

**THE MEDIATING-MODERATING EFFECTS OF JOB  
STRESS AND ORGANIZATIONAL SUPPORT ON THE  
RELATIONSHIP BETWEEN JOB DEMANDS RESOURCES  
AND NURSES' JOB PERFORMANCE IN SAUDI PUBLIC  
HOSPITALS**

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PUBLIC HOSPITALS**

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**Thesis Submitted to  
Othman Yeop Abdullah Graduate School of Business,  
Universiti Utara Malaysia,  
in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**

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## ABSTRACT

This study examined the determinants of nurses' job performance in public hospitals in Saudi Arabia. Specifically, the objectives were: (1) to identify the job performance level of nurses in Saudi Arabia; (2) to examine the relationship between job demands and resources, and nurses' performance; (3) to investigate the effect of job stress as a mediating variable on the relationship between job demands and resources, and nurses' performance; and (4) to determine the moderating effect of organizational support on the relationship between job stress and nurses' performance. The study utilized a survey method and questionnaires which were distributed to a sample of 1,443 nurses at nine hospitals. Several statistical techniques were used including reliability, factor analysis, bivariate correlation analyses, multiple regression, and hierarchical regression analyses. The study found the level of nurses' job performance to be moderate. Also the study found direct significant relationships among the tested job demands and job resources variables with nurses' job performance. Moreover, the study found partial support for the role of job stress as a mediator in the relationship between job demands and resources (JD-R) and nurses' job performance. Job stress mediated the relationship between the job demands resources variables (except job security) and two dimensions of job contextual performance (compliance and volunteering for additional duties). In addition, the study found that organizational support moderated the relationship between job stress and all dimensions of nurses' job task performance (i.e. provision of information, coordination, provision of support and technical care), and two dimensions of nurses' job contextual performance (i.e. interpersonal support and volunteering for additional duties). Contributions, limitations, and implications of the study are also discussed.

**Keywords:** nurses' job performance, Job Demands Resources Model (JD-R), job stress, organizational support

## ABSTRAK

Kajian ini mengkaji penentu prestasi kerja jururawat hospital awam di Arab Saudi. Secara khususnya, matlamat kajian adalah untuk: (1) menentukan tahap prestasi kerja jururawat di Arab Saudi; (2) meneliti hubungan antara tuntutan dan sumber kerja dengan prestasi kerja jururawat; (3) mengkaji kesan tekanan kerja sebagai pemboleh ubah pengantara dalam hubungan antara tuntutan dan sumber kerja, dan prestasi kerja jururawat; dan (4) menentukan kesan penyederhanaan sokongan organisasi dalam hubungan antara tekanan kerja dan prestasi kerja jururawat. Kajian ini menggunakan kaedah tinjauan dan soal selidik yang telah diagihkan kepada 1,443 jururawat sebagai sampel kajian di sembilan buah hospital. Beberapa teknik statistik digunakan termasuk kebolehppercayaan, analisis faktor, analisis korelasi bivariat, analisis regresi pelbagai, dan analisis regresi hierarki. Kajian ini mendapati bahawa tahap prestasi kerja jururawat berada pada tahap sederhana. Kajian ini turut mendapati hubungan langsung dan signifikan antara pemboleh ubah tuntutan dan sumber kerja dengan prestasi kerja jururawat. Di samping itu, kajian ini mendapati sokongan separa ke atas peranan tekanan kerja bertindak sebagai perantara dalam hubungan antara tuntutan kerja dan sumber kerja (JD-R) serta prestasi kerja jururawat. Tekanan kerja didapati menjadi pengantara dalam hubungan antara tuntutan dan sumber kerja (kecuali jaminan kerja) dengan dua dimensi prestasi kontekstual (kepatuhan dan melakukan kerja tambahan secara suka rela). Kajian ini juga mendapati bahawa sokongan organisasi menyederhanakan hubungan antara tekanan kerja dan semua empat dimensi prestasi tugas jururawat (iaitu memberikan maklumat, menyelaras, menyediakan sokongan, dan penjagaan teknikal), dan dimensi prestasi kontekstual jururawat (iaitu sokongan antara perorangan dan membuat kerja tambahan secara suka rela). Sumbangan, limitasi, dan implikasi kajian turut dibincangkan.

**Kata kunci:** prestasi kerja jururawat, Model Tuntutan Sumber Kerja (JD-R), tekanan kerja, sokongan organisasi

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## LIST OF ABBREVIATIONS

CC	Coordination of Care
CFA	Confirmatory Factor Analysis
CJP	Contextual Job Performance
Com	Compliance
COR	Conservation of Resources
DV	Dependent Variable
ED	Emotional Demands
EFA	Exploratory Factor Analysis
Feed	Feedback
GDP	Gross Domestic Product
IntSup	Interpersonal Support
IVs	Independents Variables
IVV	Intervening Variable (Mediating Variable)
JD-R	Job Demands Resources
JP	Job Performance
JS	Job Stress
JSec	Job Security
JTSup	Job-Task Support
KMO	Kaiser-Meyer-Olkin
MOCS	Ministry of Civil Service
MOFA	Ministry of Foreign Affairs
MOH	Ministry of Health
MV	Moderating Variable
N	Sample Size
NJP	Nurses' Job Performance
OS	Organizational Support
PD	Physical Demands
PI	Provision of Information
PS	Provision of Support
QD	Quantitative Demands
R	Correlation Coefficient
R <sup>2</sup>	Coefficient of Determination
SCHS	Saudi Commission for Health Specialties
SV	Skill Variety
SW	Shift Work
TC	Technical Care
TI	Task Identity
TJP	Task Job Performance
TS	Task Significance
VAD	Volunteering for Additional Duties
VIF	Variance Inflation Factor

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND OF RESEARCH**

During the last decade, the Kingdom of Saudi Arabia has achieved remarkable success with regards to its healthcare development. Knowing that understanding the economic progress and the health of the nation generally comes hand in hand, the Saudi Government has showered the health care system with serious considerable attention such as increasing the health care budget (Aldossary, While, & Barriball, 2008; Al-Husseini, 2006). In 2009, the Saudi government allocated USD 7.58 billion to the Ministry of Health as compared to USD 4.49 billion in 2005, showing a marked increase of 75% (Ministry of Health, 2009). In addition to the financial support to upgrade the health care quality services, the Saudi government has also expanded efforts to develop the human resource side of health care particularly the nursing sector (Al-Husseini, 2006). For instance, the Kingdom has set up and developed health institutions and health colleges to cater to the study of bachelor of nursing and to increase the graduates' quality. The main reason for carrying out these developments particularly in the area of nursing is because nurses make up the backbone of health care centers as they are the ones who deal first hand with patients (Al-Husseini, 2006; Ida *et al.*, 2009). In 2009, nurses represented about 48.25% of health care workers in Saudi Arabia, while doctors represented 23.89%.

Pharmacists, on the other hand, took up 1.91% and allied health personnel made up about 25.95% of health care workers (MOH, 2009).

Despite the efforts being carried out by the Saudi government in developing and enhancing the health sector, there are performance issues particularly with respect to efficient and effective services that are still plaguing the nursing sector specifically and the healthcare industry generally. There is particularly a growing concern about the poor performance of nursing services in Saudi Arabia's public health sector (Al-Husseini, 2006; Al-Osimy, 2009). In one of their research works regarding the impediments of the efficient functioning of Saudi nurses, Al-Obeed and Al-Dahayyan (2006, as cited in Al-Husseini, 2006) highlighted countless public complaints regarding the poor performance of Saudi nurses. In another empirical study on the efficiency of Saudi nurses' performance, Bahormuz (1991) concluded that the level of nursing services provided by Saudi nurses was unsatisfactory particularly with regards to their treatment of patients. In addition, the National Assembly for Human Rights in Saudi Arabia (2008), which is responsible for protection of human rights, published its second annual report on the conditions of patients' care and delivery and revealed that poor patients' services stemmed from the weaknesses of nursing staffs' skills as well as the weakness of medical care givers' performance particularly in isolated areas which has a small number of population. Furthermore, Abu Znadeh (2007) quoted the Chairman of the Scientific Council for Nursing of Saudi Arabia, Dr. Sabah Abu Znadeh, as saying that not only was there a shortage of Saudi citizen workers in the health sector, but also a low level in health service and performance. Moreover, Saudi Arabia loses 50% of nursing graduates annually (Abu Zenadeh, 2004).

According to Ida *et al.* (2009), nurses are health service providers who offer their 24-hour services on the front line, are in direct contact with patients, and at the forefront of hospital operations (Al-Dahayyan, 2006 as cited in Al-Husseini, 2006; Al-Husseini, 2006; Al-Obeed, 2006, as cited in Al-Husseini, 2006; Al-Zahrani, 1991; Bahormuz, 1991; Bin Saeed, 1995; Suleiman, 2002). As such, poor performance of nurses will have a significant influence on both the physical and psychological health outcomes of patients, and consequently the healthcare system as a whole. Because the issue of poor work performance among nurses is critical to be addressed effectively, a scientific investigation is warranted particularly to understand the factors that are perceived to be hindering nurses' work performance so that appropriate strategies to improve the performance of health nursing workers can be formulated and developed for the sake of the overall healthcare system in Saudi Arabia.

## **1.2 PROBLEM STATEMENT**

Employee job performance is an issue that receives much attention by both scholars and management practitioners because it plays a significant role in determining whether an organization is able to meet its objectives and goals or not. Employees have to meet the minimum performance levels in accomplishing their work in ensuring their organizations achieve their objectives (Bohlander, Snell, & Sherman, 2001). The nursing job is no exception. As nurses' performance has a significant impact on the health care delivery (Al-Ahmadi, 2009) and also their career development (Aldossary *et al.*, 2008; Mebrouk,

2008), various theoretical and empirical attempts have been devoted to examining the factors that influence it.

According to a number of scholars (e.g. Maier, 1955; Polly, 2002; Terborg, 1977; Russell *et al.*, 1994), employee performance is a function of motivation and ability. But this model ignores the notion that job performance is determined solely not by what the individuals have (Chan, Schmitt, DeShon, Clause, & Delbridge, 1997; Nonis & Wright, 2003). Within the nursing sector, it can be assumed that ability is not an issue among nurses because they have to be well qualified and well-trained to do their job (Al-Husseini, 2006; Mitchell, 2009). Furthermore, as it is assumed that nurses go into nursing because of career choice (AbuAlrub, 2004; Al-Aameri, Rashid, & Al-Fawzaan, 2007; Al-Husseini, 2006; Hayajneh, 2000; Mitchell, 2009), motivation may be less of a theoretical issue. As such, other factors in the environment are theoretically better able to explain job performance amongst nurses, and an appropriate theoretical model should be employed to explain this.

