are supported. In summary, the outcomes reported that eight of the nine hypotheses are supported with the achieved figures, all except H7.

Figure 7.3 presents the path coefficients of all nine relations in the suggested conceptual framework. The findings show a positive and significant correlation between emotional demands and emotional exhaustion with a path coefficient of 0.47 and hence H1 is

supported. Work–family conflict has a significant and positive influence on emotional exhaustion with a path coefficient of 0.26, and consequently it supports H2. Workload has a significant and positive impact on value with a path coefficient of 0.19, and so it supports H3. Emotional exhaustion has a significant and positive influence on anxiety with a path coefficient of 0.68, and consequently, it supports H4. Further, emotional exhaustion has a significant and positive influence on turnover intention with a path coefficient of 0.29, and hence it supports H5. Procedural fairness has a significant and positive impact on work engagement with a path coefficient of 0.24, and hence it supports H6. Perceived organizational support has an insignificant impact on work engagement with a path coefficient of 0.00, and hence it rejects H7. Work engagement has a significant and adverse influence on turnover intention with a path coefficient of -0.26 and hence it supports H8. Finally, work engagement has a significant influence on happiness with a path coefficient of -0.53 and hence it supports H9. Overall, the path coefficients for eight relationships are significant, and eight hypotheses are supported, save for H7 which is insignificant and rejected.

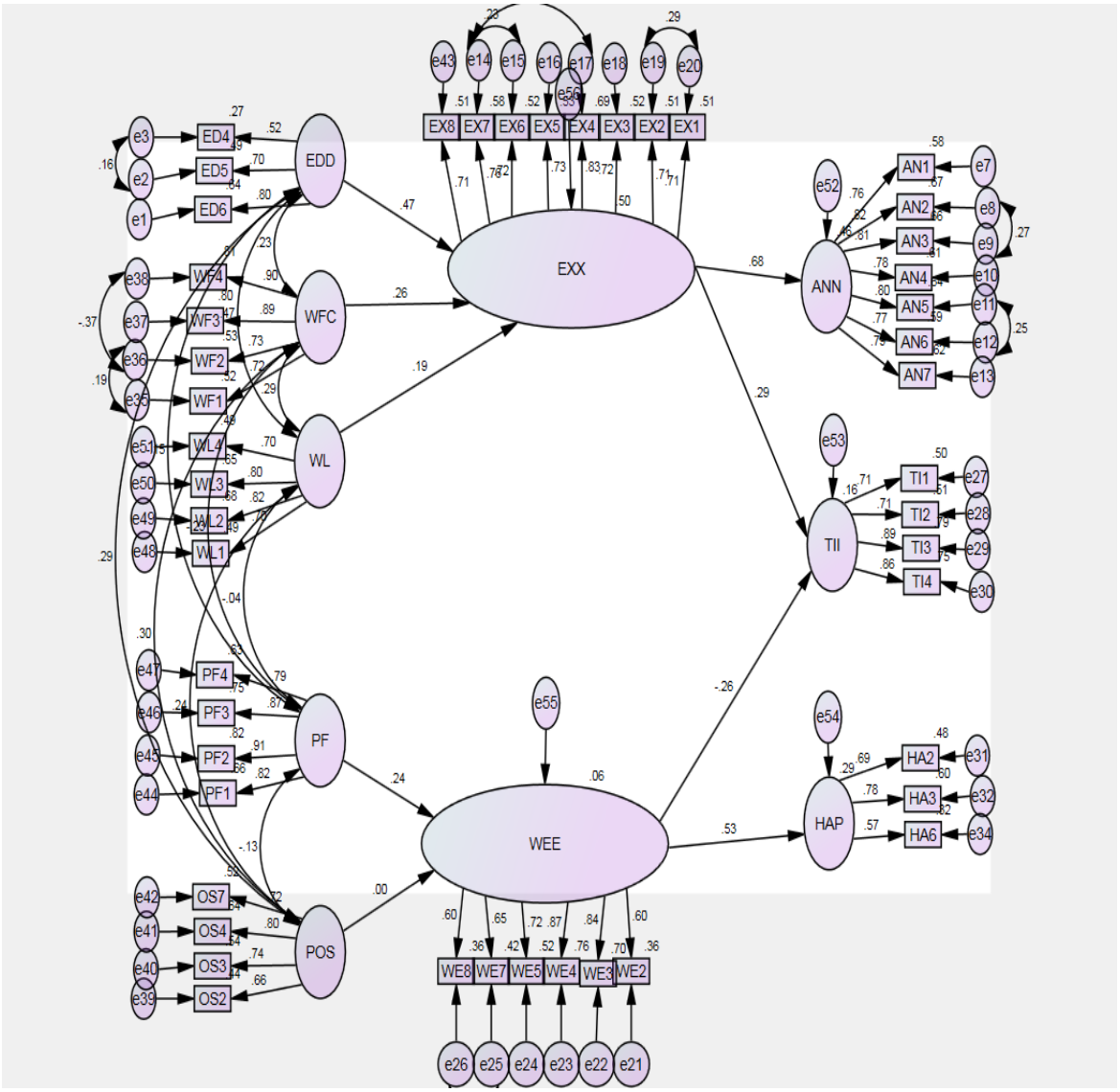

Figure 7.3: Structural model

7.7.2 Hypotheses testing of mediating effects

According to Baron and Kenny (1986), the process of testing for mediation is to estimate the indirect influence of the independent variable on the dependent variable by controlling for the mediator. They specify four steps in the measurement of a mediation effect:

Step 1: Indicate that the predictor variable is significantly associated with the outcome variable.

Step 2: Indicate that the predictor variable is significantly related to the mediator.

Step 3: Indicate that the mediator is significantly related to the outcome variable.

Step 4: Indicate that the mediator completely or partially mediates the relation between the predictor variable and the outcome variable (Baron and Kenny, 1986).

In H10a, it is proposed that the relationship of emotional demands to anxiety is mediated positively by emotional exhaustion. Overall, this hypothesis is fully supported as we can see in Table 7.15 the beta weights of the simple model for the emotional demands to anxiety is (β =0.23, P=***) and the beta weights of the mediated model is (β =-0.12, P= not significant). Whereas H10b anticipated that the relationship of work–family conflict to anxiety is mediated by emotional exhaustion. In the beta weights and a p-value of the sample model and mediated model we can see significant relation, but in the mediator model the significant level decreases, and therefore, emotional exhaustion remains partially mediates the relationship between work–family conflict and anxiety.

In contrast, emotional exhaustion does not mediate the relationship between workload and anxiety as the beta weights and a p-value of the sample model and mediated model were not significant (β =0.08ns β =-0.06ns). Therefore, H10c which predicted that emotional exhaustion mediates the positive relations between workload and anxiety is rejected.

H11a proposed that emotional exhaustion mediates the relationship between emotional demands and turnover intention. This hypothesis is partially supported as the beta weights of the simple model is (β =0.21, P***). And the beta weights of the mediated model is (β =0.15, P*), so the p-value decreases with mediation relationship. For H11b, which hypothesizes that emotional exhaustion mediates the positive relationship between work–family conflict and turnover intention, we can see that the beta weights and the p-value of the sample model and mediated model were significant (β =0.23, P*** β =0.17, P***). This result indicates that emotional exhaustion is a partial mediator as the beta weights are reduced in the mediated model but remain significant. H11c, which posited that emotional exhaustion mediates the relationship between workload and turnover intention, is rejected. Emotional exhaustion does not mediate the relation between workload and turnover intention as the beta weights and p-value are (β =0.00, P ns). And the direct relationship between workload and turnover intention was also not significant (β =0.01, P ns).

H12a is fully supported. Work engagement fully mediates the negative relationship between PF and turnover intention as a simple model illustrates that the beta weights and p-value (β =-0.12, P**) are significant, and the beta weights and p-value of the mediated model (β =-0.05, P ns) are not significant, whereas H12b is rejected. This hypothesis proposed that work engagement mediates the negative relationship between perceived organizational

support and turnover intention. However, the results on the above table stated that the beta weights and the p-value of the sample model and mediated model were insignificant (β =0.01, P ns)(β =0.03, P ns).

The final sets of analyses were conducted to testing and hypotheses 13a and 13b. H13a, which posited that work engagement mediates procedural fairness on happiness. For a simple model, the relation between procedural fairness and happiness is significant; in the mediated model, the relation of procedural fairness remains significant with a decrease in the beta weights (β =0,18) compared to the beta weights of the simple model (β =0,29). On the other hand, H13b was rejected because the simple model's perceived organizational support to happiness is insignificant and in the mediated model the relationship remains insignificant.

To test the mediating impact of emotional exhaustion and work engagement, four steps of Baron and Kenny's (2006) method were used, which requires two different models: the simple model and the mediated model. The former tests the direct path between IVs and DVs without the mediator; the latter tests the IVs and DVs with the mediator to find whether the mediator acts as a full or partial mediator or not. After analysing the results, it was obvious that emotional exhaustion acts as a full mediator with EDD→ANN relationship and as a partial mediator with WFC→ANN, EDD→TII and WFC→TII relationships. Whereas, emotional exhaustion did not mediate the relationship between WL→ANN and WL→TII. And work engagement acts as a full mediator between PF→TII relationship and as a partial mediator between PF→HAP. However, work engagement did not mediate the relationship between POS→TII and POS→HAP.

Table 7.15: Mediating effects of emotional exhaustion and work engagement on anxiety, turnover intention, and happiness

Hypotheses	Causal path	Simple model beta weights	Mediated model beta weights	Finding
H10a	EDD→ANN	β =0.23***	β =-0.12 ns	Fully Supported
H10b	WFC→ANN	β =0.31***	β =0.13**	Partially Supported
H10c	WL→ANN	β =0.08ns	β =-0.06ns	Rejected
H11a	EDD→TII	β =0.21***	β =0.15*	Partially supported
H11b	WFC→TII	β =0.23***	β =0.17***	Partially Supported
H11c	WL→TII	β =0.01ns	β =0.00ns	Rejected
H12a	PF→TII	β =-0.12**	β =-0.05 ns	Fully Supported
H12b	POS→TII	β =0.01ns	β =0.03ns	Rejected
H13a	PF→HAP	β =0.29***	β =0.18***	Partially supported
H13b	POS→HAP	β =0.00ns	β =0.00ns	Rejected

*** p < 0.05; ** p < 0.01; *** p < 0.001; ns = not significant**

EDD=emotional demands, ANN=anxiety, WFC= work–family conflict, WL=workload, TII= turnover intention, HAP= happiness, PF= procedural fairness, POS= perceived organizational support, EXX= emotional exhaustion, WEE= work engagement

Although Baron and Kenny's method has been cited over 35,000 times (Field, 2013), it should be noted that their approach has been deeply criticized. For instance, Baron and Kenny's approach does not test the indirect effect that matters in a mediation analysis (Hayes, 2009; Bailey, 2014); it only offers supposed antecedents (i.e. the causal stages mentioned above), which must be met to allow mediation to happen. Also, it relies on a

normal sampling distribution instead of the Sobel test. All of these reasons make the researcher perform a supportive analysis procedure to test the indirect effect by using structural model or mediator model (Preacher and Hayes, 2008; Hair *et al*., 2014).

Therefore the researcher examined emotional exhaustion (M) as a mediator between emotional demands (X1), work–family conflict (X2), workload (X3) and a) anxiety (Y1) and b) turnover intention (Y2). Second, the researcher tested work engagement (M) as a mediator between procedural fairness(X1), perceived organizational support (X2) and turnover intention (Y1), and happiness (Y2).

7.7.3 Emotional exhaustion

Hypotheses 10a,b,c and 11a,b,c examine, following Hair *et al.* (2014) mediator analysis procedure (three steps). Step one reveals the direct effect (total effects) of the independent variable on the dependent variable without mediation. The result shows a significant effect between emotional demands and anxiety (β =-0.227, P***)(X1 → Y1) and turnover intention (β =-0.197, P***)((X1 → Y2). Also there is significant effect between work–family conflict and anxiety (β =-0.307, P***)(X2 → Y1) and turnover intention (β =-0.297, P***) (X2 → Y2). Whereas, there is no significant effect between workload and anxiety (β =-0.081, P ns)(X3 →Y1) and turnover intention as well (β =-0.018, P ns)(X3 →Y2).