Nursing is a very stressful profession (Selye, 1976; Williams, Michie, & Pattani, 1998; Cheng-min & Bor-wen, 2009) in all parts of the world such as Malaysia (Rokiah, 1994; Emilia & Hassim, 2007) and Saudi Arabia (Al-Aamrei & Al-Fawzan, 1998; Al-Omar, 2003). Because of stressful nature of the job, evidence suggests that nurses' job performance tend to be adversely affected (AbuAlrub, 2004; Abualrub & Al-Zaru, 2008; Ida *et al.*, 2009; Jamal, 1984, 1985; Motowidlo, Packard, & Manning, 1986). For instance, job stress among nurses has been found to be associated with turnover, disruption of relationship with coworkers, absenteeism, decreased quality and quantity of practice, and poor health care delivery (AbuAlrub, 2004; Aiken, Clarke, Sloane,

Sochalski, & Silber, 2002; Al-Aameri, 2003; Al-Meer, 1995; Al-Omar, 2003; Bin Saeed, 1995; Comber & Barriball, 2007; French, Lenton, Walters, & Eyles, 2000; Gelsema, van der Doef, Maes, Akerboom, & Verhoeven, 2005; Hawkins, Howard, & Oyebode, 2007; Wheeler & Riding, 1994).

One model that theoretically explains job performance that considers stress is job-demands-job resources model (JD-R), which is an offshoot from conservation of resources theory (COR). JD-R model argues that while job demands hinder employees from performing better at the workplace, job resources are functional in achieving work goals (Schaufeli & Barker, 2004). While JD-R has contributed much to explaining job performance (e.g. Akkermans, Brenninkmeijer, Blonk, & Koppes, 2009; Bakker & Demerouti, 2008; Bakker, Demerouti, & Verbeke, 2004; Bakker, Van Emmerik, & Van Riet, 2008; Dwyer & Fox, 2006; Lang, Thomas, Bliese, & Adler, 2007; Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008), previous studies have generally considered job demands or job resources singly or separately (Bakker, van Veldhoven, & Xanthopoulou, 2010; Demerouti, Bakker, Nachreiner, & Schaufeli, 2000; Van den Broeck, Vansteenkiste, De Witt, & Lens, 2008). To date no study in nursing has looked at the differential effects of each factor in determining job performance. Such theoretical knowledge is warranted as both factors do not occur in isolation at work; rather they are perceived to exist simultaneously and each has a different role in impacting job performance (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003; Schaufeli & Bakker, 2004).

The present study also notes that previous works on job performance particularly in the nursing sector assume that work-related factors affect job performance directly,

and hence conducted their studies as such (AbuAlrub, 2004, Abualrub & Al-Zaru, 2008; Al-Ahmadi, 2009; Ida *et al.*, 2009; Hayajneh, 2000; Jamal, 1984, 1985; Motowidlo *et al.*, 1986). However, according to COR theory, when job demands and resources are present at work, they can lead to various types of physiological as well as psychological response (Burnard, 1991) or even emotional response (Watson & Clark, 1984) such as stress. JD-R model asserts specifically that when these factors are not favorably perceived, this will lead to a stressful situation, and hence impair job performance. Furthermore, according to Fullagar and Kelloway (2009), the mediating effects of the critical psychological states between job characteristics, one of the job demand factors, and performance have been neglected in past studies. In the context of nursing in which stress is characteristic of the job due to the nature of the work itself (AbuAlrub, 2003, 2004; Al-Aameri, 2003; Chung, Wolf, & Shapiro, 2009; Dewe, 1987; Emilia & Hassim, 2007), ignoring the role of job stress in explaining job performance is unfortunate because it has been consistently found that nurses who are stressful at work do not perform well (AbuAlrub, 2003, 2004; Al-Aameri, 2003; Chung *et al.*, 2009; Dewe, 1987; Emilia & Hassim, 2007). Indeed, Lang *et al.* (2007) recommended for incorporating job stress in a nursing setting to examine job performance because it is essentially important to understand the degree to which it mediates the relationship between job demands and performance. Thus, consistent with the theoretical propositions of JD-R and COR and the recommendations of previous works, the present study attempts to fill this gap.

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

Saudi Arabia, employment among female workers is generally discouraged as men are seen as the main breadwinner of the household and women to stay at home. In this culture, working can be a stressful experience. More so among expatriate nurses who make up the majority of the nurses in the Kingdom of Saudi Arabia, as they are likely to face adaptation problems, which can lead to mediocrity or failure in their employment in the host country, such as suboptimal work attitudes, reduced morale, work effort and performance (Bozionelos, 2009; Harrison & Shaffer, 2005),

Being both female and/or expatriate, nurses in the Kingdom of Saudi Arabia are expected to be stressed at work. To be able to perform well and to reduce the stress level at work, nurses need support from the organization they work for. A growing body of work recognizes the important role of organizational support in decisions to stay in organization (Maertz Jr, Griffeth, Campbell, & Allen, 2007). Moreover, Coffey (1999) reported that nurses who experienced high levels of stress without support were unable to support patients emotionally and might adversely affect the quality of care that is delivered to the patient.

One assumption in the JD-R model that has been neglected is that job resources may cushion the impact of job demands on stress (Bakker *et al.*, 2004). Because job stress has significant ramifications for both employees and organizations, searching for mechanisms that reduce the adverse impacts of job stress is critical (Jawahar, Stone, & Kisamore, 2007). One of the job resources that could buffer the negative effect of stress on job outcomes is organizational support (Brotheridge, 2001; Dwyer & Fox, 2006; Jawahar *et al.*, 2007; Viswesvaran, Sanchez, & Fisher, 1999). But within the nursing literature, the role of stress buffer such as organizational support has received little



attention. Furthermore, it is recommended that a moderating role of organizational support should also be analyzed not only in different work settings but also in other cultures (Khurram, 2009) such as in the Kingdom of Saudi Arabia that has a conservative culture especially with respect to female employment.

Based on the preceding gaps, this study attempts to examine job performance of nurses in the context of Saudi Arabia by applying the JD-R model in which job stress and organizational support are considered as important generative mechanisms to explain how and why job demands and job resources can purportedly affect job performance. By doing so in a single study, a holistic theoretical understanding of what makes nurses perform and why they perform can be enhanced.

### **1.3 RESEARCH QUESTIONS**

Based on the above arguments, four questions arise:

1. What is the job performance level of among nurses in public sector hospitals in Saudi Arabia?
2. To what extent do job demands and job resources affect nurses' performance working in public sector hospitals in Saudi Arabia?
3. Does job stress among hospital nurses working in public sector hospitals mediate the relationship between job demands resources and their performance in Saudi Arabia?
4. Does organizational support among nurses in public sector hospitals moderate the relationship between job stress and their performance in Saudi Arabia?

## **1.4 RESEARCH OBJECTIVES**

Consistent with the research questions above, the present study seeks to achieve the following research objectives:

1. To identify the job performance level of nurses in public sector hospitals in Saudi Arabia.
2. To examine the influence of job demands on nurses' performance working in public sector hospitals in Saudi Arabia.
3. To investigate the influence of resources on nurses' performance working in public sector hospitals in Saudi Arabia.
4. To determine the mediating effects of job stress on the relationship between job demands resources and nurses' performance in public sector hospitals in Saudi Arabia.
5. To ascertain the moderating effects of organizational support on the relationship between job stress and nurses' performance in public sector hospitals in Saudi Arabia.

## **1.5 SCOPE OF STUDY**

To meet the above research objectives, the present study was conducted among nurses of public hospitals in Saudi Arabia. The reason for the examination of the nurses' performance working specifically in Saudi Arabia lies in the fact that nurses comprise the largest human resource element in healthcare organizations, and thus they have a huge

impact on the quality of care and patient outcomes (Al-Ahmadi, 2009). Furthermore, nurses represent more than half of the workers comprising the medical specialties and medical assistance in Saudi Arabia, according to the Ministry of Health of Saudi Arabia (2009). The public sector hospitals under the jurisdiction of the Ministry of Health is the main provider of healthcare services providing 60% of the services while other government sectors and the private sector provide the remaining 40% of the services (Al-Khoshim, 2010; Almalki, Fitzgerald, & Clark, 2011; Ministry of Health, 2010). It comes to reason that the majority of the nurses are working under the Ministry of Health, which numbers 63,297 or 57.10% of the total population of nurses in all health sectors in the Kingdom, while the remaining 47,561, which is 42.90% of the total number of nurses, work in other sectors (MOH, 2009). It is for the above reasons that the current study considers public hospital nurses only, who are involved in the public health sector of the Kingdom's Ministry of Health.

A survey was employed as the main research design in which questionnaires were distributed randomly using to nurses of public hospitals in Saudi. The data collection period took place for three months from the mid of June 2011 to the mid of September 2011. A more detailed explanation on how the present study was carried is available on chapter four of this thesis.

## **1.6 SIGNIFICANCE OF THE STUDY**

As mentioned earlier in the present study, the objective of the study was to explore the influence of job demand and job resources factors on hospital nurses' performance, the

mediating effect of job stress on the relationships, and the moderating impact of organizational support in buffering job stress. If the findings of the study turn out to be true and valid, the study will contribute to both theory and practice.

In terms of theory, the study contributes to the body of knowledge through the examination of the determinants of hospital nurses' performance based on an individual's perspective, and the influence of both the mediation of job stress, and the moderation effect of organizational support in mitigating job stress. Specifically, the present study will be the first few studies that carries out an examination of the effects of job demands and job resources on hospital nurses' performance because many of the previous studies only examined the link between job demands and job resources and job stress (e.g. Behling & Mcfillen, 1996; Chen & Chiu, 2009), as well as between job stress and job performance separately (e.g. AbuAlrub, 2004; Jamal, 1984). The present study linked these separate studies in the hope of offering a better understanding of the process involved in the relationship between job demands resources and job performance. In this context, the present study contributes in particular to JD-R and COR theories by empirically incorporating both the mediation and moderation effects, which was not considered previously. Furthermore, the present study also intends to add to the literature concerning hospital nurses' performance through the achievement of the following points: (a) providing empirical evidence regarding determinants of effectiveness in hospital nurses; (b) explaining the relationship between job demands resources factors, job stress, organizational support and nurses' performance; and (c) providing a Saudi perspective on the above issue pertaining to individual performance among hospital nurses.

On the practical side, the study possesses significance because it attempts to give insight into one of the major issues in Saudi Arabia's healthcare system –nurses' performance. According to Al-Ahmadi (2009), due to the increasing awareness of quality improvement in Saudi Arabia, an interest regarding this particular issue has been growing. In addition, the stakeholders in the Ministry of Health can also benefit from the research by using it to identify, investigate as well as examine the proposed factors that are found to influence nurses' performance. And finally, the research can be used by decision makers to tackle and eradicate the negative factors that contribute to the decrease in nurses' performance.

## **1.7 DEFINITION OF KEY TERMS**

A word often has different meanings. In order to avoid ambiguity, the key terms used in this are defined below.