In step two, emotional exhaustion is included in the path model to assess the indirect effect. There is a significant effect between emotional demands and emotional exhaustion (X1 → M) (β =.42, P***). Also, there is a significant effect between work–family conflict and emotional exhaustion(X2→M) (β =.21, P***). And between workload and emotional exhaustion (X3→M) (β =.21, P***). There is a significant effect between emotional exhaustion and anxiety (M →Y1) (β =.74, P***), and between emotional exhaustion and turnover intention (M →Y2). (β =.11, P *). Then mediation effects are tested by utilizing the bootstrapping approach (2,000 bootstrap samples are used) and a bias corrected percentile method for two tailed significance is applied (Preacher and Hayes, 2004, 2008). The result shows a significant level of mediating effect of emotional exhaustion on three relationships. Firstly, on emotional demands and anxiety (β =.362, P***). Second, on work–family conflict and anxiety (β =.189, P***). And third, on workload and anxiety (β =.144, P***). Whereas, there is just a meditating effect of emotional exhaustion on work–family conflict and turnover intention (β =.124, P*). Based on the results above, only the supported relationships will be included in the following last step.

In the last step the researcher assessed the VAF size. The variance accounted for (AVF) is the size of the indirect effect in the relation to the total effect (indirect effect / total effect) to determine whether the significant mediation effect is full or partial. If the VAF is larger than 20% and less than 80%, it is considered as a partial mediation and when the VAF is above 80%(.8=80%), it will be full mediation (Hair *et al.,* 2014). Therefore the VAF of emotional exhaustion on emotional demands and anxiety is .362/.227= 1.59, which is above 80% means full mediator. Whereas the VAF of emotional exhaustion on work–family conflict and anxiety is .189/.307=0.615, less than 80% and above 20% and so is partial mediation. The VAF of emotional exhaustion on workload and anxiety is .144/.081= 1.77 which is above 80% and means full mediator. Finally, the VAF of emotional exhaustion on work–family conflict and turnover intention is .124/.297=0.41, indicating a particle mediation as it is less than 80% and above 20%. The results of these steps confirmed H10a, H10b, H10c and H11b and showed significant indirect effect, and rejected H11a which proposes that emotional exhaustion mediates the relation between emotional demands and turnover intention. And it also rejects H11c which proposes that emotional exhaustion mediates the relation between workload and turnover intention.

7.7.4 Work engagement

Hypotheses 12a,b and 13a,b suggested that work engagement (M) mediates the relationship between procedural fairness (X1), perceived organizational support (X2) and a) turnover intention (Y1) and b) happiness(Y2).

The hypotheses are examined by following the same three-step mediator-analysis procedure of Hair *et al*. (2014). In the first step, the result shows a direct significant effect (total effects) between procedural fairness and turnover intention (β = -.107, P*)(X1 → Y1) and between procedural fairness and happiness (β = .289, P***)(X1 → Y2). Whereas, there is no significant effect between perceived organizational support and turnover intention (β =-.025, P ns) (X2 →Y1) and happiness (β =-.004, P ns) (X2 →Y2).

In step two, work engagement is included in the path model to assess the indirect effect. The result demonstrates a significant effect between procedural fairness and work engagement (X1 → M1) (β =.17, P***). In contrast, the result shows an insignificant effect of perceived organizational support on work engagement (X2 → M1) (β =.00, P ns). However, there is a

significant effect between work engagement and turnover intention (M →Y1) (β =.-37, P***) also, between work engagement and happiness (M1 →Y2) (β =.61, P ***).

The bootstrapping procedure was then run to assess the significance of indirect effect. The results shows a significant level of mediation effect of work engagement on procedural fairness and turnover intention (β =-.056, P ***) and happiness (β =.113, P ***). Whereas there was no mediation effect of work engagement on perceived organizational support and turnover intention (Y1) and happiness (Y2).

In the last step, the VAF of the mediator was measured to determine whether the mediation effect was full or partial. The VAF of work engagement on procedural fairness and turnover intention =-.056/-.107=-0.55 is above 20%, which means that there is partially mediation. Whereas the VAF of work engagement on procedural fairness and happiness = .113/.289 = 0.391, which is less than 80% and above 20% and means that work engagement partially mediates the relation between procedural fairness and happiness. The total, direct and indirect effects for mediation are presented in Table 7.16.

Table 7.16 Indirect, direct and total effects of the mediation

Hypothesis	Total effects	Direct Beta with mediation	Indirect Beta	Mediation type
H10a. Emotional demands →emotional exhaustion→anxiety	.227***	-.135 ns	.362***	full
H10b. Work–family conflict →emotional exhaustion →anxiety	.307***	.118**	.189***	Partial
H10c. Workload →emotional exhaustion →anxiety	.081 ns	-.063 ns	.144***	full
H11a. Emotional demands →emotional exhaustion →turnover intention	.197***	.152*	.045 ns	No meditation
H11b. Work–family conflict →emotional exhaustion →turnover intention	.297***	.173***	.124*	partial
H11c. Workload →emotional exhaustion →turnover intention	.018 ns	.000 ns	.018 ns	No meditation
H12.a Procedural fairness →work engagement →turnover intention	-.107*	-.051ns	-.056***	partial
H12.b Perceived organizational support →work engagement →turnover intention	.025 ns	.026 ns	-.001 ns	No meditation
H13.a Procedural fairness →work engagement →happiness	.289***	.176***	.113***	Partial
H13.b Perceived organizational support →work engagement →happiness	.004ns	.001 ns	.003 ns	No meditation

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; ns = not significant

7.7.5 Bootstrapping

Bootstrapping is a statistical analysis method used to test the meditational model of emotional exhaustion as a mediator of the relationship between emotional demands and anxiety. In this analysis, mediation is significant if the 95% Bias Corrected and accelerated confidence intervals for the indirect effect do not include 0 (Preacher & Hayes, 2004). Results based on 5,000 bootstrapped samples indicated that the total effect of IV (emotional demands) on DV (anxiety) (c path) is significant (b= .267, SE = .0446, p <.05), whereas the direct effect of IV on DV (c' path) is not significant (b= -.0779, SE = .0412, p ns,). The indirect effect is tested by using a bootstrap estimation approach with 5,000 samples. The results indicate that the indirect coefficient is significant as the LLCI and ULCI are not zero, (b = .0372, 95% CI = .2745, .4598). Therefore, emotional exhaustion fully mediated the relationship between emotional demands towards anxiety.

The second mediation relationship is whether emotional exhaustion mediates the relation between work–family conflict and anxiety. The total effect of IV (work–family conflict) on DV (anxiety) (c path) is significant (b= .273, SE = .0349, p <.05), and the significance effect of work–family conflict on anxiety decreased after controlling for the mediator, the direct effect of IV on DV (c' path) is (b = -.0963, SE = .0305, p .0017), consistent with partial mediation, as the indirect coefficient is significant, (b = .0239, 95% CI = .1332, .2261). Another relationship is that emotional exhaustion mediates the relation between workload and anxiety. The total effect of IV (workload) on DV (anxiety) (c path) is significant (b= .263, SE = .0457, p <.05). Workload is no longer a significant predictor of anxiety after controlling for the mediator, as the direct effect of IV on DV (c' path) (b = -.0317, SE = .0407, p ns) is consistent with full mediation as the indirect coefficient is significant (b = .0317, 95% CI = .2364, .3598).

The following mediation test is whether emotional exhaustion mediates the relation between emotional demands and turnover intention. The results show that the total effect of emotional demands and turnover intention is significant (b=.2776, SE=.0554, p <.05). And the direct effect is significant as well (b=.1196, SE=.0623, p <.05). Whereas, the results shows the indirect effect is insignificant, and therefore there is no mediation effect of emotional exhaustion between emotional demands and turnover intention (b = .0360, 95% CI = .0908, .2317). Also, Bootstrapping is used to test the mediation relationship of emotional exhaustion as a mediator between work–family conflict and turnover intention. The results indicate that the total effect of work–family conflict and turnover intention is significant (b=.2700, SE=.0438, p <.05). The direct effect is significant as well (b=.1850, SE=.0459, p <.05), even

the indirect coefficient is significant, (b = .0850, 95% CI = .1486, .1299). The last mediation test of emotional exhaustion is whether emotional exhaustion mediates the relation between workload and turnover intention. The results show that the total effect of this relationship is significant (b=.2071, SE=.0573, p <.05). In contrast, the direct effect is insignificant (b=.0498, SE=.0615, p ns). Even the indirect effect is insignificant, and therefore there is no mediation effect of emotional exhaustion between workload and turnover intention (b = .0336, CI = .0962, .2302).

In addition, Bootstrapping is used to test the work engagement as a mediator of the relationship between procedural fairness and turnover intention, and also between perceived organizational support and turnover intention . The results indicated that the total effect of procedural fairness on turnover intention is significant (b=.2135, SE=.0536, p <.05). There is also significant direct effect (b=.1564, SE=.0529, p <.05). Work engagement partially mediated the relationship between procedural fairness and turnover intention, as the indirect effect is significant (b = .0202, 95% CI =-.1062,-.2049). In contrast, The results indicate that the total effect of perceived organizational support on turnover intention is significant (b=.1716, SE=.0559, p <.05). And there is a significant direct effect (b=.1745, SE=.0538, p=<.05). However, work engagement does not mediate the relationship between perceived organizational support and turnover intention as the indirect coefficient includes zero and therefore it is insignificant, (b = .0168, 95% CI = -.0375, .0283). The last bootstrapping tests the mediation of work engagement between procedural fairness and happiness, and also between perceived organizational support and happiness. The total effect of procedural fairness on happiness is significant (b=0227, SE=0.413, p=<.05), and the direct effect is significant (b=-.1519, SE=0.382, p=<.05). Work engagement partially mediated the relationship between procedural fairness and happiness as the indirect coefficient is significant (b= .020, lower 95% CI=-.1063, upper 95% CI=-.2182). Whereas, the results indicate that work engagement does not mediates the relationship between perceived organizational support and turnover intention. As the total effect of perceived organizational support on turnover intention is not significant (b=-.0190, SE=.0441, p=.6668), with the direct effect being (b=-.0227, SE=.0395, p=.5663), and indirect effect being (b= .0214, lower CI=-.0419, upper CI=.0433).

7.8 Summaries of the hypotheses findings

Table 7.16 and the bootstrapping analysis show that the majority of hypotheses' results are the same as Baron and Kenny's results. However, two hypotheses' results differed from Baron and Kenny's results; H10c, which proposed that emotional exhaustion mediates the relation between workload and anxiety, was rejected by Baron and Kenny's approach, whereas this relationship was accepted when it was tested by the Preacher and Hayes process. In addition, H11a proposed emotional exhaustion mediates the relation between emotional demands and turnover intention. This was partially supported by the Baron and Kenny process but when this hypothesis was examined by the Preacher and Hayes procedure the results indicated that emotional exhaustion dose not mediate the relationship between emotional demands and turnover intention. In this research the researcher relies on the Preacher and Hayes procedure to avoid the limitation of Baron and Kenny (1986) which, as stated before, may affect the research findings.