**Job demands** refer to the physical, psychological, social, or organizational aspects of the job that require sustained physical or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological or psychological costs.

**Quantitative job demands** refer to work overload or work pressure or too much work to do in too little time.

**Physical job demands** refer to the extent the job requires strenuous movements like bending, physical strength, lifting, or carrying objects.

**Emotional job demands** refer to the extent to which employees are confronted in their job with things or persons that touch them personally.

**Shift work** refers to frequency of working shifts longer than eight hours, and frequency of working double shifts.

**Job resources** refer to the physical, psychological, social, or organizational aspects of the job that are functional in achieving work goals; reduce job demands and the associated physiological and psychological costs; or stimulate personal growth, learning, and development.

**Skill variety** reflects the degree to which a job requires an employee to use a variety of different skills to complete the work.

**Task significance** reflects the extent to which a job influences the lives or work of others, whether inside or outside the hospital.

**Task identity** reflects the degree to which a job involves a whole piece of work, the results of which can be easily identified.

**Feedback** refers to how much employees know about their own job performance from the job itself, supervisors, colleagues, or patients.

**Job security** is defined as the ability to maintain the desired continuity and stability in a threatened job situation.

**Job stress** refers to self-reported symptoms caused by the transactions among employees and the environment.

**Perceived organizational support** is defined as a general perception concerning the extent to which the organization values employees' contribution, and cares for their well-being.

**Task performance** is defined as behaviours that contribute directly to the hospital's technical core, and includes those activities that are typically recognized as part of the employees' job.

**Contextual performance** refers to behaviours that maintain the broader social environment in which the technical core must function. It includes more discretionary behaviours that assist the hospital's function.

## **1.8 ORGANIZATION OF THE THESIS**

The present study comprises six chapters. Chapter one has explained the layout of the research through the identification of the existing gaps in the current literature. It has also outlined important justification to conduct the present study. Along with these, research questions and objectives have been highlighted as well as the scope of the research.

Chapter two is about the context of the present research. In particular, it is devoted to discussing the healthcare industry in Saudi to familiarize readers with the context the present research is located in. Specific references are made to the nursing sector in Saudi to enhance understanding of the nursing situation in the country.

Chapter three discusses the literature of job performance in general and nurses' job performance in particular. The main goal of chapter three is to explore important empirical studies that will assist the researcher in formulating the research hypotheses. In addition, theoretical foundations that underpin the present study are also highlighted and discussed. Chapter four is about the research methodology and it specifically deals in detail with the practical side of the research. In this chapter, methodological issues like

sampling, data collection and instrumentation are explored as well as the proposed data analyses.

Results of the study are discussed in chapter five based on the data collected. The chapter explores in detail the findings by relating the present study's findings to theory and previous literature. Finally, chapter six concludes the research and offers recommendations for future research and practice. It also highlights limitations that are present in the study.



## **CHAPTER TWO**

### **NURSING PROFILE IN SAUDI ARABIA**

#### **2.1 INTRODUCTION**

In the previous chapter the background of research, problem statement, research question, research objective, scope and significance of research, definition of key terms, and the organization of the chapters have all been dealt with. The current chapter expounds and highlights the health care system, the nursing sector, and the nursing workforce in the Kingdom of Saudi Arabia. It also talks briefly about the nursing education in Saudi Arabia. A discussion on these issues is important to help readers locate the context the research is in for better understanding of the issues involved.

#### **2.2 HEALTH CARE SYSTEM IN SAUDI ARABIA**

In the Kingdom of Saudi Arabia, the healthcare system has gone through significant improvements in a short span of time because of the increase in the need for healthcare among the population arising from the variety of lifestyles (Aldossary *et al.*, 2008). In answer to this the government has employed huge resources to provide free healthcare services for every Saudi national and expatriate working in the public sector. But those who work in the private sector are usually sponsored by their private employers. In Saudi Arabia, health care financing is appropriated from the government budget, which is, as

mentioned before, dependent on oil and gas revenues (Al-Yousuf, Akerele, & Al-Mazrou, 2002). As of 2010, the total expenditure on health care totaled 6.5% of GDP (MOH, 2010).

The Ministry of Health is the one responsible for the providing general health services to the government and other government agencies like the Defense Ministry, Interior Ministry, the Saudi Arabian National Guard, and the University teaching Hospitals (Al-Yousuf *et al.*, 2002). An estimated percentage of 60% of health care services is provided by the Ministry of Health while the remaining 40% is provided by other governmental agencies and the private sector (Al-Khoshim, 2010). The private sectors and governmental agencies normally are the ones running the hospitals and primary healthcare centers in Saudi Arabia and the Ministry of Health holds the position of the main governmental agency that holds the greatest responsibility of the Kingdom's healthcare and it provides preventive, curative and rehabilitative services. It is possible for the Ministry to provide health care by utilizing its network of primary healthcare centers throughout the Kingdom (Aldossary *et al.*, 2008).

## **2.3 HEALTH RESOURCES**

### **2.3.1 Financial Resources**

The government's financial appropriations taken from the government budget for the Ministry of Health, holds the corner stone of the Kingdom's health resources. The plan appropriated by the government for the Ministry of Health involving the governmental

budget is shown in Table 2.1. The table indicates the increase of the governmental budget from 2006-2010. Furthermore, it indicates that in 2010, the budget for the Ministry of Health topped that of the previous years.

Table 2.1

*Budget Appropriations for the MOH in Relation to Government Budget by USD*

<b>Year</b>	<b>Government budget</b>	<b>Total budget</b>	<b>%</b>
2006	89.095.745.000	5.235.026.600	5.9
2007	101.063.830.000	6.066.010.600	6.0
2008	119.680.850.000	6.707.446.800	5.6
2009	126.329.790.000	7.850.718.100	6.2
2010	143.617.021.000	7.850.718.100	6.5

Source: MOH (2010)

### 2.3.2 Physical Resources

There exists a three-level health care system in the Kingdom and they are primary (health care centers), secondary (general hospitals), and tertiary (specialist), which are either provided by the Ministry of Health, other governmental sectors, and the private health sector (Al-Yousuf *et al.*, 2002). Table 2.2 indicates the total number of hospitals and hospital beds in all health sectors in the Kingdom of Saudi Arabia as of 2010.

Table 2.2

*Hospitals and Beds in All Health Sectors in Saudi Arabia, in 2010*

<b>Sector</b>	<b>Hospitals</b>	<b>Beds</b>
Ministry of Health	249	34370
Other governmental sector	39	10939
Private sector	127	12817
Total	415	58126

Source: MOH (2010)

The primary health care centers are responsible to provide healthcare services that are basically promotional, protective, therapeutic and rehabilitative and these include maternal and kid healthcare, vaccination, management of chronic diseases (hypertension and diabetes), dental health, provision of necessary drugs, environmental health (water and sanitation), food hygiene, health education, and disease control. On the other hand, the hospitals provide secondary care like as surgical, medical, pediatric, dental, maternity, and emergency services (Al-Yousuf *et al.*, 2002).

In 2010, as shown in the Table 2.2, the hospitals run by the Ministry of Health was 60% (249 hospitals out of 415), which contained 59.13% of the total hospital beds in Saudi Arabia (34,370 beds out of 58,126), provide the second level of health care. In addition, as indicated in Table 2.3 and Table 2.4, the private sector provides 2362 primary health care such as dispensaries, polyclinics, private clinics and company clinics (MOH, 2010). The details and total number of dispensaries, polyclinics, private clinics and company clinics in the private sectors in the Kingdom as of 2010 are indicated in Table 2.3.

Table 2.3  
*Total Number of Dispensaries and Polyclinics, Private Clinics, and Company Clinics in Private Sectors in Saudi Arabia in, 2010*

<b>Sector</b>	<b>Units</b>
Dispensaries and polyclinics	2021
Private clinics	199
Company clinics	142
Total	2362

Source: MOH (2010)

The Ministry of Health in Saudi Arabia has been doing its best to provide all available physical resources to facilitate and develop the health care facilities so as to

give the best services to the people living in Saudi Arabia. The number of health facilities (hospitals, beds of hospitals, and primary health care centers) of the Ministry of Health covering all health services from 2006 to 2010 is presented in Table 2.4.

Table 2.4  
*Total Number of Hospital, Hospital Beds, and Primary Health Care Centers in MOH from 2006 to 2010*

Years	Hospitals		Primary health care centers
	Number of hospital	Number of beds	
2006	218	30617	1925
2007	225	31420	1925
2008	231	31720	1986
2009	244	33277	2037
2010	249	34370	2094

Source: MOH (2010)

The above table represents the physical resources that the Ministry of Health has provided in Saudi Arabia as a response to the increasing population growth rate in the Kingdom. The latest numbers show that there is a marked increase in the primary health care centers from 1925 in 2006 to 2094 primary healthcare centers in 2010 with an average increase rate of 8.78%. As for the hospitals there is also a marked increase from 218 in 2006 to 249 in 2010 with average rate 14.22%. In response to the rate of increase in hospitals, the number of hospital beds grew from 30617 beds in 2006 to 34370 in 2010 with average rate 12.26%. In 2010, the total number of hospital beds available was 34370 with 12.7 beds/ 10,000 people (MOH, 2010).

### 2.3.3 Human Resources

Saudi Arabia has been continuously suffering from lack of Saudi healthcare workers up until today. Statistics by the Ministry of Health show that foreign health workers make up about 45.80% of the total health care workers. Table 2.5 shows the large number of foreign experts such as physicians and nurses as compared to local ones. With regards to nurses, the number of non-Saudi nurses makes up about 49.72% of the total workforce while the Saudi nurses rate 50.28%, showing the lack of local nurses. The shortage of local nurses in the Kingdom is one of the main problems in the nursing sector of Saudi Arabia (Abu Znadeh, 2007; Al-Husseini, 2006; Mitchell, 2009).

The Saudi nursing sector is comprised of nurses from different nations, each one having its own culture and traditions which are reflected in the way they deal with patients. The majority of the 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 *et al.*, 2008; Luna, 1998; Tumulty, 2001). Expatriate nurses come to work in the Saudi health sectors because the Kingdom of Saudi Arabia offers employment incentives that are attractive for expatriate nurses such as higher salaries, enhanced benefits, travel opportunities, and the opportunity to immigrate to Western countries after gaining experience in modern health-care facilities (Mitchell, 2009).

To reduce the number of expatriate nurses, the Saudi Arabia government applies the Saudization policies aimed to substituting non-Saudi workers for Saudi workers in all governmental and private sectors including the nursing sector (Al-Husseini, 2006;

Elamin, 2012; Madhi & Barrientos, 2003; Mitchell, 2009; Sadi & Al-Buraey, 2009). Furthermore, the Ministry of Health’s strategy (2010-2020) is aimed to attract qualified personnel and human resource development. The accomplishment of the strategy is done through increasing the percentage of Saudization in all its facilities (Mitchell, 2009; MOH, 2010). In addition, to increase the number of graduates from nursing colleges, internal scholarships program and external scholarships are offered to the Saudi students of post-secondary education (Al-Husseini, 2006; MOH, 2010).

Table 2.5  
*Total Workforce of Medical and Medical Assistance in the Ministry of Health, in 2010*

	<b>Saudi</b>	<b>%</b>	<b>Non-Saudi</b>	<b>%</b>	<b>Total</b>	<b>%</b>
Physicians	6818	21.63	24699	78.37	31517	100
Nurses	37009	48.71	38969	51.29	75978	100
Pharmacists	1406	78.55	384	21.45	1790	100
Allied health personnel	35023	87.32	5087	12.68	40110	100
Total	80256	53.72	56398	46.28	149395	100

Source: MOH (2010)

## **2.4 NURSING SECTOR IN SAUDI ARABIA**

This section introduces readers to pertinent issues related to nursing profession and sector in the Kingdom of Saudi Arabia. In particular, it talks about nursing education and profession, nursing composition, and nursing job.

### **2.4.1 Nursing Education**

The Saudi Commission for Health Specialties (SCHS) and the Saudi Council for Health Specialties (SCFHS) are both the governing bodies of the practice of nursing in the

Kingdom. The former is responsible to act as the professional licensing board for the entire health-care practitioners in Saudi Arabia (SCFHS, 2010). Meanwhile, the latter is responsible for formulating, approving, and supervising professional health specialty programs, formulating continuing education programs, accrediting organizations that provide training in specialty areas, and more (Abu Znadeh, 2007). A new law by the Nursing Council provides the registration of nursing staff after three years to prevent illegal practice of the profession (Al-Osimy, 2009).

In 1958, the first training program for nurses was held in Riyadh, as a result of the collaborative effort of the Ministry of Health (MOH) and the World Health Organization (WHO) (Tumulty, 2001). Fifteen male students registered for the program. The program lasted for one year for male intakes only since, strikingly, females were prevented from working as professionals. They were unable to enroll in nursing schools until 1964. This was later followed by two Health Institute Programs, one held in Riyadh and the other in Jeddah which was particularly for Saudi women (Tumulty, 2001). The men and women who graduated from the health institutes were then given the profession as nurses' aides (Miller-Rosser, Chapman, & Francis, 2006).

The Ministry of Higher Education introduced the first Bachelor of Science in Nursing (BSN) in 1976 which was followed by more of the same programs opening at King Abdul-Aziz University in Jeddah in 1977. But it was not until 1987, when the Master of Science in Nursing was introduced at King Saud University in Riyadh and at King Faisal University in Dammam (Tumulty, 2001). These university programs were contained to females only but diploma programs were still offered to both male and female students. Schools of nursing are currently mushrooming in the private sector and



other government hospitals to keep the wheels of Saudization going (Doumato, 1999). In light of the Saudization policy, the government of the Kingdom of Saudi Arabia has been making job localization programs in order to reduce the country's dependence on foreign workers as well to reduce the rate of employment as mentioned before (Sadi & Al-Buraey, 2009).

The nursing program which was initiated in 1964 was extended from one year to three years, and more institutes were opened which were open for students with secondary school preparation (Miller-Rosser *et al.*, 2006). And by the year 1990, the total number of health institutes for females numbered at 17 while for males it numbered at 16, offering nursing education to students. As a result, the number of female graduates increased from 13 in 1965 to 476 in 1990 and the total number of male graduates increased to 915 in 1990 (El-Sanabary, 1993).

By 1994, nursing colleges in Saudi Arabia were established to upgrade the education level of nurses and to train qualified high school students (Al-Husseini, 2006). The Ministry of Health at that time ran two levels of nursing education i.e. the health institutes and the junior colleges. Those graduated in these two levels obtained Diploma in Nursing and were classified as technical nurses (Al-Husseini, 2006). By 1996, a PhD scholarship program was set up to encourage and enable Saudi nurses to study abroad. In addition, there was also an in-country scholarship program (Abu Znadeh, 2007; Miller-Rosser *et al.*, 2006). A major change involving the transference of the colleges of healthcare from the authority of the Ministry of Health (MOH) to the Ministry of Higher Education (MOHE) were carried out in 1998 along with the change in the name of the

degree from diploma to bachelor. The name of the profession eventually evolved into the nursing profession (Health Forum, 2008).

Nurses who graduated with a bachelor's degree is now called specialist nurses, those who graduated from master of science in nursing are called senior specialists while those who graduated with a doctorate degree in nursing are called consultants (SCFHS, 2009).

#### **2.4.2 Nursing Composition**

The total number of nurses as recorded by the Ministry of Health in the different health sectors in the country for the year 2010 was 129,792. This number was distributed in the three main sectors of healthcare: the Ministry of Health, other government sector including the Ministry of Defense, National Guard and Interior Ministry, and private sector. The largest number of nurses was in the Ministry of Health which numbers 75,978 making up 58.54% of the total number of nurses. The remaining number of nurses was working in the private sector and other government sectors.

Statistics in 2010, revealed that 68.21% of the nursing profession is made up of non-Saudis. Saudi nurses do not exceed 05.81% in the private sector and only comprise 48.71% in the Ministry of Health. The reality paints a sad scenario in the nursing sector of Saudi Arabia as its workforce mainly depends on foreign employees who hail from different parts of the world (Aboul-Enein, 2002; Bin Saeed, 1995; Luna, 1998; Tumulty, 2001), as mentioned earlier, and the majority is female nurses. The dependence on foreign nurses reflects a serious threat to the manpower stability in the Kingdom because

these professionals may leave the country at any time for their own good reasons (Bin Saeed, 1995).

Table 2.6  
*Nurses in Different Health Sectors in the Kingdom of Saudi Arabia, in 2010*

<b>Sector</b>	<b>Saudi</b>	<b>%</b>	<b>Non-Saudi</b>	<b>%</b>	<b>Total</b>	<b>%</b>
Ministry of Health	37009	48.71	38969	51.29	75978	100
Other governmental sectors	2623	10.14	23257	89.86	25880	100
Private sector	1624	05.81	26310	94.19	27934	100
<b>Total</b>	<b>41256</b>	<b>31.79</b>	<b>88536</b>	<b>68.21</b>	<b>129792</b>	<b>100</b>

Source: MOH (2010)

Table 2.6 shows the number and proportion of nurses in the health sector, the total number of nurses in the entire sector and the proportion of Saudi to non-Saudi nurses. Tables 2.7 indicate the total number of nurses in based on category gender and nationality.

Table 2.7  
*Total Number Nurses in Ministry of Health Care Centers and Hospitals, in 2010*

<b>Health facility</b>	<b>Gender</b>	<b>Saudi</b>		<b>Non-Saudi</b>		<b>Total</b>	<b>%</b>
		<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>		
Health Care Centers	Male	5196	97.14	153	02.86	5349	100.00
	Female	5052	48.83	5295	51.17	10347	100.00
	<b>Total</b>	<b>10248</b>	<b>65.29</b>	<b>5448</b>	<b>34.71</b>	<b>15696</b>	<b>100.00</b>
Hospitals	Male	12952	87.57	1839	12.43	14791	100.00
	Female	13355	29.81	31452	70.19	44807	100.00
	<b>Total</b>	<b>26307</b>	<b>44.14</b>	<b>33291</b>	<b>55.86</b>	<b>59598</b>	<b>100.00</b>

Source: MOH (2010)

Despite the big number of foreign nurses to meet 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 to 10,000 people. Compared to other Arab countries, for instance, Qatar, there are around 54.8 nurses to

10,000 people while compared to Europe there are 66.3 nurses to the same number of people. The future does not bode well for Saudi Arabia as future statistics confirms that the population of the country will be about 45 million in 2025. This calls for more nursing recruitment in the future. In 2010, based on estimated Saudi population, Saudi Arabia looked to face the challenge of recruiting more nurses as it only has a shortage of 148,710 nurses compared to other Gulf countries, and 179,918 nurses to European countries (Abu Znadeh, 2007).

Abu Znadeh (2004) reveals that the Kingdom loses 50% of its nursing graduates yearly and there is evidence that not all graduates enter the nursing field as most of them, particularly, male graduates turn to work in managerial capacities. This accounts for the increasing number of foreign nurses as stated in Table 2.6, which in turn leads to cultural diversity in the health organizations in Saudi Arabia. Despite the availability of foreign nurses, Saudi Arabia is now facing a challenge of increasing its local population of nurses who are capable of delivering high quality care and dealing with their patients in their native Arabic language. Aldossary *et al.* (2008) mention that offering effective health education to the nursing candidates might turn out to be the most difficult challenge. Language is a barrier in the health care sector since the vast majority of the patients and their families are Saudis and Arabic is the mother tongue whereas most non-Saudi health care staff including nurses communicate in English. At the same time, neither English is their native language nor they speak Arabic well (Simpson, Butler, Al-Somali, & Courtney, 2006).

Despite the limitation faced by foreign nurses, Saudi Arabia takes very good care of them by providing them with incentives such as higher salaries, improved benefits,

travel opportunities, and the opportunity to immigrate to Western countries after gaining experience in modern healthcare organizations (Mitchell, 2009). On the other hand, in case of the nursing challenge, Saudi Arabia is placed in a perilous position due to the following reasons: the global overall need for nurses, the worsening nurses' shortage, lack of quality services provided by nurses owing to job dissatisfaction and burnout, and the inability to come up with local nurses (Mitchell, 2009).

Evidence shows that the rate of Saudi nurses in health care centers numbers more than that in the hospitals (Al-Husseini, 2006). This can be attributable to the fact that in health care centers there exists a complete separation or segregation of sexes, absence of night shift, limited working hours and less complicated responsibilities to handle. Evidence to further substantiate the matter reveals that the nursing profession is unattractive to Saudi men and women due to low salaries, shift schedule, negative social perception of nurses (Al-Hydar & Hamdy, 1997; El-Gilany & Al-Wehady, 2001). As the nursing profession is frowned upon in Saudi society, only a few Saudi females join the profession.

The nursing profession in the Kingdom of Saudi Arabia is not looked at in a good light by the society as they consider it akin to a maid's job (Al-Aameri *et al.*, 2007). In addition, males stay away from it associating it with a woman's job and as a result the female ratio of the profession is more than the male. Some people refuse to have their daughters working in hospitals as there is no segregation between sexes. Moreover, female nurses do not have a high probability of getting married because Saudi men are unwilling get married with female nurses because the nature of work in nursing that requires mixing with men and female nurses caring for the sick male, in addition night

shift work system (Al-Aameri *et al.*, 2007). Additionally, the works shifts are not very attractive to most young professionals (Al-Aameri *et al.*, 2007). In short, the unattractive image of nursing as a profession in the Middle East and the cultural opposition towards female employment explain why Saudi Arabia is relying on foreign workers in the nursing sector (Atiyyah, 1996).