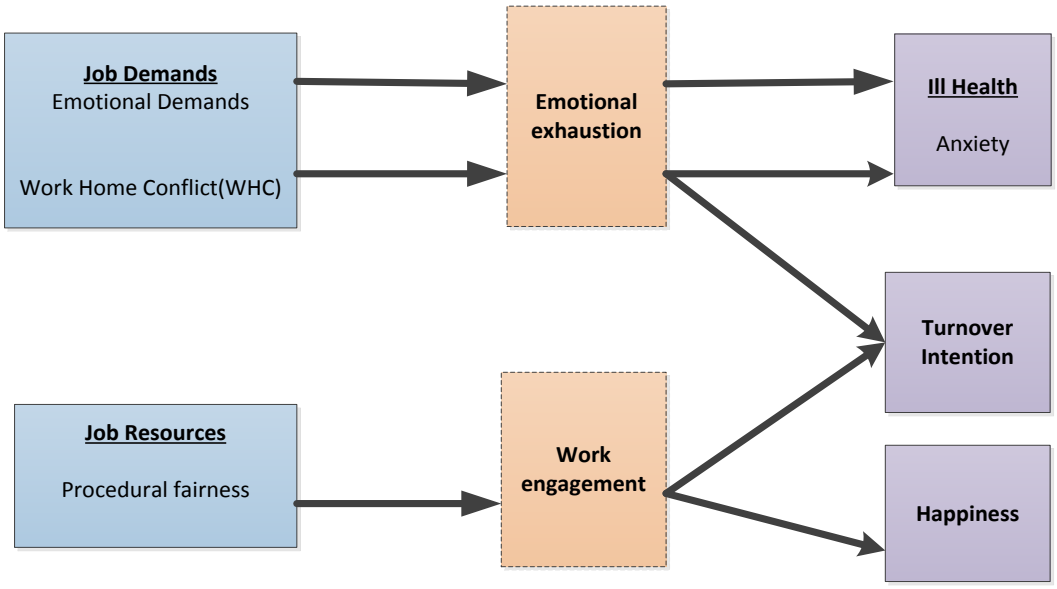

Figure 7.4 Final conceptual model (only significant hypothesized relationships are presented)

7.9 Conclusion

This chapter outlines that after cleaning the data, 512 surveys were completed then analysed. This research applied SPSS version 22 software to display the demographic profile of respondents and subsequently the descriptive statistic of the constructs. AMOS version 22 was also utilized to carry out Structural Equation Modelling (SEM). A structural equation model was carried based on two steps: (1) the measurement model or confirmatory factor analysis (CFA); and (2) the structural model (Hair *et al.*, 2006).

As recommended by Hair *et al.* (2006), the study validates the CFA through two steps: (1) goodness-of-fit indices and (2) construct validity. The outcomes of this study highlight that all the goodness-of-fit indices and construct validity are above the minimum criteria. After that, this study conducted a structural model and hypotheses testing and also mediator testing. The results show that 14 of 19 hypotheses proposed in the research are supported. The next chapter discuss these results further in the light of previous literature.

CHAPTER 8: DISCUSSION

8.1 Introduction

This chapter presents a summary of the findings, triangulates the qualitative and quantitative findings, and discusses them in the context of the literature. The discussion covers occupational stress among nurses, and their main job demands and job resources in relationship to anxiety, turnover intention, and happiness mediated by emotional exhaustion and work engagement. Finally, the chapter draws conclusions.

8.2 Summary of the study

The purpose of this study was to improve the well-being of nurses through exploring the main job demands and job resources and assessing the level of stress. The objectives of this study were to:

(1) identify the occupational stress levels among nurses working in public-sector hospitals in Saudi Arabia;

(2) identify the main job demands and job resources that affect nurses' well-being:

(3) examine the influence of job demands on the anxiety and turnover intention of nurses working in public-sector hospitals in Saudi Arabia;

(4) investigate the influence of job resources on the turnover intention and happiness of nurses working in public-sector hospitals in Saudi Arabia;

(5) determine the mediating effects of emotional exhaustion on the relationship between job demands and nurses' anxiety and turnover intention in public-sector hospitals in Saudi Arabia;

(6) ascertain the mediating effects of work engagement on the relationship between job resources and nurses' turnover intention and happiness in public-sector hospitals in Saudi Arabia. In this section, the major qualitative and quantitative findings are integrated and discussed in relation to the available literature.

8.2.1 Levels of stress among nurses

The nurses were asked to rate the level of stress they face in their job. The aim was to increase understanding of the occupational stress among nurses and to know to what extent the nurses in Saudi's public hospitals are suffering of stress. This study finds that nurses in public hospitals in the Kingdom of Saudi Arabia show a high level of job stress. This finding is consistent with findings of a number of previous studies where nurses we rerecorded as having high levels of occupational stress (Al-Makhaita, Sabra and Hafez 2014; Happell *et al.*, 2013; Gulavani and Shinde's 2014). In addition, the level of stress in the present study somewhat confirmed the previous researches findings which revealed that the level of stress among nurses has increased in recent decades and been the subject of global concern (Kawano, 2008; Chao and Cheng, 2009; Happell *et al.*, 2013; Gonge and Buus, 2011; Ward, 2011). However, the level of stress among nurses working in Europe and Asia does not exceed 50% (Gulavani and Shinde's 2014; Jones *et al.*, 2013; Lasebikan and Oyetunde, 2012). In contrast, most studies on hospitals' nurses in Arab countries including Saudi Arabia reveal that the levels of stress exceed 50% (Al-Omar 2003; Maryam 2008; Al Hosis, Mersal and Keshk, 2013).

The researcher examined the views of the participants in the empirical study. The qualitative analysis revealed that all of the interviewees considered the job of nursing as very stressful. 9 out of 15 interviewees stated that the level of stress reached the maximum level 10 of 10, while 5 nurses put this figure at 9 of 10 and one nurse said 8 of 10. The quantitative investigation showed that almost half of the respondents (48.6%) strongly agreed that being a nurse is very stressful, while fewer than half of respondents (35.5%) agreed with this statement. 12.1% of the respondents felt neutral, and just 2.1% slightly disagreed, and 1.6 % strongly disagreed. This high level of stress may also be attributable to social norms and conservative religious beliefs that have a powerful effect on the country's people (Gazzaz, 2009; Mebrouk, 2008). These findings emphasize the view that the present state of occupational stress in the health industry is very high and it needs continuous monitoring (Al-Omar 2003; Maertz *et al.,* 2007). In terms of stress level, the level of nurses' stress in the present study suggests that areas of improvement need to be explored. Better job stress management is imperative, especially in the healthcare sector as it involves public lives. Indeed, as mentioned in the introduction chapters, nurses' stress in the Kingdom of Saudi is a cause for concern. The key factors of stress in the literature across the health sector have been identified and

addressed by the researcher as job demands and job resources, supported by the views of participants in the empirical research. These factors have important implications for nurses and their organisations.

To investigate this issue in greater depth with tests and to expand the dual processes of the JD-R model (Bakker and Demerouti, 2007), the researcher asked about the main job demands and the main job resources that affect nurse's well-being. The researcher also asked how these demands and resources related to anxiety, turnover intention, and happiness. The majority of interviewees agreed that workload, work–family conflict, and emotional demands are critical sources of stress. The empirical findings of this research are convergent with those reported in the literature review (Gomes, Santos and Carolino, 2013; Lim, Bogossian and Ahern, 2010; Moreno-Jiménez *et al*., 2009; Saleh, Saleh and AbuRuz, 2013). The next sections discuss the qualitative and quantitative findings of these factors in depth.

8.3 Main job demands

8.3.1 Emotional demands with emotional exhaustion

Emotional demands are deemed one of the most significant predictors of health problems and emotional exhaustion (Bakker and Demerouti, 2007).Tuckey and Hayward (2011) found a significant positive relationship between emotional demands and psychological distress and exhaustion. This study found that the emotional demands of nursing in public hospitals in Saudi Arabia have a positive link to emotional exhaustion which lead to ill health. The qualitative analysis reveals an agreement among interviewees that emotional demands have always been one of the principal causes of emotional exhaustion for nurses, and that this impacts their mental health and makes them feel anxious, and that the empirical result obtained is similar to the previous study of McVicar (2003). Therefore, nurses who deal with considerable emotional demands in their job suffer from emotional exhaustion. The quantitative data analysis also confirms that 71% of respondents agreed that emotional demands are one of the main sources of stress. These findings are consistent with the findings of a small number of previous studies in Saudi where emotional demands are one of nurses' stressors (Saleh, Saleh and AbuRuz, 2013; Kamal *et al.*, 2012). The result confirms Schaufeli and Bakker's (2004) findings that emotional demands are significantly related to emotional

exhaustion. This confirms and supports H1, which may be a result of the nature of nursing work, as in nurses have to deal with many sensitive emotional situations. As Briner *et al.,* (2008) asserted in their report, emotional demand levels vary greatly within professions (such as human-service workers and customer-service workers) and that emotional demands exist in many jobs.

8.3.2 Work–family conflict with emotional exhaustion

Based on the findings presented in the previous chapters, the majority of the respondents (82%) confirm the qualitative result which considers work–family conflict (WFC) as a job demand that affects nurses' emotional exhaustion. This means that the higher the WFC, the higher the emotional exhaustion will be among nurses. This relationship between WFC and emotional exhaustion (H2) is expected because it is not easy to separate the most important constituents of human life: work and family (Jamadin *et al.,* 2015). So if these two vital life elements are not successfully balanced, WFC is likely to increase. As such, this study proposed that WFC has a significant relationship with emotional exhaustion (H2). The empirical results of the quantitative phase support the qualitative results that suggested that conflict between work tasks and family responsibilities can generate a feeling of emotional exhaustion among nurses. In general, the result appears consistent with previous studies – for instance, the study of Karatepe (2013) which studied 110 full-time frontline hotel employees and their bosses in Romania, and the study by Liu *et al.* (2015) of all married employees of five IT companies located in South China which reported that employees who experience high levels of WFC report more feelings of emotional exhaustion than employees who experience lower levels of WFC. Sultana (2012) further explains in her study on stress and WFC among married women that working women are stressed due to the inability to socialize and poor quality time with children and family. Even though Kaye and Gray (2007) claimed that the research on WFC and job stress is rising nowadays because it is a growing problem, there is still no study that has adopted the JD-R model to examine WFC and emotional exhaustion among nurses. The nature of nursing requires many concessions – for instance, working shifts and being on call – and these factors make a study of WFC and its effect on nurses' well-being a significant matter.

8.3.3 Workload with emotional exhaustion

Workload is described as an employee's perception of having more work than they can manage even if given a longer time to do it (Shirom, Nirel and Vinokur, 2006). This study proposed that there is a positive relationship between workload and emotional exhaustion (H3). The qualitative findings of this study show the extent of the nurses' suffering of workload as all the interviewees mention workload as a main source of stress and that it has an impact on emotional exhaustion. Even the quantitative results revealed that 90% of the sample suffer from workload in their job and the majority of them link emotional exhaustion to a high workload. This finding supports a number of nursing studies. For instance, "workload" was ranked as one of the top-10 most frequently reported sources of stress among nurses in developed countries (Glazer and Gyurak, 2008). This workload could be a result of the global issue of shortage of staff. The quantitative results indicated a significant relationship between workload and emotional exhaustion and hence these findings support (H3). This relationship has been confirmed before in a number of studies. Prieto *et al.*(2008) studied this relationship among teachers drawn from secondary schools in Spain. Together with a study by Taris, Schaufeli and Shimazu (2010), both studies found a statistically important increase in emotional exhaustion among workers with a high workload or high quantitative demands/overload. Also, in a German survey study of 959 hospital-based nurses, workload was found to be the strongest predictor of nurses' emotional exhaustion (Kowalsk*i et al.*, 2010).

8.4 Emotional exhaustion with anxiety

Emotional exhaustion is the main dimension of burnout, and some studies have suggested that emotional exhaustion exhibits stronger and more consistent associations with a negative outcome (Halbesleben and Bowler, 2007). Emotional exhaustion refers to the feelings of being emotionally overextended and drained (Maslach, Schaufeli *et al.*, 2001), whereas anxiety is generally defined as "an emotion characterized by feelings of stress, worried feelings and physical changes like raised blood pressure" (American Psychiatric Association, 2013). This study proposed that there is a positive correlation between emotional exhaustion and anxiety (H4). In the qualitative results, the nurses reported that at the end of working day they feel so exhausted that they are anxious about whether they have fulfilled their tasks or if they have missed something important. This finding has been confirmed in the quantitative phase as the quantitative results shows that emotional

exhaustion had a positive correlation with anxiety, which indicated that the nurses were mostly agreed that emotional exhaustion has a significant relationship with anxiety. Consequently, this result supports H4. Although one study investigated anxiety in hospitals' nurses (Ding *et al.*, 2014) and attempted to explore whether burnout mediates the association between occupational stress and anxiety symptoms among 1,243 healthcare workers including nurses from 52 CHCs in 9 cities in China, they found 38.0% of the healthcare workers had anxiety symptoms and that emotional exhaustion was positively related to anxiety symptoms. Also, this finding accords with the findings of previous studies that identified job demands as the main predictors of mental and physical health, resulting in depression and anxiety among nurses in nursing specialty practice (Beh and Loo, 2012; Lim, Bogossian and Ahern, 2010). In general, Laschinger *et al.* (2004) found that a high level of emotional exhaustion contributed to increased physical and mental health symptoms among Ontario acute care frontline clinical managers (FLMs).

8.5 Emotional exhaustion with turnover intention

Turnover intention is a serious issue and occurs when an organization's worker plans to resign from their job or the organization decides to dismiss a worker (Saeed *et al.*, 2014). Many interviewees in this study indicated that they intended to change their job if they could find another, and some of them did not wish to renew their contract with the hospital but rather return to their countries as they feel so exhausted by their job. Consequently, this study proposed a positive relationship between emotional exhaustion and turnover intention (H5). Quantitative findings support qualitative results and the hypothesis therefore indicated a significant relationship between a nurse's exhaustion and intention to leave the job and thereby (H5) is supported in this study. This supports the finding that turnover and turnover intention are very high among nurses in general (Louis, Chan and Greenbaum, 2009; Coomber and Barrball, 2007), and in Saudi's hospitals 37% of nurses think about leaving their job (Al-Ahmadi, 2006). Previous nursing studies have reported that emotional exhaustion is a strong predictor of nurses' turnover intentions (Laschinger *et al.*, 2009). Further, research has shown that when nurses are not sufficiently supported by leadership in their work environment, they suffer emotional exhaustion and leave not only their current jobs but the nursing profession (Hayes *et al.*, 2012). Furthermore, the study by Knudsen, Ducharme and Roman (2009) conducted face-to-face interviews with the head administrators of 363 publicly funded and 403 privately funded substance abuse treatment organizations and

found a positive association between emotional exhaustion and turnover intention. However, the present study is the first to address the main causes that make nurses intend to leave their job and the relationship between exhaustion and turnover intention in Saudi Arabia. The outcome of this study is also consistent with previous studies in different countries which indicated that high levels of emotional exhaustion among nurses will eventually lead to turnover intention.

8.6 Main job resources

8.6.1 Procedural fairness with work engagement

In line with the motivational process of the JD-R model (Bakker & Demerouti, 2007), this research predicted that job resources relate to psychological and organizational outcomes through engagement and may reduce negative outcomes. The qualitative results of the present study revealed that procedural fairness is an essential resource in nurse's work that has a positive effect on nurse' well-being as they relate their work engagement with organizational justice. Thereby the present study proposed that there is a positive association between procedural fairness (PF) and work engagement (H6). As discussed in the framework chapter, this hypothesis has been supported in previous studies (Cole *et al.*, 2010; Saks, 2006; Moliner *et al.*, 2008). The quantitative results of this research confirm this relationship. In line with previous research, no study has been done to examine this relation in the health sector before. For instance, a study by He, Zhu and Zheng (2014) examined how procedural justice affected employee engagement among 222 employees of a leading financial service organization in the UK and confirmed the positive relationship between procedural justice and job engagement. Of most relevance to the current research conclusions, two studies have provided empirical evidence that organizational justice is one of the several antecedents of work engagement and that higher perceptions of procedural justice by employees are more likely to result in greater organizational engagement (Moliner *et al.*, 2008; Saks, 2006). The study by Maslach, Schaufeli and Leiter (2001) discovered that a lack of fairness can exacerbate burnout, while positive perceptions of fairness can improve engagement. The results of the present research found that PF had a positive impact on work engagement and indicated a significant relation with work engagement. Therefore, the empirical result of this present study supports and validates this argument as every employee, regardless of their position and career,

has to feel fairness in their job to receive a positive outcome, particularly in the kind of job where they treat people who need special care.

8.6.2 Perceived organizational support with work engagement

Perceived organizational support (POS) is one of the most important organizational concepts that keep nurses well engaged in their work and keep them in their organization as well as making them feel happy and satisfied with their work. This is exactly what the majority of the respondents in the qualitative study stated. In a study in Thailand, a shortage of organizational support was the central source of stress among public-sector nurses (Pongruengphant and Tyson, 1997). Other studies have found that POS to be related to work engagement. Liu (2004), in his study of perceived organizational support, found that employees with a low level of organizational support feel the least sense of obligation to help the organization achieve its goals. Similarly, Eisenberger and Stinglhamber (2011) suggested that POS has a positive influence on work engagement, including by reinforcing employees' intrinsic interest in their tasks. Furthermore, a study by Mathumbu and Dodd (2013) among 106 nurses at the Victoria Hospital in Alice, Eastern Cape, South Africa concluded that POS and job engagement are positively associated. However, to confirm and generalize this relationship this study proposed that perceived organizational support (POS) has a significant positive effect on work engagement (H7). Surprisingly the empirical results of present study show that POS does not have a significant relationship with work engagement. Therefore, the results reject H7 and appear at odds with research conducted overseas (Eisenberger and Stinglhamber, 2011; Mathumbu and Dodd, 2013). The contradiction in the findings between the qualitative and quantitative research maybe due to the measurement of the questionnaire; there is a possibility that the question asked did not capture the initial understanding, or it could be that the sample did not have high socioemotional needs. Eisenberger and Stinglhamber (2011) claimed that the relationship between perceived organizational support and work engagement will be significant if the employees have high socioemotional needs such as needs for esteem or approval. However, this is very interesting as it gives opportunity for further study. For instance, this study's measurements could be duplicated with management as well, or it could be more specific in terms of the kind of support required.

8.7 Work engagement with turnover intention

Work engagement refers to a positive, achieving, work-related state of mind that is categorized by vigour (that is, high levels of energy and mental flexibility while working), dedication (referring to a sense of importance, enthusiasm, and challenge), and absorption (being concentrated and happily engrossed in one's work) (Schaufeli and Bakker, 2004). Many nurses in this study stated that if a nurse is engaged properly in their work, then this is good evidence of increased retention in the job because it means that they are happy and satisfied in their job. Thus, this study proposed that there is a negative relationship between engagement and turnover intention (H8). The quantitative findings of this research show that work engagement has a significant adverse impact on turnover intention. The results confirmed qualitative findings and support H8. Although work engagement has been relatively less discussed in the health field, this finding accords with the findings of several other researchers who found that work engagement is negatively linked to turnover intention (Du Plooy and Roodt, 2010; Harter, Schmidt and Hayes, 2002). For instance, the Takawira, Coetzee and Schreuder (2014) study that was conducted on a non-probability purposive sample of 153 academic and non-academic workers in a South African higher education institution concluded that high levels of work engagement lead to lower turnover intentions. Furthermore, Du Plooy and Roodt (2010) in their study determined that work engagement, burnout, organizational citizenship behaviour (OCB), and work alienation were all predictors of turnover intentions among the heterogeneous workforce (N = 2429) of a large South African information and communication technologies (ICT) company, and found a negative relationship between work engagement and turnover intention. Interestingly this study is the first study to examine the relationship between work engagement and turnover intention among nurses within the JD-R model.

8.8 Work engagement with happiness

The qualitative analysis reveals a consensus among interviewees that work engagement is good evidence of a nurse's happiness. The present study proposed that there is a positive relationship between engagement and happiness (H9). The empirical results of this research found that work engagement has a positive relationship with a nurse's happiness and indicated a significant value and hence supported H9. Although few studies have been done to discover the relationship between work engagement and happiness, one did conclude that happiness reflects

a positive emotional state that may lead to higher degrees of engagement (Huynh, Xanthopoulou and Winefield, 2014). In another study by Field and Buitendach (2011) of 123 staff members of a tertiary education institution in South Africa, an important positive relationship between work engagement and happiness was found. Hence this study confirms the qualitative results and other studies in showing a significant impact of work engagement on happiness.

8.9 Emotional exhaustion mediates the relationship between emotional demands, work–family conflict, workload, and anxiety

The tenth hypothesis of the present study was designed to explore the mediating impact of emotional exhaustion on job demands (emotional demands, work–family conflict, workload) and anxiety relationship or, in other words, the indirect relationship between emotional demands, work–family conflict, workload, and anxiety through emotional exhaustion.

Numerous studies testing the JD-R model have demonstrated the mediating effect of burnout as processes that influence health and organizational outcomes (Halbesleben, 2010). Limited studies have considered one particular dimension of burnout, which is emotional exhaustion as a potential psychological process, which mediates between emotional demands, work–family conflict, workload, and mental ill health (anxiety). Therefore, the researcher asked the interviewees about the relationships between the main job demands that they mentioned and ill-heath (anxiety). Most agreed that there is relation between them. Accordingly, the hypotheses H10a, H10b, and H10c were developed.

The present study hypothesized that emotional exhaustion mediates the relationship between emotional demands and anxiety (H10a). The empirical results of this research finds that emotional exhaustion fully mediates the relationship between emotional demands and anxiety. Hence this hypothesis fully supports H10a. The finding in the present study appears to be consistent with previous research by Huynh, Xanthopoulou and Winefield (2014) of 887 volunteer emergency service workers in South Australia, which supported prior studies' findings by showing that exhaustion mediates the relationship between emotional demands and mental ill health anxiety. H10b hypothesized that emotional exhaustion mediates the relationship between work–family conflict and anxiety. The result presented in the previous chapter provides partial support for the hypothesis developed. The finding obtained in the present study appears to be consistent with other researchers who

found emotional exhaustion to have a mediating effect (Huynh, Xanthopoulou and Winefield, 2014; Ding *et al.*, 2014). The findings in relation to H10c, which proposed that emotional exhaustion mediates the positive relations between workload and anxiety, indicated that emotional exhaustion mediates the relationship between workload and anxiety, and therefore H10c is fully supported. The finding in the present study appears to be, to some extent, consistent with other research by Laschinger *et al.* (2012) that tested the JD-R model in a sample of 420 newly graduated nurses working in acute care hospitals in Ontario, Canada. They found that the effect of job demands (workload) on mental health was mediated by emotional exhaustion. Also, in the study by Ferguson, Frost and Hall (2012) of teachers in northern Ontario, workload and student behaviour were found to be significant predictors of depression. However, in line with the health impairment process of the JD-R (Bakker and Demerouti, 2007), it was found that exhaustion mediated the positive relationship between demands (emotional demands and work–family conflict) and mental ill health (anxiety). These results support and develop the JD-R model by suggesting that the health impairment pathway may be useful in explaining the psychological processes through which nurses develop mental health problems such as anxiety.

8.10 Exhaustion mediates the relationship between emotional demands, work–family conflict, workload, and turnover intention

The eleventh hypothesis of this study was designed to explore the mediating impact of emotional exhaustion on job demands (emotional demands, work–family conflict, workload) and turnover intention relationship or, in other words, the indirect relationship between emotional demands, work–family conflict, workload, and turnover intention through emotional exhaustion.

As shown in the previous chapter, emotional exhaustion does not mediate the positive relationship between emotional demands and nurses' turnover intention. Neither does it mediate the relation between workload and turnover intention (H11A, H11C). The result of this study is in conflict with, firstly, the findings of the qualitative phase of this study which found that emotional exhaustion mediates the relation between sources of stress and turnover intention. And secondly, this study conflicts with a large number of researches that show a harmonious relationship between emotional exhaustion and different types of job demands that can have a positive influence on employees' turnover intention (Huynh, Xanthopoulou and Winefield,

2014; Knudsen, Ducharme and Roman, 2009; Hang-Yue, Foley and Loi, 2005). As emotional exhaustion in this study does not act as a mediator between the relationship of workload and turnover intention, this finding disagreed with the previous study of Cho, Choi and Lee (2014) of 366 airline employees in Korea, which found that the workload as a source of stress had substantial indirect effects on turnover intention through emotional exhaustion. Furthermore, it also conflicts with prior studies that concluded a direct positive relationship between workload and turnover intention – for instance, Qureshi et al.'s (2013) study of 109 employees in the textile industry of Pakistan. Also, Xiaoming et al.'s (2014) study of the medical staff in Kaohsiung Chang Gung Memorial Hospital presented the remarkable effects of workload on turnover intention. This conflict could be due to workload and emotional demands are more related to nurses' well-being outcomes than organizational outcomes so if the outcome is an individual outcome such as job satisfaction, intrinsic motivation could be a significant relation.