### 2.4.3 Nursing Job

This section explains issues related to nursing work in the Kingdom of Saudi. It starts by showing the line of authority in nursing management in the Kingdom. Duties and responsibilities of various categories of nurses are then offered. Next, other related issues such as shift work and salary are presented.

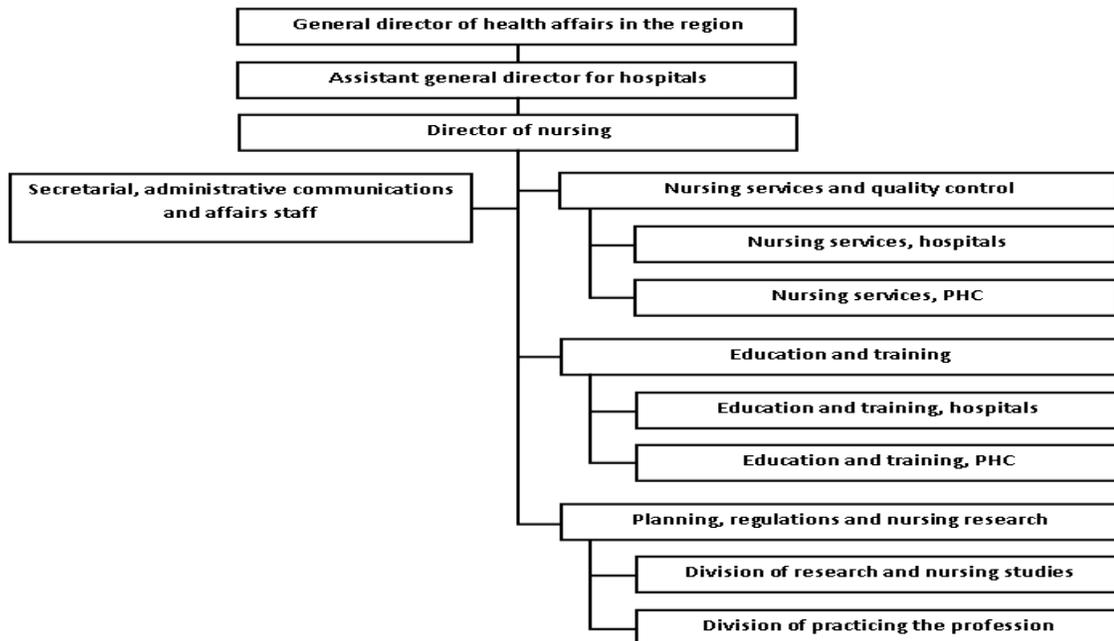


Figure 2.1  
*Organizational Structure of the Department of Nursing in Directorate General of Health Affairs*  
 Source: Al-Osimy (2008)

Figure 2.1 depicts the lines of authority in the nursing management in all regions of the Kingdom of Saudi Arabia. The figure shows a direct connection of the nursing management to the assistant general director of health affairs of hospitals and it also indicates the four main parts of the department of nursing which are (1) secretarial, administrative communications and affairs staff, (2) nursing services and quality control, (3) education and training, (4) planning, regulation, and nursing research department.

Figure 2.2 depicts the regulatory authority that governs the entire nursing services in all Ministry of Health hospitals which is the medical director.

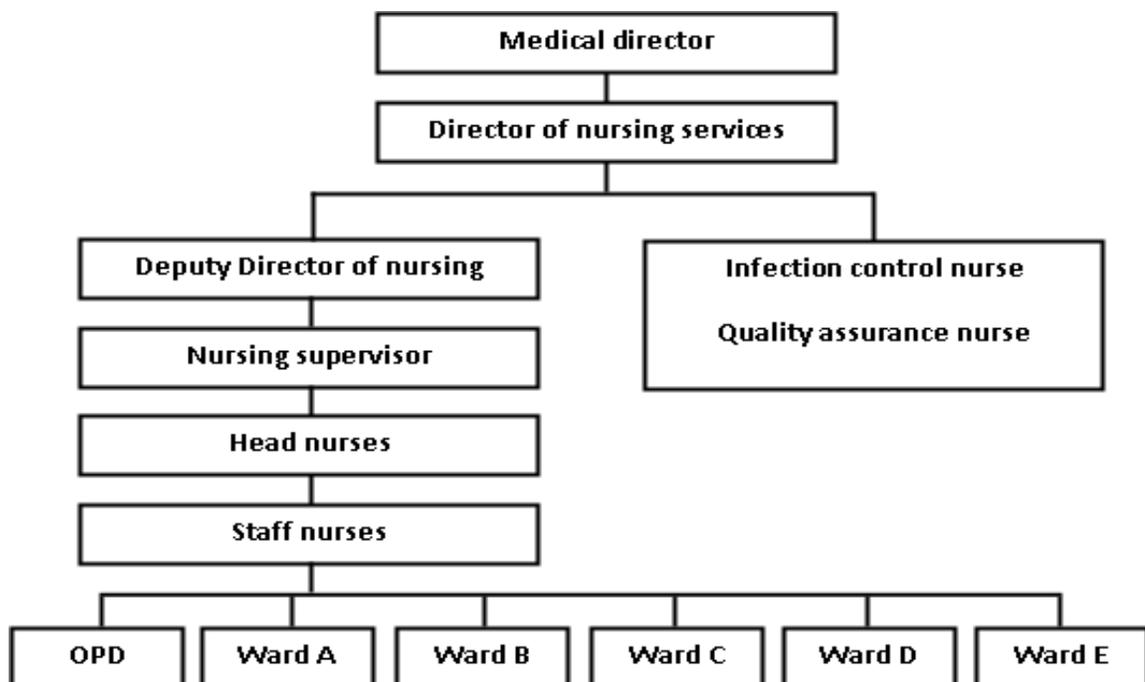


Figure 2.2  
*Nursing Organizations in Hospital Chart*  
 Source: Al-Osimy (2008)

According to Al-Osimy (2008), the duties and responsibilities of staff nurses in Saudi Ministry hospitals include the following: be aware and comprehend nursing

policies and procedures of the hospital, make sure that the care plans are listed and are kept current while keeping patients' welfare into consideration the whole time, make sure that the nursing section regarding the patient's progress are kept updated to accurately correspond with the patient's physical and mental state as well as the patient's response to treatments, keep ward records and statics correctly according to nursing policy, properly use various hospital equipment and maintain economical use of all the hospital resources and keep abreast of all the damaged equipment, maintain all equipment on a daily basis, care for patients through communication, and list down patient care plans and activities of staff.

As shown in Figure 2.2 above, 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 health care organizations.

In 2010, in terms of nationality and gender of the staff nurses in different Saudi health sectors, the majority of them (68.21%) were non-Saudi, while Saudi nurses made up the rest. The majority of nurses (78.97%) were female, while male nurses made up only 27,292 (21.03%). In addition, the majority of nurses in the Ministry of Health made up 51.29% and was non-Saudi, while Saudi nurses made up 48.71% (MOH, 2010).

Nurses working in the Ministry of Health hospitals as well as other health care centers in Saudi Arabia are expected to work 48 hours a week; therefore, they usually work 12-hour shifts or 8 hours a day. These shifts are inclusive of a 15-minute tea break and a 45-minute meal break. The weekly schedule usually consists of 8 hours shifts from Saturday to Friday, with one day off duty accordingly 07:00-15:00, 15:00-23:00, and 23:00-07:00. It is also a policy that the number of scheduled night shifts of each nurse



shall not exceed the scheduled number of day shifts. Those who are working on ‘permanent night shifts’ may be requested to work at least one 4-week period of day shift in the year for the purpose of review of procedures/policies evaluation. However, the “permanent night shift” will be looked into and reconsidered if the employee has weak working habits. Weekends are confined to Thursday and Friday and it is against the policy to schedule an employee for more than five consecutive 12-hour shifts or more than seven consecutive 8 hours shift without previous administrative approval (Al-Osimy, 2008).

Table 2.8

*Basic Salary of Health Personnel at the Ministry of Health (in USD)*

<b>Scale</b>	<b>Level</b>	<b>Nurses</b>	<b>Pharmacist</b>	<b>Physician</b>
First	1	1649	1716	2128
	2	1744	1817	2242
	3	1839	1918	2356
	4	1934	2019	2470
Second	1	2029	2120	2584
	2	2130	2229	2712
	3	2231	2338	2840
	4	2332	2447	2968
Third	1	2433	2556	3096
	2	2542	2672	3238
	3	2651	2788	3380
	4	2760	2904	3522
Fourth	1	2869	3020	3664
	2	2985	3149	3821
	3	3101	3278	3978
	4	3217	3407	4135
Fifth	1	3333	3536	4292
	2	3462	3678	4464
	3	3591	3820	4636
	4	3720	3962	4808
Sixth	1	3849	4104	4980
	2	3991	4260	5165
	3	4133	4416	5350
	4	4275	4572	5535
Seventh	1	4417	4728	5720
	2	4573	4897	5920
	3	4729	5066	6120
	4	4885	5235	6320

Source: Ministry of Civil Service (2010)

In the Kingdom of Saudi Arabia, the Civil Service Law and its bylaws govern civil service employees. The law includes appointment procedures, duties and responsibilities, salaries, allowances, training, performance appraisal, leave, disciplinary actions and retirement (Al-Amri, 2001). On the other hand, the Ministry of Finance has the power of approval of all types of positions for public organizations whether it is hospitals, educational institutions or any other public entity. The Ministry ensures that they manage their fiscal budget expenditures as previously approved by it; it also authorizes amendments in the expenditures and appropriates the monthly salaries and benefits of workers in the public sectors (Al-Senedy, 1986). Table 2.8 indicates the grades and scales of health personnel at the Ministry of Health.

As indicated earlier, earlier works show the nursing profession is not attractive enough for Saudi men and women to join mainly due to the inadequate salary (Al-Hydar & Hamdy, 1997). A close look at Table 2.8 shows that the nursing profession in Saudi Arabia is paid less than the other professions. In addition, work hours are a whopping 48 hours a week, an increment of 30% of the working hours as compared to other professions (Abu Znadeh, 2004). In addition, the income of nurses is minimal as compared to pharmacists and physicians even though it is the only profession that needs the employees to work 24 hours and 7 days a week (Al-Aameri *et al.*, 2007). As a result, many researchers suggest the need for improvement of financial rewards of the nursing profession in Saudi Arabia (Al-Omar, 2003; Bin Saeed, 1995; Jackson & Gary, 1991).

Remuneration and benefits received by foreign nurses employed in public organizations including hospitals are based on one year contract. The total package depends on the expatriate's experience and country of origin. For instance, three nursing

scales are practiced – Western nursing staff salary scale, a Malaysian staff salary scale, and a third world nursing staff salary scale. The reason behind the scales is to facilitate competition with other international as well as national hospitals in the attraction of more nurses (Al-Amri, 2001). As a result of the unstandardized salaries, nurses with the same qualification, experiences and working hours working in the same hospital receive different remunerations and fringe benefits (Bin Saeed, 1995).