On the other hand, emotional exhaustion mediates the relationship between work–family conflict and nurses' turnover intention. In other words, the result indicates that emotional exhaustion is statistically significant in mediating the relationship between the dimensions of job demands and turnover intention. This finding is in line with Huynh, Xanthopoulou and Winefield (2014) who examined this relationship among 887 volunteer emergency service workers in South Australia and their results highlighted that exhaustion is a mediator between demands (WFC) and turnover intention. It also agrees with Hang-Yue, Foley and Loi's (2005) study examined the consequences of various job-role stressors (i.e. work–family conflict) on emotional exhaustion, job happiness, and intention to leave. This 2005 study examined the mediating effects of emotional exhaustion between the association of role stressors and plans to leave. Data were gathered from a sample of 887 professional clergy in Hong Kong and it was found that emotional exhaustion partially mediates the relationship between work–family conflict and turnover intention. These findings also confirm the previous studies' findings of the direct relation between job demands and turnover intention. For instance, Chen, Lin and Lien's (2011) study tested the effect of job stress factors on turnover intention and indicated that stress increases turnover intention. Moreover, Babakus, Yavas and Karatepe (2008) in their study of frontline workers (e.g. food servers, front-desk agents, concierges, and bartenders) of three-, four-, and five-star hotels in Ankara, Turkey's capital, revealed that job demands have the strongest impact on turnover intentions. Cho, Choi and Lee's (2014) study among brokers of large-scale chain real-estate brokerage companies

in Kaohsiung City indicated that WFC significantly and positively influences turnover intention: when WFC for the brokers increases to the point that they can no longer endure it, their turnover intention increases. This finding is also consistent with Netemeyer, Brashear-Alejandro and Boles (2004) who argued a positive correlation between WFC and turnover intention. Therefore, H11a and H11carerejected, while H11bis supported and considered new in the health sector.

8.11 Work engagement mediates the negative relationship between procedural fairness, perceived organizational support, and turnover intention

The twelfth hypothesis of this study was designed to explore the mediating impact of work engagement on job resources (procedural fairness, perceived organizational support) and turnover intention.

There are not many studies that support a link between job resources and withdrawal, such as turnover intention (Kim and Stoner 2008; Madden, Mathias and Madden, 2015). The interviewees agreed that the positive relation between procedural fairness and work engagement will absolutely increase the retention level among nurses. The empirical results of this research also finds that work engagement partially mediates the negative relationship between procedural fairness and turnover intention, which supports H12a. The finding in the present study appears to be consistent with previous research by Saks (2006) in his study of 102 employee workers in a variety of jobs and organizations in Canada which indicated that work engagement mediated the relationship between procedural justice and turnover intention. Maslach, Schaufeli and Leiter's (2001) model treats engagement as a mediating variable for the link between the six work conditions (including procedural fairness) and various work outcomes (including turnover intention). Among four different Dutch service organizations (total N 1698) the results were that engagement mediated the relationship between job resources and turnover intention. In contrast, H12b proposed that work engagement mediates the negative relationship between perceived organizational support and turnover intention. As shown in the previous chapters, H12b is rejected because the data shows that perceived organizational support has no relationship with nurses' engagement and therefore work engagement will never be a mediator between POS and any factor. This result agreed with prior studies of Huynh, Xanthopoulou and Winefield (2014) of 887 volunteer emergency service workers in South Australia

that confirmed the mediating role of engagement in the negative relationship between perceived organizational support and turnover intention. Also, Saks' (2006) study confirmed the mediating role of work engagement between perceived organizational support and turnover intention. In addition, Thirapatsakun, Kuntonbutr and Mechida's (2015) research in their study of 890 professional nurses in Thailand found that perceived organizational support has a negative relationship with turnover intention.

In spite of a few studies that considered the direct and indirect relationship between job resources and turnover intention, overall the results of this study conclude that work engagement partially mediates the relationship between independent variable procedural fairness and turnover intention among nurses. This was the same in several other studies (Schaufeli and Bakker 2004; Sonnentag, 2003; De Cuyper *et al.*, 2011).

8.12 Work engagement mediates the positive relationship between procedural fairness, perceived organizational support, and happiness

The thirteenth hypothesis of this study was designed to explore the mediating impact of work engagement on the job resources (procedural fairness and perceived organizational support) and happiness relationship.

H13a: Work engagement mediates the positive relationship between procedural fairness and happiness.

H13b: Work engagement mediates the positive relationship between perceived organizational support and happiness.

The literature suggests that there is a connection between these variables. The possible link between these variables is that happiness encompasses many constructs, one being that of work engagement (Money, Hillenbrand and da Camara, 2009). The results of the qualitative section showed that nurses related their work engagement with the level of their happiness. The quantitative results confirmed that work engagement mediates the relation between procedural fairness and happiness, and the results also show that the indirect effect of procedural fairness on happiness is significant. This finding illustrates that work engagement partially mediates this relationship. Previous findings came from articles between 1999 and 2015 which examined and clarified the concept of nurses' happiness and which confirmed that job resources enhance the job happiness of nurses (Ozkara

San, 2015). H13b proposed that work engagement mediates the relationship between perceived organizational support and happiness. This hypothesis has been rejected because the data shows that perceived organizational support has no relationship with nurses' engagement and therefore work engagement will never be a mediator between POS and any factor. This rejected relation between POS and work engagement could be due to the fact that a nursing career is a care job, so even if there is no organizational support, they still have to do their job and leave. This finding confirms the results of Huynh, Xanthopoulou and Winefield (2014) on emergency service volunteers that indicated work engagement does not mediate the relationship between perceived organizational support and happiness. This contradicts previous studies (Ozkara San, 2015) which concluded that job resources do enhance the job happiness of nurses. And Hempfling's (2015) study of 299 professionals in the American College Personnel Association confirmed the positive relationship between perceived organizational support and happiness, and that increasing organizational support may increase happiness. Generally speaking, the results indicate that work engagement acts as a mediator between procedural fairness and happiness but that it does not mediate the relationship between perceived organizational support and happiness.

All of these relationships fit and support the job demands-resource (JD-R) theory assumptions, namely, that a high level of job demands lead to negative outcomes that may affect employee well-being or organizational well-being whereas job resources lead to positive outcomes that affect employees and organizations positively (Bakker and Demerouti, 2007; Demerouti *et al.,* 2001).

8.13 Summary of results

The main focus of this study is to investigate the impact of job demands on anxiety and turnover intention and the influence of job resources on turnover intention and happiness in nurses in public hospitals in Saudi Arabia, and to validate the dual processes of the JD-R model on Saudi hospitals' nurses. This study's secondary focus is to explore the mediating impact of emotional exhaustion on the relationship between job demands, anxiety, and turnover intention and to explore the mediating impact of work engagement on the relationship between job resources, turnover intention, and happiness.

The previous literature on occupational stress and organizational psychology reveal that emotional exhaustion and work engagement within an organization both have a

major impact on employee well-being. While there are numerous studies on the *direct* impact of job demands and emotional exhaustion on mental ill health, there are few empirical studies on the *indirect* impact of job demands (emotional demands, work–family conflict, and workload) on mental ill health (anxiety) and turnover intention through emotional exhaustion and the *indirect* impact of job resources (procedural fairness and perceived organizational support) on turnover intention and happiness among nurses.

The correlation analysis shows that job demands (emotional demands, work–family conflict, and workload) have a positive significant relationship with emotional exhaustion and anxiety, which is parallel with qualitative findings in this study and previous studies that claimed that there is a relationship between job demands, emotional exhaustion and anxiety, and turnover intention (Crawford, LePine and Rich, 2010; Fernet *et al.,* 2013; Van den Broeck *et al.,* 2008; Bakker and Demerouti, 2007; Jung, Yoon and Kim, 2012; Lee *et al.,* 2014; Qureshi *et al.*, 2013; Zheltoukhova, O'Dea and Bevan, 2012). However, emotional exhaustion does not mediate the relationship between emotional demands and workload with turnover intention; such a result would be in contrast with the previous literature which argues that emotional exhaustion mediates the relationship between workload, turnover intention, and anxiety (Lee *et al.,* 2014; Fogarty *et al.*, 2000; Laschinger *et al.*, 2012).

The results also indicate that there is a positive significant relationship between procedural fairness with work engagement, turnover intention, and happiness. Therefore, this finding is in line with previous studies which indicate that there is a relationship between procedural fairness and work engagement, turnover intention, and happiness (De Cuyper *et al.,* 2011; Cole *et al.*, 2010; Forghani, Pouyandeh and Esfahani, 2013). On the other hand, the results point out an insignificant relationship between perceived organizational support and work engagement. The insignificant relationship is in conflict with qualitative results and with previous literature on the relationship of perceived organizational support with work engagement, turnover intention, and happiness (Hakanen, Bakker and Schaufeli, 2006; Saks, 2006; Xanthopoulou *et al.,* 2007; Xanthopoulou *et al.*, 2009; Thirapatsakun, Kuntonbutr and Mechida, 2015; Eisenberger and Stinglhamber, 2011).

In addition, work engagement shows a mediation impact on the relationship between turnover intention and happiness, which is also in line with the previous literature (Saks, 2006). However, work engagement does not mediate the relationship between perceived organizational support and turnover intention and

happiness. Such a result would be inconsistent with the previous literature which argues that work engagement dose not mediate the relationship between perceived organizational support and happiness (Huynh, Xanthopoulou and Winefield, 2014). However, although there are very few studies that have investigated the impact of job resources on happiness and turnover intention, the result of this study could be a good basis for further research on this relationship.

8.14 Conclusions

This chapter presented a discussion on major qualitative and quantitative findings in the context of the literature. The discussion of the results highlights a very significant contribution to the field of nurses' well-being and job stress. The findings of this study show that job demands (emotional demands, work–family conflict, and workload) have a positive influence on nurses' emotional exhaustion. The results indicated that emotional exhaustion leads to adverse outcomes (anxiety and turnover intention).

This study also shows that the procedural fairness has a positive influence on nurses' work engagement, which then leads to a decrease in the level of turnover intention and an increase in nurses' happiness, whereas perceived organizational support shows an insignificant relationship with work engagement.

Overall, it can be concluded that job demands and job resources have a significant effect on anxiety, turnover intention, and happiness, that this is supported by findings from previous researches as well as the findings from the qualitative section of this present study. The next chapter presents the implications for theory and practice from these results, as well as the limitations of this study.

CHAPTER 9: CONCLUSIONS AND RECOMMENDATIONS

9.1 Introduction

The final chapter of the thesis discusses the contribution to the knowledge and literature. It also highlights the practical implications that can help the Ministry of Health (MOH) in Saudi Arabia to prepare appropriate policies and recommend nursing strategies. The final sections discuss the limitations of the study and provide recommendations for future research.

9.2 Contributions to knowledge

This research has resulted in contributions to knowledge, as set out below, related to nursing practices in Saudi Arabia – both theoretical and practical – based on satisfying the aims and objectives of the research, as well as previously identified gaps in the literature.

9.2.1 Theoretical contribution

Based on the JD-R theory (Bakker and Demerouti, 2014), this study hypothesized that job characters (job demands and job resources) may influence not only organizational life but also nurses' well-being. Findings from the main and interacting effects of the present study extend beyond the results of other previous studies and thus contribute to the knowledge on research into nurses' stress, particularly in Saudi Arabia.

The findings show that different job facets (i.e. job demands and resources) affect emotional exhaustion and work engagement differently and hence impact anxiety feelings, turnover intention, and happiness of nurses accordingly. This provides additional support for the proposition by Demerouti *et al.* (2001), who stated that testing the JD-R model with additional factors could be divided into two groups – job demands and job resources – and that they are differentially related to particular consequences, and that this would provide a richer understanding of nurses' occupational stress. Hence, the examined factors contribute significantly to provide an in-depth understanding of how these factors influence nurses' anxiety, turnover intention, and happiness, and more importantly, in a single study.

More specifically, this study adds theoretical contributions to the JD-R model by examining the mediating role of emotional exhaustion between workload and anxiety, and also the mediating role of work engagement between procedural fairness and happiness. This is the first empirical study that clearly tests these relationships.

This study confirms that emotional exhaustion and work engagement play a mediating role between job characters and anxiety, turnover intention, and happiness. The findings in this study generally indicate the validity of job demands and job resources in the health context, especially in the nursing sector in Saudi Arabia and reflects the model's wide applicability, as presented previously in different contexts (e.g. Bakker, Demerouti, and Verbeke, 2004; Bakker and Demerouti, 2007; Demerouti and Bakker, 2011; Demerouti *et al.,* 2001; Schaufeli and Bakker, 2004).

This study has discovered new relationship that could help in creating plans and strategies to improve the mental health, retention. and happiness of nurses. Also this study has created new knowledge on the JD-R model in terms of a different culture and different healthcare system from what has been examined in previous studies. This will add to the growing research, which to date has mainly been based on studies from developed countries regarding the impact of JD-R on the mental health, retention, and happiness of nurses, particularly at a time of worldwide shortage and a high rate of turnover.

9.2.2 Methodological contribution

This study also makes a methodological contribution to the literature by using a sequential exploratory mixed-methods design to investigate the job demands and job resources elements of nurses in Saudi's public hospitals. This methodology results in developing a rich database that can be used by other scholars within the same field in order to further examine this issue.

This thesis adopts a mixed-methods research approach that explores the job demands and resources that affect nurses' anxiety, turnover intention, and happiness in Saudi's public hospitals. Mixed-methods research, as a methodology, has attracted increasing attention in social science research since the 1980s. It has been used internationally in many disciplines, such as sociology, education, evaluation, and health science. Although the use of mixed-methods research has not been so popular in the fields of management, finance, and accounting, there is a

growing acceptance that more research that combines quantitative and qualitative approaches is desirable (Azorín and Cameron, 2010). This thesis contributes to the methodological development in management research in terms of providing a practical example of how the combination of quantitative and qualitative approaches can offer a more comprehensive picture of the phenomenon than singular methods.

All the previous studies in Saudi Arabia that sought to examine nurses' occupational stress levels and their factors used either qualitative methods that cannot generalize their results because of the lack of responses, or quantitative methods that have been developed mostly for Western countries which are culturally different. This study has filled this gap by investigating the predictor variables that influence nurses' anxiety, turnover intention, and happiness by interviewing nurses in Saudi public hospitals and then developing the questionnaire and distributing it to a large sample of nurses, which can generalize the results.

9.3 Implications and limitations

9.3.1 Practical implications

Based on the research findings and the participants' answers, several practical implications can be offered. In addition to the contributions to the theory described in the section above, some practical implications can also be discussed. Firstly, the occupational stress levels of, and the consequences for, nurses in Saudi Arabia are more than has been previously assumed. The strategies and practices of the organizations to prevent job demands and their impacts are essential. The findings of the study shows that nurses' anxiety, turnover intention, and happiness were affected by the job-demands variables (i.e. emotional demands, work–family conflict), the job-resources variable (i.e. procedural fairness), emotional exhaustion, and work engagement. In this study, the JD-R model was considered suitable for explaining nurses' occupational stress. In particular, this study was planned to address the occupational stress of nurses in Saudi Arabia by suggesting a new nursing guideline that can help the MOH in Saudi Arabia to make suitable policies and nursing strategies. The following paragraphs explain how the management and the nursing sector could benefit from the findings.

9.3.1.1 Reduction of emotional exhaustion, work–family conflict, and workload

The main sources of occupational stress are now better understood. The findings of this research found that emotional demands, work–family conflict, and workload significantly increased emotional exhaustion which can then lead to mental ill health (anxiety) and increase turnover intention. Awareness of these causes of occupational stress may help hospitals' management to plan strategies to reduce the negative effects on employees' well-being and also organizations. For instance, providing special social workers or psychologists for demanding or aggressive patients to absorb their anger or discuss with them could help to reduce the demands and stress on nurses. In addition, it may be helpful to activate the Nurses Assistance Program (NAP) to provide appropriate, professional, and confidential counselling for any issue that may have an impact negatively on the nurses. This kind of service may help nurses who have a conflict between family and work, a high level of workload, or any other stressors to relieve, or it may assist in reducing the degree of conflict between family and work responsibilities. Because public healthcare is necessary as the Saudi Government's call for future human capital improvement for the country, good-quality services from healthcare providers are important. Stress-management strategies on the development of nurses are needed.

9.3.1.2 Increase in procedural fairness

The present thesis has identified that procedural fairness is a main job resource that reduces the level of stress and increases nurses' well-being. This study found that procedural fairness plays a determining role in employees' well-being and the level of turnover intention. If procedural fairness in a hospital is high, this will impact positively on a nurse's work engagement and then the level of retention and the nurse's happiness will increase. Whereas if the level of procedural fairness in the organization is low, this impacts negatively on a nurse's work engagement, which then increases the level of turnover intention and decreases happiness. Knowledge of this job resource can assist hospital management to plan strategies apply procedural fairness among nurses because of their importance on nurses' well-being and on the organization as well. For example, decisions pertaining to these strategies must be based on evidence that is accurate and there must be participation of nurse in decisions related to their work. The justice procedures used in the hospital should be set out by the management and they will have to clarify

decisions with dignity and respect for staff using unbiased and accurate information. In addition, providing job information about hospital policies, rules, and regulations could help to increase the nurses' feeling of fairness in the hospital.

The findings of the study also shed some light on the individual strategies that nurses use that could help them to relieve stress. The majority of participants emphasized the importance of time management; hospital managers should therefore run courses on time management. Also, the nurses stated that one of the best ways for them to relieve stress is sharing their feelings with colleagues. It would therefore be a good idea for the management to arrange monthly coffee or lunch meetings for the nurses so they can discuss issues and get to know each other. In addition, the nurses' answers show that the hospital managers should become more knowledgeable about occupational stress, how to improve the levels of respect and care for nurses, the risk factors, and the effects, and the mechanisms. The hospital managers need to not only take measures to identify the negative sources that make nurses stressed at work but also recognize the positive sources that can reduce such job stress. In other words, in the course of enhancing nurses' happiness and reducing the anxiety and turnover intention of nurses through the reduction and mitigation of job stress, they should address the issue by examining both the job demands and job resources together and not in isolation. Thus a comprehensive strategy can be designed and developed. In addition, providing support for nurses is an important consideration for the hospital management so that they may help nurses in the course of their work. For instance, nursing supervisors should consider interventions that might help to increase nurses' happiness – for example, scheduling (flexible schedule, part time, self-scheduling flexible hours, weekends off, more holiday), staffing, feedback, the use of new technology, and training.

In summary, the present study can provide insight into the important role of hospital administrators and managers on the need to provide facilitating conditions for nurses in order to increase their happiness and their intention to remain in their jobs. All of the facilities that could be provided to nurses can have a positive effect on the organization, such as by reducing the organizational costs of replacing staff, and improving absenteeism, low employee morale, high accident rates, and high turnover rates.

9.3.2 Limitations of the study

The previous section discussed the potential contributions that this thesis makes to the current literature and knowledge. However, like other studies, this research may suffer from limitations.

First, this study is of a cross-sectional nature and this limits inferences of the causal relationships among the studied variables in the JD-R model. Consequently, definite causality cannot be identified. Nonetheless, some degree of causality can be determined as the variables are identified in a clear order based on the theories used. However, a cross-sectional study cannot discern the changes in the psychological process, behaviours, and attitudes of the nurses as a result of changes in their job. Future studies could adopt a longitudinal design in order to validate the findings of the present study over time.

Second, in the present study, some of the hypotheses unexpectedly fail to receive empirical support; common-method bias as a result of the relationships in the research model are measured based on self-report data, in which common-method variance might affect the strength of the relationships (Podsakoff *et al*., 2003).

Third, despite the benefits of mixed-methods research, it is a challenge in that it requires more work and financial resources, and takes more time than singular methods. The practical difficulties to a large extent limit the current research in terms of sample planning, as the quantitative and qualitative studies are not entirely matched in their samples. The quantitative data was collected from 512 nurses across five hospitals in two different regions in Saudi Arabia. However, due to time and financial constraints the qualitative interviews were conducted with 15 nurses across 3 different hospitals in one region only. Another weakness is that only a few job demands and resources could be incorporated in the questionnaire.

Despite the limitations above, the findings of the study are still valid in understanding nurses' behaviour in Saudi Arabia, and therefore they offer some insight for the advantage of doctors and administrators on how to address concerns connected to decreasing job stress of nurses in the Kingdom.

9.4 Recommendations for future research

Based on the results, implications, and research, the following recommendations are formulated for researchers on MOH management and administrations, nurses' management, and nursing in order to decrease high stress levels among nurses.

The following further studies could be carried out to additional examine some critical areas:

1. In this research, the demographic variables are analysed with descriptive analysis. Future research could examine the results of these variables as moderators or antecedents as some demographic variables may affect nurses' views of the main JD-R and its outcomes.
2. As this research is a cross-sectional study it cannot discern the changes in the psychological process, behaviours, and attitudes of the nurses as a result of changes in their job. Future studies could adopt a longitudinal design in order to validate the findings of the present study over time.
3. In this study emotional exhaustion does not mediate the relationship between workload, emotional demands, and turnover intention. Also, the lack of relationship between POS and work engagement may be because of the sample size or self-report data of study, so a further study could be of a larger sample, especially the qualitative phase, and a longitudinal design might give more accuracy and more validity.
4. Future studies may wish to empirically examine the constructs and the same questionnaire in other settings, such as in private hospitals, other healthcare workers, or other healthcare institutions, to further confirm the acceptability of the conceptual model.
5. Future researchers may undertake comparable studies in time and place, for example, in remote areas, in other remote Saudi provinces, and also in international comparisons with other Middle Eastern countries. These kinds of studies can lead to a deeper understanding of the issues.
6. To achieve a greater representation of the whole group of those who deliver healthcare services, future investigations could help to recognize other hospital members such as doctors, pharmacologists, and partnered health workers, in order to classify and discover the major factors that could influence turnover intention, anxiety, and happiness.
7. The JD-R model in this study only tested three job demands and two job resources. However, as the JD-R model is flexible, there are possibilities for

improving this model by including other multiple demands and resources relevant to the specific sample used in the study. For example, the JD-R model is limited to motivational processes such as personal resources(e.g. self-efficacy and optimism).

9.5 Conclusions

In this study, every factor suggested was the source of a contribution presented in this thesis. The first four chapters of this study set out information and findings that assisted the researcher to improve the conceptual model of this study for the research methodology that are displayed in Chapter 4. Moreover, detail on the advancement and demonstration of the survey as the method of data gathering is also presented in Chapter 4. Practical data analysis regarding qualitative study is displayed in Chapter 5 to redevelop the conceptual model suggested in Chapter 6. Quantitative results and analysis to generalize the findings and test the hypothesis are displayed in Chapter 7. Chapter 8 is the discussion part of the thesis. Finally, implications of the study are summarized. Also, this study suggests avenues for future research that could provide helpful insights for upper echelons and how they impact organizations.