Based on the above statistical data and evidence, the future of the nursing sector is bleak and calls for extensive reforms in various perspectives for high quality of service to satisfy the country's citizens and expatriates. According to Abu Ammah (2002), the expectations of the citizens of the country regarding the nursing profession can be materialized by the removal of the social elements attached to the profession.

## **2.5 SUMMARY**

The current chapter has provided an overview of Saudi Arabia's health care system which includes the health resources in the light of the financial, physical and human aspects. In addition, it also discusses the Saudi nursing sector in the Ministry of Health. The following chapter (i.e. Chapter 3) will be about the literature review of the study, and the variables related to nurses' performance. It will also present the relationship between the variables and the formulation of the research hypotheses.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1 INTRODUCTION**

In this chapter, reviews the existing literatures in the fields of job performance, job demand resources, job stress, and organizational support particularly in the context of nursing in the Middle Eastern region are offered. Job performance will be discussed with reference to task performance and contextual performance. Meanwhile, job demands will be discussed with respect to quantitative demands, physical demands, emotional demands as well as shift work. In contrast, job resources are evaluated with reference to Hackman and Oldham's job characteristics model with special emphasis on the core dimensions of the model, which includes skill variations, task significance, task identity, feedback, and job security. This is in addition to a comprehensive account of the Job Demand-Resources model (JD-R). Further, the relationship between JD-R and job performance in addition to job stress will also be assessed. When it comes to organizational support, studies on the relationship between organizational support and job performance and job stress will also be highlighted.

### 3.2 JOB PERFORMANCE

Improving the performance of employees has been a topic of great interest to practitioners as well as researchers (Madsen, John, & Miller, 2005). But what is job performance and how it is measured so that it reflects the individual's contribution, effort and motivation into the job has been a topic of great debate amongst scholars. Indeed, there is no consensus concerning the definition of the term "job performance" among experts.

Merriam Webster Online Dictionary (2010) defines it as the execution of a task through the doing of action. It is in line with Carson, Cardy, and Dobbins (1991), and Ilgen and Favero (1985) define it as work-related behaviours and the resultant outcomes. Campbell, Dunnette, Lawler, and Weick (1970) define job performance as something that is individual in nature. It has also been addressed that job performance refers to the behaviour of employees regardless of the results of that behaviour which is key in differentiating performance from outcomes (Campbell & Campbell, 1988). As behaviour, performance includes both observable actions and unobservable actions such as thought processes and decision making; all of which are under the control of individual employees. This explains that positive performance by an employee does not always lead to a success, because it may be affected by other factors such as the economy and the support of fellow employees (Lawler, 1973).

Earlier, Campbell *et al.* (1970) address eight factors affecting job performance in all occupations: (1) task specific behaviour, (2) non-task specific behaviour, (3) communication, (4) effort, (5) personal discipline, (6) assistance to and from colleagues,

(7) supervision and leadership, and (8) management. Borman and Motowildo (1997) refer task specific behaviour to the activities defined by an employee's job specification and thus vary among employees with different job designations and different roles. On a contrary, non-task specific factors refer to the activities that may be carried out by employees in various roles while at work such as the training of new employees (Campbell *et al.*, 1970). Meanwhile, communication covers all the written and oral methods of transferring information. Besides, an employee's job performance is gauged on the content delivered (Borman & Motowildo, 1997). The effort of an employee in the course of assessing job performance may be looked at on a day to day basis or when the employee is in special circumstances and is a measure of an employee's commitment to his or her work (Campbell *et al.*, 1970). In terms of personal discipline of an employee, it is the history and habits of the employee with certain circumstances (Shuriquie, While, & Fitzpatrick, 2008). In jobs where group work is required, the extent to which an employee is ready, available, and actually helps out his team and his colleagues when needed is used in the assessment of his job performance (Borman & Motowildo, 1997). On the other hand, supervision and leadership are components of many jobs and how an employee executes these is also an indicator of the employee's job performance. On top of that, the managerial and administrative practices are also important, which refer to the tasks which are involved in service towards the organization or to the company as a whole and do not involve any supervision and are part of the assessment of job performance (Campbell *et al.*, 1970).

In the context of nursing, job performance refers to how effective employees are in accomplishing their tasks and responsibilities related to direct patient care (AbuAIRub,

2004; Campbell, McCloy, Oppler, & Sager, 1993; Schwirian, 1978). Greenslade and Jimmieson (2007) asserted that despite the importance of effective nursing performance, only some measurements were constructed for the measurement of nurses' performance. This is compounded by the fact that the developed measurements have limitations which reduces their utility value and validation. Scales such as the Schwirian six-D scale (Schwirian, 1978) and the Slater Nursing Competencies Rating scale (Wandelt & Phaneuf, 1972) created in the 1960s and 1970s (Redfern & Norman, 1990) have been found to have weaknesses and limitations. It is argued that they concentrate on a limited portion of task-specific behaviours that nurses perform within their jobs such as providing care and interpersonal support to patients (Bell & Menguc, 2002). As a result, Greenslade and Jimmieson (2007) developed a well-validated scale to measure job performance, based on an established job performance model. Their scale consists of 41 behaviours with eight dimensions of job performance. These include (1) task performance consisting of four dimensions: provision of informational, coordination of care, provision of support, and technical care, (2) contextual performance consisting of four dimensions: interpersonal support, job-task support, compliance, and volunteering for additional duties. Indeed, Bakker, Demerouti, and Euwema (2005), Bakker *et al.* (2004), and McKenzie, Podsakoff, and Fetter (1991) noted that nurses demonstrated nursing performance in both in-role (task) and extra-role (contextual) behaviours.

The next discussion concentrates on the theoretical distinction between task and contextual performance, the two main facets of job performance as expounded by Borman and Motowildo (1997).

### **3.2.1 Task Performance**

Task performance refers to critical activities in the execution of activities that are specified by the job description. It is also known as “a goal oriented assessment practice” (Campbell & Campbell, 1988). It is also referred to as in-role performance, which focuses on activities that contribute to the organization’s technical core (Borman & Motowidlo, 1997; Guidice & Mero, 2012), and behaviours that directly serve the goals of the organization (Motowidlo & Van Scotter, 1994). This contribution can be both direct (e.g., in the case of production workers), or indirect (e.g., in the case of managers or staff personnel) (Sonnentag & Frese, 2002). Murphy (1989) describes task performance as focusing on role-prescribed activities, which means task performance is formally specified and mandated by the job description (Jawahar & Ferris, 2011; Mohamed & Anisa, 2013). In the nursing context, Greenslade and Jimmieson (2007) stated that task performance incorporated behaviors that were core components of being a nurse.

### **3.2.2 Contextual Performance**

Contextual performance is an aspect of job performance which refers to activities which facilitate the social and psychological growth of the organization (Rotundo & Sackett, 2002). It has also been defined as the behaviour which creates an environment necessary for the execution of activities which lead to the accomplishment of organizational goals and objectives (George & Brief, 1992; Schmidt & Hunter, 1998). Occasionally, contextual performance is referred to as extra-role performance, defined as employee



behaviours that are discretionary believed to directly promote the effectiveness of the organization, without necessarily directly influencing the employee's productivity (Podsakoff & Mackenzie, 1994). In other words, extra-role performance involves actions that go beyond the stated formal job descriptions and that increase organizational effectiveness (Bakker *et al.*, 2004; McKenzie *et al.*, 1991). According to Bakker *et al.* (2004), employees engage in extra-role performance because they have believe there are available resources within the organization they desire (Bakker *et al.*, 2004).

Some of the examples of extra-role behaviours according to George and Brief (1992) include helping co-workers in their assigned tasks, protecting the organization from potential problems, making constructive suggestions to improve the functioning of the organization, and gaining knowledge, skills, and abilities that will benefit to the organization. In other words, contextual performance includes non-job-specific behaviours (Mrayyan & Al-Faouri, 2008). Particularly, Rotundo and Sackett (2002) outlined two types of contextual performance; (1) behaviour that facilitates the smooth running of activities within an organization, and (2) behaviour that seeks to change or improve the work procedures within an organization.

According to Borman and Motowildo (1997), employees are said to display contextual behaviour when they persistently show enthusiasm and extra effort in the course of successful completion of their activities, volunteer to engage in activities that are not part of their job description, help and cooperate with others, follow organizational rules and procedures, interpersonal facilitation, and dedication to their jobs (Sackett, Zedeck, & Fogli, 1988).

As the present study attempts to investigate the factors that affect nurse's job performance, both task and contextual, the next discussion centers on such factors. To help understand nurse's job performance, a job demands-resources model is invoked as it is argued that job performance is mainly influenced by the nature of the job nurses do.

### **3.3 JOB DEMANDS-RESOURCES (JD-R) MODEL**

Developed by Bakker and his associates, the JD-R model can be used as a tool to manage human resources in organizations because it can be applied to a wide range of occupations to improve employee wellbeing and performance (Bakker & Demerouti, 2007; Bakker *et al.*, 2004).

JD-R model argues that the factors or characteristics salient in a work environment determine the performance of employees at work. According to this model, there are two general categories of work environment i.e. job demands and job resources study (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Job demands are the physical, psychological, social and organizational factors which require constant physical and psychological efforts or skills and are therefore linked to physical and psychological costs whereas job resources are the physical, psychological, psychological, social and organizational aspects of a job which enable the achievement of goals and objectives while at the work place, reduce the negative effects associated with job demands to encourage personal growth, learning and development" (Akkermans *et al.*, 2009; Bakker & Demerouti, 2007; Bakker *et al.*, 2005;

Bakker *et al.*, 2003; Brenninkmeijer, Demerouti, le Blanc, & van Emmerik, 2010; Robert & Hockey, 1997; Richardson & Rothstein, 2008).

The model also proposes two psychological processes that take place as a result of the existence of perceived job demands and resources (George & Zhou, 2001). These processes relate to health deficiency and motivation. The health impairment process occurs when jobs are designed badly or those whose demands chronically deplete a worker's mental and physical resources which reduce energy and degrade health situation (Van den Tooren & De Jonge, 2008). The motivational process is where job resources brings forth their motivating potential and cause the workers to show high levels of work engagement, low levels of cynicism and above par performance (Taris, Schreurs, Eikmans, & Van Riet, 2008).

In the present study, the negative psychological process or the health impairment process of job stress is the main focus as it lies at the heart of the model (Bakker *et al.*, 2003; Demerouti *et al.*, 2001) and because every occupation may have its own specific risk factors associated with job stress (Bakker & Demerouti, 2007; Bakker *et al.*, 2004). Next, discussion on the characteristics of work environment of job demands and job resources is offered.