Appendix (A)

Studies published 2001–2016 that used job demands- resources model of stress(JD-R; see Bakker and Demerouti, 2001)

Article name	Journal name	Sample	Job demands	Job resources	Mediator	Outcome
The Role of Personal Resources in the Job Demands-Resources Model 2007	International Journal of Stress Management	Electrical engineering and electronics company in The Netherlands (N _ 1.439)	1 Workload 2 Emotional 3 Demands Emotional dissonance 4 Organizational changes	1. Autonomy 2. Social support 3. Supervisory coaching 4. Opportunities for professional development	Personal Resources	Exhaustion Work engagement
The Job Demands-Resources Model of Burnout 2001	Journal of Applied Psychology	3 occupational groups: human services inc nurses, industry, and transport (total N = 374).in Germany	1. Physical workload 2. Time pressure 3. Work products 4. Unfavourable shift work	1. Performance feedback 2. Rewards 3. Participation in decision making 4. Job security		Exhaustion Work engagement

			5. Physical environment	5. Supervisor support		
The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement 2008	Work & Stress	Finnish dentists (N_2555),	1. Quantitative workload 2. Work contents 3. Physical work environment	Family/partner support Support from friends Positive spill-over from family to work	1. Work engagement 2. Burnout	Depression Organizational commitment
Impact of telework on exhaustion and job engagement: a job demands and job resources model 2012	New Technology, Work and Employment	USA telecommuters N=417	Time pressure Role conflict Role ambiguity	Feedback Social support Autonomy		Exhaustion Work engagement

Validation of the Job Demands-Resources model in cross-national samples: Cross-sectional and longitudinal predictions of psychological strain and work engagement 2013	Human Relations	of Australian and Chinese employees (N = 9404).	Job demands	Supervisor support Colleague support		Psychological strain Work engagement
A Longitudinal Test of the Job Demands-Resources Model among Australian University Academics 2011	Applied Psychology	Australian University Academics N = 296	Work pressure Academic workload	Workplace autonomy Procedural fairness		Organizational Commitment Psychological Strain
Does an intrinsic work value		Random sample of the	Workload and	Job autonomy		Exhaustion

orientation strengthen the impact of job resources? A perspective from the Job Demands-Resources Model 2011	European Journal of Work and Organizational psychology	Dutch active working population (N=4009)	emotional demands	Learning opportunities		Work engagement
Job resources and emotional exhaustion: The mediating role of learning Opportunities 2011	Work & Stress	Dutch working population (N _ 4589)	Workload, cognitive and emotional demands	Autonomy and task variety	Learning Opportunities	Emotional Exhaustion
Do demands and resources affect target's and perpetrator's reports of workplace	Work & Stress	177 employees of various establishments of a large Belgian organization	Workload, role conflict and job insecurity	Task autonomy, social support and skill utilization		Workplace bullying

bullying? A two-wave cross-lagged study						
Testing the Triple-Match Principle in the Technology Sector: A Two-Wave Longitudinal Panel Study 2012	Applied Psychology	Large Belgian organization in the technology sector n=720	Cognitive job demands Emotional job demands and physical job demands	Cognitive job resources Emotional job resources Physical job resources		Competence and cognitive failure, emotional stability and emotional exhaustion, and physical stability and physical health complaints
Explaining the relationships between job characteristics, burnout, and	Work & Stress	17 organizations were recruited in the Dutch-speaking part of Belgium. n_483	Workload, emotional demands, physical demands, and	Task autonomy, supervisory support, skill utilization, and positive feedback	Need Satisfaction	Emotional Exhaustion Vigour

engagement: The role of basic psychological need satisfaction 2008			work–family interference			
The crossover of burnout and work engagement among working couples 2005	Human Relations	Among 323 couples working in a variety of Occupations.	Workload, Emotional demands, Cognitive demands Home demands (namely home overload, emotional demands, and cognitive demands.)	Autonomy, Social support Two home resources were included, namely home autonomy and social support.		Burnout The two core dimensions of burnout, exhaustion and cynicism Work engagement
How innovation can alleviate negative consequences of demanding work	Journal of Occupational and Organization	Sample of 22,696 respondents from 131 organizations within the National Health	Work demands		Climate for innovation	Organizational performance

contexts: The influence of climate for innovation on organizational outcomes 2007	al Psychology	Service (NHS)				
Specific determinants of burnout among male and female general practitioners: A cross-lagged panel analysis 2008	Journal of Occupational and Organizational Psychology	261 Dutch General Practitioners	Workload Work–family interference	Participation in GP-post Work control Social support from colleagues		Burnout
Are communications about work outside regular working hours associated with work-to-family conflict,	Work & Stress	data from the 2011 Canadian Work, Stress, and Health Study, a large national sample of working adults (N_5729), Interviews	Work-to-family conflict Job pressure.	Job autonomy. Schedule control Challenging work		Psychological distress Sleep problems

psychological distress and sleep problems? 2013		were conducted by telephone				
Healthy Eating at Different Risk Levels for Job Stress: Testing a Moderated Mediation 2014	Journal of Occupational Health Psychology	IT and marketing Sector the research sector and the public sector n= 272 in Germany	Time pressure”	“Time-control” control at work”	Self-administered planning	Fruit and vegetable consumption (FVC)
Job Resources Buffer the Impact of Job Demands on Burnout 2005	Journal of Occupational Health Psychology	1,012 employees of a large institute for higher education	Workload, Emotional demands Physical demands	Social support Autonomy Quality of the relationship with the supervisor		Burnout Professional efficacy

			Work–family interference	Performance feedback		
Does equity mediate the effects of job demands and job resources on work outcomes? 2013	Career Development International	Sample 1 included 625 blue-collar workers, employed in Chinese medium-sized family-owned businesses Sample 2 included 1,381 nurses from six Chinese hospitals, 1,297	workload emotional demands mental demands physical demands and interpersonal conflict	job control task clarity and opportunities for learning and development		Burnout Work engagement
When do job demands particularly predict burnout? The moderating role of job resources	Journal of Managerial Psychology	747 Dutch employees from two home-care organizations	Workload Physical demands Emotional demands patient	Autonomy Social support Performance feedback Opportunities for professional		Burnout

			harassment	development		
The missing link between emotional demands and exhaustion 2009	Journal of Managerial Psychology	418 insurance salespersons from the two largest insurance companies in a medium-sized city in Western China	Emotional demands	Emotional Intelligence Supervisor support	Coping strategies • Deep-acting • Surface-acting	Exhaustion
How job demands, resources, and burnout predict objective performance: A constructive re	Anxiety, Stress, & Coping	A total of 176 employees from a temporary employment agency completed questionnaires on job characteristics and	Work pressure, emotional demands, and work–family conflict	Social support from colleagues, team cohesion, harmony, autonomy, supervisory	Burnout (emotional exhaustion and cynicism)	Performance

plication 2008		burnout. For the qualitative part, 15 explorative interviews were conducted		coaching, and supervisor support		
Psychosocial safety climate buffers effects of job demands on depression and positive organizational behaviours 2013	Anxiety, Stress, & Coping	In a general population sample of 2343 Australian workers from a wide-ranging employment demographic, no health sector	Psychological demands Emotional demands			Depression
Workplace bullying and its relation with work characteristics, personality, and post-traumatic stress symptoms: an integrated model 2011	Anxiety, Stress, & Coping	Data were collected as part of a psychosocial risk assessment conducted in 2007 in a large public administration agency in Italy. Employees in non-managerial	Role conflict and workload.	Job resources in terms of autonomy, promotion prospects, and co-workers support	Bullying	post-traumatic stress disorder

		positions, most of whom carrying out administrative work				
Work–family Interference and the Relationship with Job Characteristics and Well-being: A South African Study among Employees in the Construction Industry 2011	Stress and Health	Among South African employees in the construction industry (N = 528	Job pressure	Autonomy Colleague Support Supervisor Support	Negative and positive WHI	Burnout and work engagement
Role Stressors, Task-Oriented Norm and Job Satisfaction: A Longitudinal Study 2012	Trabajo y de Las Organizations	The sample consisted of 130 workers of 15 groups These groups consisted of multi-skilled blue-collar workers with previous working experience in the same company	Role conflict and role overload	Role of task-oriented norm		Job satisfaction

When Work Interferes with Life: Work/non-work Interference and the Influence of Work-Related Demands and Resources 2009	American sociological review	Telephone interviews with 1,800 adults in the United States in 2005	Interpersonal conflict Job noxiousness. Job insecurity. Boring work. Job pressure. Long work hours.	Schedule control Control pace of work Job authority Job autonomy Decision-making latitude Skill level Social support. Personal earnings.		Work/non-work interference
Proactive Coping as a Personal Resource in the Expanded Job Demands-Resources Model 2015	International Journal of Stress Management	Participants were sought through the researchers' personal networks, 147 participants Australian employees	Challenges and hindrances	(Autonomy, co-worker support, and supervisor support as well as personal resources		Burnout and engagement

				(proactive coping)		
Do psychosocial job demands and job resources predict long-term Sickness absence? (2014)	Federal Institute for Occupational Safety and Health	For more than three consecutive weeks in four occupational groups. Survey data pooling 39,408 respondents in Denmark	Work pace and quantitative demands	Influence at work and quality of leadership		Predict long term sickness absence
Workplace bullying: A perspective from the Job Demands-Resources model (2011)	Open Journals Publishing	Among 749 respondents, among 17 Flemish organizations	Workload, cognitive demands, role ambiguity and emotional demands	Task autonomy, colleagues 'support, supervisory support and skill utilization	Emotional Exhaustion	Perpetrators' Reports of Bullying and Targets' Reports of Bullying
Using the Job Demands-Resources model to	Scandinavian Journal of Psychology	Norwegian offshore workers N = 986	Risk perception	Psychological safety climate		Job satisfaction

investigate risk perception, safety climate and job satisfaction in safety critical organizations 2011						
Reducing the Negative Effects of Stress in Teams Through Cross-Training: A Job Demands-Resources Model 2011	Group Dynamics: Theory, Research, and Practice	216 students from an Introductory management course at a large university in the Midwestern United States	Job demands	Cross-training		Cognitive, behavioural, Teamwork mental accuracy Tension
Multiple Team Membership: A	Group Dynamics:	151 employees working in a Romanian	Task load, team process load,	Team social support and job		Work engagement

Demand or Resource for Employees? 2014	Theory, Research, and Practice. USA	IT company	and conflict with team members	autonomy		and job strain
A Test of the Job Demands-Resources Model with HIV/AIDS Volunteers 2010	Journal of HIV/AIDS & Social Services	Participants were 307 HIV=AIDS volunteers from state AIDS Councils throughout Australia	Role conflict, role ambiguity and total hours per week	Co-volunteer social support and supervisor support	Emotional exhaustion and personal accomplishment	Depression, intrinsic satisfaction and organizational satisfaction
Abusive Supervision and Workload Demands from	Wiley Online Library	222 from several organizations in Taiwan, such as	Abusive supervision (AS) and workload			emotional exhaustion

Supervisors: Exploring Two Types of Supervisor-related Stressors and their Association with Strain 2012		insurance companies, high-tech companies and manufacturing companies.	demands from supervisors (WDS)			
Linkages between workplace stressors and quality of care from health professionals' perspective – Macedonian experience 2013	British Journal of Health Psychology	Six focus groups were conducted with a total of 56 HPs (doctors, nurses, interns, and residents)	Job demands (working environment, workload, time pressures, recipient contact, shift work)	job resources (feedback, rewards, job control, participation, job security, supervisor support)		Workplace stress and reduced quality of care
Psychosocial Safety Climate as a Management Tool	International Journal of Stress	427 employees from 56 teams (one per organization) in the		Learning opportunities,	Worker engagement	Job performance.

for Employee Engagement and Performance: A Multilevel Analysis 2015	Management	Malaysian				
Levels of occupational stress in the remote area nursing workforce 2010	Australian Journal of Rural Health	349 nurses working in very remote Australia	Emotional demands, Staffing issues, workload, responsibilities and expectations, and social issues	Supervision, opportunities for professional development, and skill development and application		Psychological distress, emotional exhaustion, work engagement and job satisfaction

Testing the Robustness of the Job Demands-Resources Model 2006	International Journal of Stress Management	654 Spanish who working in education, and human services and 477 Dutch customer service	Overload, emotional overload	Job control, social support, performance feedback	Burnout and work engagement	Organizational commitment
Article name	Journal name	Sample	Job demands	Job resources	Mediator	Outcome
A Multi-group Analysis of the Job Demands-Resources Model in Four Home Care Organizations 2003	International Journal of Stress Management	3,092 home care employees	Workload, physical demands, emotional demands and patent harassment	Autonomy, social support, performance feedback, financial rewards, professional development and		Burnout (Exhaustion, Cynicism, and Professional Efficacy)

				coaching		

Source: Researcher

Appendix (B)

The Participant Information Sheet

Brunel Business School
Research Ethics
Participant Information Sheet

1. Title of Research

The mediating role of emotional exhaustion and work engagement on the relationship between job demands-resources and nurses' anxiety, turnover intention, and happiness in Saudi public hospitals

2. Researcher

Student on PhD programme, Brunel Business School, Brunel University London

3. Contact email
I
cbpgqfa@brunel.ac.uk or gamra84@hotmail.com

4. Purpose of the research

The study aims to investigate the subject of nurses' occupational stress and its main parts related for this research.

5. What is involved?

The study includes qualitative semi-structured interviews. The interviews will take about 25-45 minutes. The interviewees will be asked just about 10 questions regard occupational stress. After analyse the qualitative phase they will also be asked to complete a self-completion questionnaire.

6. Voluntary nature of participation and confidentiality.

All contributors will continue anonymous and private. The confidential data will be accessible to the university. Contribution in this study is totally voluntary and the participants may reject to complete the study at any point, refuse to answer any questions with which they are uncomfortable, and ask the researcher any questions they may have.