### **3.3.1 Job Demands**

In general, job demands refers to the degree to which the working environment contains stimuli that require some effort (Jones & Fletcher, 1996), which suggests that job demands may lead to negative consequences if they require additional effort to achieve

work goals (Demerouti *et al.*, 2001; Peeters, Montgomery, Bakker, & Schaufeli, 2005; Schmidt & Hunter, 1998). It also refers to aspects of the job that require sustained effort, and, as such incur certain costs as a result (Beutell, 2010). Job demands can be physical, psychological, social, or organizational.

Job demands are usually divided into two: challenge job stressors and hindrance job stressors. The term “hindrance job stressors” refers to “unpleasant, undesirable and excessive” factors in the course of work which get in the way of the ability of an individual to achieve goals associated with the specific job that he or she does such as role conflict, role overload and role ambiguity and are viewed as negative aspects of job demands (Judge, Erez, & Bono, 1998). On the other hand, the term “challenge job stressors” refers to stressors which have the potential to promote the employee’s personal growth and career growth as well and may include factors like high levels of workload, time pressure and numerous responsibilities and are viewed as positive stressors due to their characteristic potential to reward the employee (Cohen-Charash & Spector, 2001).

The following discusses four types of job demands that are purportedly able to contribute to job stress and hence job performance. They are quantitative demands, physical demands, emotional demands, and shift work. These job demands are selected as they reflect the job nurses do.

### **3.3.1.1 Quantitative Demands**

Quantitative demand refers to the amount of work that individuals perceive is expected of them (Bakker *et al.*, 2005; Coetzer & Rothmann, 2007; Farber, 1991; Ganster & Fusilier,

1989; Karasek, 1979; Katz & Kahn, 1966; Rabinowitz & Stumpf, 1987; Van Yperen & Hagedoorn, 2003) within a little time, and operationalized in terms of (high) work pace (Demerouti *et al.*, 2001; Jones & Fletcher, 1996; Le Blanc, Bakker, Peeters, van Heesch, & Schaufeli, 2001; Montgomery, Panagopolou, & Benos, 2006; Peeters *et al.*, 2005; van Emmerik, & Peeters, 2009).

A concept associated with quantitative demand is workload. Broadly speaking, workload may refer to work time commitments such as the number of hours devoted to paid work and work-related activities (Jimmieson, Terry, & Callan, 2004), but it has also been referred to as time pressure, in which individuals perceive they have too many things to do and not enough time to do them (Fronea, Yardley, & Markel, 1997). The two main dimensions of quantitative demands at work seem to be intensity (work pace), also referred to as work pressure (Kwakman, 2001), and extensity (number of working hours) (Kristensen, Bjorner, Christensen, & Borg, 2004).

The quantitative demands could lead to quantitative overloads, which is defined as the amount of work that exceeds what an individual can accomplish in a given period of time (Perrewe & Ganster, 1989). Further, role overload occurs when employees feel they are facing excessive quantitative demands (i.e. there is too much work to do in too little a time), excessive qualitative demands (i.e. they do not have the sufficient skills to do the work at hand), or both (Jex, 1998). Role conflict, defined as having two or more tasks that are incompatible, is also a contributor to workload (Tsutsumi *et al.*, 2008).

One of the factors associated with the increase in the workload among employees is technology. The proliferation of increasingly advanced gadgets such as mobile phones, pagers, fax machines and the internet have made it possible for employees to be in

constant contact with their work and are thus unable to escape from work completely and relax. While at work, these same technological inventions have made it impossible for employees to concentrate on tasks as much as they would want to due to interruptions which are a major cause of stress (Buapetch, Lagampan, Faucett, & Kalampakorn, 2008; Tse, Flin, & Mearns, 2007).

Houtman and Kompier (1995) found that jobs in the health care are characterized by a high degree of job demands, such as high workload and high time pressure. Nurses working in hospitals are under two main quantitative demands (intensity quantitative demands such as work pace and work fast, and extensity quantitative demands such as number of working hours). For instance, nurses work under many types of quantitative demands such as lack of time to do their task, working longer hours per day or week, and faster work pace (Aiken *et al.*, 2002; Aiken *et al.*, 2010; Berliner & Ginzberg, 2002; Costea, 2011; Damit, 2007; Mikkelsen, Ogaard, & Landsbergis, 2005; Peterson *et al.*, 2008; Trinkoff *et al.*, 2010; van der Heijden, Demerouti, Bakker, & Hasselhorn, 2008). Moreover, nurses reported that a quantitative demand was common, especially with not having adequate nursing staff to sufficiently cover the hospital unit or ward as a result of unpredictable staffing and scheduling. Nurses also reported to having to work with extra responsibilities such as having too many non-nursing task, having to work through breaks and in some case having to make decisions under pressure (Damit, 2007).

Reducing workload is significant as Buapetch *et al.* (2008) have shown the negative effects of work overload on individuals, their family, and the organization they work in. To the individual employee, work overload is associated with burnout, negative emotions and feelings which may lead to mental disorders such as depression as well as

drug abuse which lead to a myriad of physical health problems (Tse *et al.*, 2007). The family is also affected by work overload as far as the male or female parent is concerned; an effects that is not so pronounced in the lives of single people. This affects their children if any besides their relations and is one of the reasons that have been given for the high divorce rates in recent decades. The impact of work overload to the organization is the possible loss of employees as many of the employees that experience burnout have been found to eventually leave their jobs as well as less than optimum work that is characterized by errors and which is a point of loss for the organization's resources (Tsutsumi *et al.*, 2008).

Studies have also shown that workloads have negative relationship with nurses' outcomes. For instance, Lautert (1999) found that many nurses experience burnout situations with work overload. Rauhala *et al.* (2007) found that high workload caused increasing cases of work leave. This finding is similar with that reported by Kinnunen *et al.* (2008).

### **3.3.1.2 Physical Demands**

The nature of work has changed from agricultural to industrial, and to knowledge-based. In conjunction, physical demands have either decreased or remained the same from highly industrialized work to work that mostly involves offering services (Kacmar, Collins, Harris, & Judge, 2009). The term physical demand refers to stressors that are associated with the physical setting such as the humidity, lighting, temperature and noise. It is also referred to as the intensity of the effort that is required physically in the course

of working (Michiel *et al.*, 1998; Nahrgang, Morgeson, & Hofmann, 2011). It is operationalized to assess the extent to which the job requires strenuous movements like bending, physical strength, lifting, or carrying objects (Demerouti & Geurts, 2004).

In nursing, nurses regularly have to handle and lift patients (Coggan, Norton, Roberts & Hope, 1994; Engels *et al.*, 1994; Sherehiya, Karwowskia, & Marek, 2004; Tooren & Jonge, 2010). On top of that, nurses also tend to work in awkward positions, stand in a prolonged period of time, and lift loads (Bakker *et al.*, 2003; Estryn-Behar *et al.*, 1990). In short, nursing can be a highly physical, stressful, and demanding job (Czaja, 1995; Kohn, Corrigan, & Donaldson, 2000; McFadzean & McFadzean, 2005; Parkhouse & Gall, 2004; Robinson, 1986; Schwerha & McMullin, 2002; Shephard, 1969; Warr, 1994).

Because nursing job is one of the most physically intensive jobs in the world and as a result, nurses have been found to suffer from more musculoskeletal disorders in comparison to all other occupations in existence (Rotundo & Sackett, 2002). It was found that nurses who had suffered musculoskeletal injuries in the past one year having symptoms in the relevant body parts i.e. the neck, shoulder, and back (Cohen-Charash & Spector, 2001). In addition, the physical demands of the nursing job are so intense that nurses leave the profession. This leads to the shortages in the Middle East and the rest of Asia (Karriker & Williams, 2009).



### **3.3.1.3 Emotional Demands**

Emotional job demands refers to the affective component of work and the degree to which one has to be face emotionally stressful situations because of one's work (Demerouti *et al.*, 2001; Jones & Fletcher, 1996; Montgomery *et al.*, 2006; Peeters *et al.*, 2005; van Emmerik, & Peeters, 2009). It is also defined as the frequency one is exposed to emotionally demanding situations (Bakker *et al.*, 2005) and to those aspects of the job that require sustained emotional effort because of (extensive) contacts with others (Vegchel, Jonge, Soderfeldt, Dormann, & Schaufeli, 2004) and clients (De Jonge & Dormann, 2003).

In the context of nursing, nurses have to deal with emotional demands as they are confronted with various demands, which sometimes are unrealistic, from patients. In addition, nurses also deal with death and dying, death of several patients simultaneously, and having to inform relatives about the death of a patient almost on a continuous basis (Le Blan *et al.*, 2001), which requires emotional investment (Kwakman, 2001). Additionally, it is more intense if they have to deal with things or persons that touch them personally (Demerouti & Geurts, 2004).

Emotional demands at the work place consist of the aspects of works which require constant emotional input from the employees mostly as a result of interactions with clients. Workers in the human services sector are normally faced with a myriad of problems facing their fellow human beings and problems may arise in the course of their work as they relate with their clients (Karriker & Williams, 2009). These types of jobs demand that the workers show an appropriate emotional response which he or she may

not honestly feel (Michiel *et al.*, 1998). Generally, emotional and psychological demands have increased with the change in the nature of work from highly industrialized work to work that mostly involves offering services (Kacmar *et al.*, 2009), which is client-oriented and usually involves intensive application of information technology tools (Witt, Kacmar, Carlson, & Zivnuska, 2002).

In the case of emotional demands, employees must be able to understand the emotions of their clients, regulate their own emotions, and use their emotions to maximize their performance (Peng, Wong, & Che, 2010). When emotional demands are high, employees may have difficulty dedicating their attention and energy efficiently, which negatively affects their performance (Bakker *et al.*, 2004). It is particularly high among nurses work with clients, patients, inmates, and children (Kristensen, Borg, & Hannerz, 2002), in which high work pressure, an unfavourable physical environment, and emotionally demanding interactions are among the crucial job demands (Bakker & Demerouti, 2007; Bakker *et al.*, 2005; Demerouti *et al.*, 2001).

The emotional demands of human service work are associated with consequences such as burnout which is a negative health outcome. It is a result of the interaction with clients in the course of work and is seen as emotional exhaustion, depersonalization, and lack of personal accomplishment (Bakker *et al.*, 2005; Karriker & Williams, 2009). Other studies found that emotional demands in nursing can lead to feelings of exhaustion and negative, callous attitudes toward work (Bakker *et al.*, 2005), leading to emotional strain (Aiken *et al.*, 2001; Bakker, Killmer, Siegrist & Schaufeli, 2000; Bourbonnais, Comeau, & Vezina, 1999; Goodin, 2003; Le Blanc *et al.*, 2001; Rijk, Blanc, Schaufeli, & Jonge, 1998; van der Heijden *et al.*, 2008). As a consequence, nurses have sleepless nights, and

do not recover adequately from the demands faced during the workday, which may eventually lead to a state of breakdown or ill health (van der Heijden *et al.*, 2008). Besides, they are generally unable to perform adequately and the quality of their care declines (Le Blanc *et al.*, 2001).