Appendix (C)

Guide for individual interviews

1. What are the role and responsibilities of a nurse in (name of hospital)?

2. From your point of view, to what extent do nurses feel stressed?

   From 1 ~~2 3 4 5 6 7 8 9 10~~

3. What are the sources of stress that nurses face from your point of view?

4. Are there factors in a specific work environment (organizational or context of Saudi Arabia) that make nursing job stressful? If so, what are they, and why is this?

5. How can the stressors affect a nurse's life and his/her work?

6. How do you reduce nurses' stress caused by the job? Do you have any role? If so, what is it?

7. What actions do you think can be taken by management to reduce nurse stress?

8. What do you think would be a good strategy for preventing and/or dealing with the stress caused by this job?

9. What actions do you recommend that hospitals and the MOH should use to reduce stress?

10. Please also add any comments or suggestions that you think would be helpful.

Thank you very much for your participation

Appendix (D)

outlining the hierarchical structure of the themes and illustrative excerpts of quotations

Main themes	Sub-themes	Sub-themes 1	Illustrative excerpts of quotations
1. The prevalence of stress in nursing work			"The stressors that I face are making me feel much stressed." "What is the highest level? It's more than that." "More than anyone can imagine."
2. Unearthing common sources of stress	2.1 Workload		"A heavy workload is a major stressor." "Before, I used to finish work at the end of my shift. Now I sometimes stay two hours after my shift to complete my tasks." "I'm doing more than one person's work and it's hard to get everything done as there is so much to do in this job." "I cannot concentrate on my other tasks effectively. I am often forced to rush things to get everything done." "All of these tasks increase our workload."

	2.2 Work–family conflict		“I’m facing a conflict between job demands and family life” “I am unable to maintain the balance between my work and responsibility towards my family.” “A lot of my free time is spent sleeping. My husband gets a bit fed up with my constant tiredness.”
	2.3 Emotional demands	2.3.1 Patients’ emotional demands	“My work as a nurse is emotional demanding. For instance, when I have to deal with a patient who doesn’t want to accept her situation and tries to shout and scream.” “For me it’s emotionally very stressful when I have to stay focused and keep watching a patient’s vital signs in case they are abnormal, i.e. I don’t want to miss anything.”
		3.2.2 Emotional demands of patients’ families	“Sometimes we deal with very demanding patients’ families. They just demand and complain. Even when we try our best they are not satisfied and this is makes us exhausted.” “Some families have outlandish expectations of nurses. They treat you with a lack of respect.”

3. Detection of job resources	3.1 Perceived organizational support	3.1.1 Managerial support	"I hope we get support from the management – for example, for what we need in the department and more attention for the nurse." "I believe that perceived organization support will help nurses. Also it will help to reduce the level of stress." "The support gives us an amazing feeling that makes us feel loyalty and love towards the hospital and our job."
		3.1.2 Supervisor support	"Here in our unit I am very happy. We try to help and resolve any minor problems with our supervisor and he is very helpful." "I am so happy that she is my supervisor." "I will try my best to change my unit because supervisor support is very important to nurses." "I always thank God that I have this supervisor." "I know that one of my colleague's supervisors causes her anxiety."
	3.3 Procedural fairness		"Even though this makes us more stressed when we see unfairness in tasks." "Sometimes I really think about leaving because of the favouritism in the work." "I was very disappointed and very sad in the appraisals because they did

			not reflect the correct image of my performance and this is not fair." "Fairness in your workplace is vital and makes you happy, especially in our caring profession."
4. Job stressors and job-resource outcomes	4.1 Anxiety		"I often have only the time to do the most urgent [tasks]. But I don't have enough time for other tasks at the end of the day and this makes me suffer from anxiety." "I feel a surge of anxiety that maybe I forgot to do something." "We have a massive workload that leads us to feel anxiety." "In my point of view, work demands and family demands cause a feeling of anxiety for me."
	4.2 Turnover intention		"I'm always looking for a better offer and hoping something else comes up for me." "I have considered leaving the job, because here nurses do not receive fairness in many things like salary, holidays, and treatment." "Of course, if I got a better opportunity, I would leave."

	4.3 Happiness		“If the hospital management care about us and about our rights, I am sure all of the nurses, not just me, will be very happy and this will give us more energy and resilience while working.” “If the hospital’s management became more flexible and had a better understanding of the nurses I think this would make the nurses happy and have more loyalty to their workplace.”
5. Stress-management strategies	5.1 Organizational stress management strategies		“The hospital does not have policies for flexible scheduling and part-time options. I hope the administration allows nurses more responsibility in the conduct of their duties.” “We also need a good listener that will listen to the stressors that we face.” “The hospital does not have policies for flexible scheduling and part-time options.”
	5.2 Individual stress management strategies		“I go to my mum’s home and have my dinner and a chat with her. This makes me feel better.” “I complain to the head nurse or the supervisor sometimes help.” “I try to get rid of the stress by talking with my friends or colleagues.”

Appendix (E)

Questionnaire for the main survey

Dear Sir/Madam

I am a PhD student at Brunel University Business School. I am conducting a study examining the sources of occupational stress and its impact among nurses in Saudi's public hospitals. You are invited to participate in this research study by completing the following questionnaire.

The following questionnaire will require approximately 15 to 20 minutes to complete. There is no compensation for responding, nor is there any known risk. In order to ensure that all information will remain confidential, please do not include your name, or contact details. Your identification will not be recorded or shared with anyone. If you choose to participate in this research, please answer all questions and return the completed questionnaires promptly.

This section attempts to capture a profile of demographical information of the participants, which will be coded as anonymously.

Q1. Gender☐ Male ☐ Female

Q2. Age☐Below 20 ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50 and above

Q3. Marital status ☐ Single ☐ Married ☐ Divorced ☐ Widow/Widower

Q4. What is your highest educational qualification in nursing? (Tick box)

☐ Registered Nurse Diploma ☐ Bachelor in Nursing ☐ Masters in Nursing

☐ PhD in Nursing ☐ Other Bachelor or Master's Degree

Q5. Years of experience as a nurse☐ Less than 1 year ☐1-5 ☐6-10 ☐11-15

☐16 and above

Q6. Instructions: Below is statement about you with which you may agree or disagree. Using the response scale below, indicate your agreement or disagreement by placing the appropriate number on the line preceding this item related to **extent of stress.**

Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
1	2	3	4	5

Being a nurse is very stressful?

Q7. Instructions: Using a 5-point Likert scale, indicate the frequency in relation to the following statements by selecting the appropriate answer in relation to **"Emotional demands".**

statement	Never	Rarely	About as often as not	Often	Always
Has your work been emotionally demanding?	1	2	3	4	5
In your work, are you confronted with things that personally touch you?	1	2	3	4	5

Do you face emotionally charged situations in your work?	1	2	3	4	5
In your work, do you have to deal with demanding patients?	1	2	3	4	5
Do you have to deal with patients who do not treat you with the appropriate respect and politeness?	1	2	3	4	5
In your work, have you ever dealt with patients who incessantly complain, although you always do everything to help them?	1	2	3	4	5

Q8. Instructions: Using a 5-point Likert scale, indicate the frequency in relation to the following statements by selecting the appropriate answer regarding about **"<u>Emotional exhaustion</u>".**

Statement	Never	Rarely	About as often as not	Often	Always
Feel emotional drained from work.	1	2	3	4	5
Feel used up at the end of the workday.	1	2	3	4	5
Working with people all day is really a strain.	1	2	3	4	5
Feel burned out from work.	1	2	3	4	5
Feel frustrated by job.	1	2	3	4	5
Feel like working too hard on the job.	1	2	3	4	5
Working with people directly puts too much stress.	1	2	3	4	5
Feel fatigued when get up in the morning and have to face another day on the job.	1	2	3	4	5

Q9. Instructions: Using a 5-point Likert scale, indicate the frequency in relation to the following statements by selecting the appropriate answer regarding **"Anxiety".**

Statement	Never	Rarely	About as often as not	Often	Always
Feeling nervous, anxious or on edge.	1	2	3	4	5
Not being able to stop or control worrying.	1	2	3	4	5
Worrying too much about different things.	1	2	3	4	5
Trouble relaxing.	1	2	3	4	5
Being so restless that it is hard to stay still.	1	2	3	4	5
Becoming easily annoyed or irritable.	1	2	3	4	5
Feeling afraid as if something awful might happen.	1	2	3	4	5

Q10. Instructions: Using a 5-point Likert scale, indicate the frequency in relation to the following statements by selecting the appropriate answer related to **"Work engagement".**

Statement	Never	Rarely	About as often as not	Often	Always
At my work, I feel bursting with energy.	1	2	3	4	5
At my job I feel strong and vigorous.	1	2	3	4	5
My job inspires me.	1	2	3	4	5
I am enthusiastic about my job.	1	2	3	4	5
I am proud of the work that I do.	1	2	3	4	5

I get carried away when I am working.	1	2	3	4	5
I feel happy when I am working intensely.	1	2	3	4	5
When I get up in the morning, I feel like going to work.	1	2	3	4	5

Q11. Instructions: Using a 5-point Likert scale, indicate your agreement or disagreement with the following statements by selecting the appropriate answer associated with **"Perceived organizational support"**.

Statement	Strongly disagree	Slightly disagree	Neutral	Slightly Agree	Strongly agree
The organization values my contribution to its well-being.	1	2	3	4	5
The organization fails to appreciate any extra effort from me.	1	2	3	4	5
The organization would ignore any complaint from me.	1	2	3	4	5
The organization shows very little concern for me.	1	2	3	4	5
The organization takes pride in my accomplishments at work.	1	2	3	4	5
The organization really cares about my well-being.	1	2	3	4	5
Even if I did the best job possible, the organization would fail to notice.	1	2	3	4	5

Q12. Instructions: Using a 5-point Likert scale, indicate your agreement or disagreement with the following statements by selecting the appropriate answer related to **"Work-Family Conflict".**

Statement	Strongly disagree	Slightly disagree	Neutral	Slightly Agree	Strongly agree
The demands of my work interfere with my home and family life.	1	2	3	4	5
Due to work-related duties, I have to make changes to my plans for family activities.	1	2	3	4	5
My job produces strain that makes it difficult to fulfil family duties.	1	2	3	4	5
The amount of time my job takes up makes it difficult to fulfil family responsibilities.	1	2	3	4	5

Q13. Instructions: Using a 5-point Likert scale, indicate your agreement or disagreement with the following statements by placing the appropriate answer associated to **"Happiness".**

Statement	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
I don't feel particularly pleased with the way I am.	1	2	3	4	5
I feel that life is very rewarding.	1	2	3	4	5
I am well satisfied about everything in my life.	1	2	3	4	5
I think I don't look attractive.	1	2	3	4	5
I can find time for everything I want to.	1	2	3	4	5
I feel fully mentally alert.	1	2	3	4	5

Q14. Instructions: Using a 5-point Likert scale, indicate your agreement or disagreement with the following statements by picking the appropriate answer related to **"Turnover intention".**

Statement	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
I intend to leave my organization during the next 12 months.	1	2	3	4	5
I will change my job if I get a good offer.	1	2	3	4	5
I am actively seeking another employment opportunity.	1	2	3	4	5
I have searched for an alternative job since I joined this organization.	1	2	3	4	5

Q15. Instructions: Using a 5-point Likert scale, indicate your agreement or disagreement with the following statements by selecting the appropriate answer regarding about **"Procedural fairness (justice)".**

Statement	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
Decisions and processes at my job are made in fairways.	1	2	3	4	5
Fairness is high with issues and decisions in the work.	1	2	3	4	5
There is a general sense among workers that things are handled in fairways at work.	1	2	3	4	5
High level of effort is made to be fair to employees when decisions are being made.	1	2	3	4	5

Q16. Instructions: Using a 5-point Likert scale, indicate your agreement or disagreement with the following statements by choosing the appropriate answer associated to **"workload".**

Statement	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
Having to work through breaks is extremely stressful.	1	2	3	4	5
Demands of patient classification system are very stressful.	1	2	3	4	5
Having to make decision under pressure is stressful.	1	2	3	4	5
Not enough time to respond to the needs of the patients 'families make me under stress.	1	2	3	4	5

Thank you for your participation

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