#### **3.3.1.4 Shift Work**

In modern society, shift work has become a very common phenomenon. Shift work refers to a work arrangement whereby employees go to work in turns to ensure that the services being provided are available around the clock (Jansen, Kant, van Amelsvoort, Nijhuis & van den Brandt, 2003; Karriker & Williams, 2009; Knutsson, 2003; Shen *et al.*, 2006; Smith, Folkard, Tucker, & Macdonald, 1998). It is also defined as working outside the normal daytime hours (Rosa & Colligan, 1997), in which at least 50% of the work is done after 8:00–16:00 hours (Hedges & Sekscenski, 1979). It also involves part-time work and weekend work (Costa, 2003). Nightshift is a common work schedule in health environments (Smith, Kilby, Jorgensen, & Douglas, 2007).

Technically, work shifts are generally covered by two or more teams that relieve each other over a period of 24 hours. Typical work hours may extend from 06:00 to 14:00, 14:00 to 22:00, and 22:00 to 06:00, for the morning, afternoon, and evening shifts, respectively (Kemper, 2001). There are various types of shift work management practices such as the panama schedule, 6 on 6 off, three shift systems, and the four on four off (Gold *et al.*, 1992).

Most of the hospitals throughout the world besides those in the Middle East and Asia ensure that they are constantly staffed through the shift work method (Rotundo & Sackett, 2002). This ensures that there are enough healthcare personnel for the care of the patients at all times (Cook, Campbell, & Day, 1979). While the doctors and the subordinate staff may not always be at work especially at night except in cases of emergencies, there are always nurses at any hospitals at any time which means that they operate in shifts in comparison to other employees at the hospital (Schmidt & Hunter, 1998). But according to Monk and Folkard (1985), employee performance generally tends to be worse on the night shift as those who have to work in a night shift may also suffer from sleep deprivation (Cook *et al.*, 1979; Rose, 1984).

Shift schedules have several characteristics, such as direction of rotation, speed of changeover between various types of shifts, length of single shifts and shift cycles, and positioning of days off, which may influence the fatigue, performance, and well-being of workers (Karlson, Eek, Orbek, & Osterberg, 2009; Peters, De Rijk, & Boumans, 2009). On top of that, Garbarino *et al.* (2002) revealed that shift work interferes to a varying extent with the biological circadian rhythms (such as the sleep/wake cycle) and affects brain function and performance (with increased errors and risks) as well as social and family life. In conjunction, it was found that many shift workers reported discomfort or health problems and as a result they often moved to different occupations (Garbarino *et al.*, 2002; Lin & Hsieh, 2002). As an illustration, the practice has been blamed for causing a myriad of health problems such as cluster headaches, fatigue, and stress, loss of concentration, absenteeism and low libido (Fido & Ghali, 2008). Additionally, the exposure to artificial lighting for whole night interfere the production of the hormone

melatonin which in return increases the risk of suffering from breast cancer as the hormone is a tumour suppressor (Karriker & Williams, 2009), especially among females (Garbarino *et al.*, 2002).

Many studies in Massachusetts, Iran, and Jordan found that shift work had negative impacts on health and well-being (Costa, 1996; Harrington, 2001; Jansen *et al.*, 2003; Knutsson, 2003; Martens, Nijhuis, Van Boxtel, & Knottnerus, 1999; Peters *et al.*, 2009; Smith *et al.*, 2007). Among the effects include higher odds of elevated need for recovery (Jansen *et al.*, 2003), biological disruption to physiological processes, including the sleep-wake cycle (Akerstedt, 1990; Bohle & Tilley, 1989; Harma, Tenkanen, Sjoblom, Alikoski, & Heinsalmi, 1998), dozing off while driving to and/or from work and for being in accidents and errors that were caused by sleepiness (Kacmar *et al.*, 2009), disruption of domestic and social life (Bosch & De Lange, 1987; Monk & Folkard, 1992; Skipper Jr, Jung & Coffey, 1990; Walker, 1985), high absenteeism rate (Johnson, 2001; Motowidlo & Van Scotter, 1994), sleep/wake disruption cycles and dozed off more while at work (Gold *et al.*, 1992), and reduced social contacts and decreased involvement in various social organizations (Sagie & Krausz, 2003).

Despite the negative consequences of shift work, many nurses voluntarily do so. Some willingly accept shift work and some even appreciate it (Adams, Folkard, & Young, 1986; Barton, 1994; Tourigny, Baba, & Wang, 2010). This is because shift work has its advantages such as it enables employees to have a weekday off during a normal work week, and enables them to care for family and fulfil family responsibilities more easily (Ruggiero & Pezzino, 2006). Because employees are likely to organize their work and family lives better due to the flexibility of the work arrangement, they may be less

prone to feel the disruption while working on shifts. In this situation, they are less likely to feel stressed out (Tourigny *et al.*, 2010).

### **3.3.2 Job Resources**

The term job resources refers to the physical, psychological, social or organizational aspects of the job which are necessary in the achievement of goals and objectives, necessary for the reduction of the negative effects of job demands including the associated psychological and psychological costs and which promote personal growth, learning, and development (Bakker & Demerouti, 2007; Bakker & Demerouti, 2008; Bakker *et al.*, 2005; Bakker *et al.*, 2004; Bono & Judge, 2003; Demerouti *et al.*, 2001; van Emmerik *et al.*, 2009; Schaufeli & Bakker, 2004). It is also conceptualized as a kind of energetic reservoir in the work environment that can be tapped when the individual has to cope with job demands (De Jonge & Dormann, 2006; Hobfoll, 1989, 2002).

An approach to handling job resources is Hackman and Oldham's (1980) job characteristics theory, which considers the motivational potential of a job as a function of various work resources, such as job significance, job identity, skill variety and job feedback. Besides, Conservation of Resources theory (COR) (Hobfoll, 1989) is also relevant, which argues that resources lead to the acquisition of new resources, with accumulated resources motivating employees to invest those resources in improving their performance (Hobfoll, 2002).

Hackman and Oldham's job characteristic model places the ability of job resources to motivate employees at the task level which includes autonomy, feedback and

task significance (Bergman, Donovan, Drasgow, Overton, & Henning, 2008). It is based on the thought that motivation of the employee is a direct result of the tasks that compose the work that he or she does and that motivation is associated with three psychological states: meaningfulness of work, responsibility and knowledge of outcomes (Mehta & Shah, 2005; Rotundo & Sackett, 2002). This is line with the COR model, which argues that human beings are largely motivated through the desire to accumulate and preserve resources which is in return enhanced by high job demands (Bono & Judge, 2003). In this case, resources at the work place are esteemed for their ability to generate other new resources or for their ability to preserve the existing resources.

In this study, job resources are located within the job characteristics model that identifies a number of job characteristics that are salient in a nurse's job. They are feedback, skill variety, task significance, and task identity (Bakker & Demerouti, 2007; Bakker *et al.*, 2003; Bakker *et al.*, 2004; van Emmerik *et al.*, 2009; Schmidt & Hunter, 1998). In addition, job security is also pertinent given the context in the Kingdom of Saudi Arabia that employs a large number of foreign nurses. In this situation, job security is a pertinent issue for this group of nurses especially in the light of Saudization policy (refer to chapter two for this policy).

### **3.3.2.1 Skill Variety**

Skills variety, as the name suggests, refers to the incorporation of various skills and talents in the course of undertaking work which is thought to create motivation and establish meaningfulness by eliminating boredom among the employees (Mehta & Shah,

2005; Rotundo & Sackett, 2002). Hackman and Oldham (1980) define skill variety as the level to which the job needs different activities to fulfil it and it needs a person with a number of various skills and talents. Skill variety is considered as the idea that a work possesses and can use different kinds of skills in doing job (Garg & Rastogi, 2006; Graham, 2009). Owing to nursing profession as a job that requires a variety of skills that nurses must have at work, this study defines skill variety as the different skills and talents that all nurses must obtain in order to perform their tasks and duties successfully.

As far as studies about skills variety are concerned, there have been very little that have concentrated on the skills variety by itself and even fewer that have looked at this aspect in health care settings least of all nursing (Kinnunen *et al.*, 2008) in particular in the healthcare setting in the Middle East and Asia. But Bono and Judge (2003) demonstrated the mixture of skills among nurses operating the National Health Service direct line in the UK. The direct line is a telephone service that is available for 24 hours of everyday reaching about 60% of the people of England (Schmidt & Hunter, 1998). Its purpose is to provide health advice to the residents of the United Kingdom and there are various kinds of nurses employed by the programme. The study sought to establish if there were any differences in the advice dispensed by the nurses as far as the length and type of clinical services were concerned. Using a combination of qualitative and quantitative methods, Bono and Judge found that nurses with less than 10 years of clinical experience were less likely to dispose calls to self-care than nurses with more than 20 years of clinical experience. Also, the kinds of clinical background that nurses had have very little effect on the kinds of advice given among all nurses. Additionally, the nurses accepted to be provided with specialized software for their work, but thought it



was not sufficient in the course of their decision making processes. They employed critical thinking on their own and therefore did not find the software provided to be good enough as it did not cover all possible problems and circumstances of individual patients who relied on the services.

### **3.3.2.2 Task Significance**

Task significance is another aspect of meaningful work in the Hackman and Oldham's job characteristic model which promotes motivation among employees. Also, it is one of the components in the Job Diagnostic Survey at the task level of job resources (Bono & Judge, 2003). It is referred to as the extent to which a job is important to people in the community as well as people in the organization (Mehta & Shah, 2005). In other words, task significance refers to the extent the job has an influence on the lives of other people, whether they are in the immediate organization or living in the world at large (Hackman & Oldham, 1975, 1980). Fullagar and Kelloway (2009), Grant (2008), and Grant and Sumanth (2009) agreed that when employees feel that their jobs are insignificant, this can negatively influence their performance. Task significance involves both internal significance (i.e. how important the task is to the organization) and external significance (i.e. how proud employees are to tell their relatives, friends, and neighbours what they do and where they work) (Garg & Rastogi, 2006). Lin and Hsieh (2002) found that if the employees feel that the task they are doing is significant, they will perform at their full efforts.

According to Morgeson and Humphrey (2006), employees whose jobs involve defending and developing human life such as healthcare and protective services tend to have high job significance since these kinds of job affects human's lives. In addition, nurses are the largest human resource element in healthcare organizations, and thus they have a huge impact on the quality of care and patient outcomes (Al-Ahmadi, 2009). Nurses' job has an impact on people's lives and well-being inside and outside of the hospital (Blomqvist & Ziegert, 2011; Gavois, Paulsson, & Fridlund, 2006; Ida *et al.*, 2009; Le Blanc *et al.* 2001; Poggenpoel, Myburgh, & Morare, 2011; van der Heijden *et al.*, 2008). They have significant task in health care delivery especially in hospitals because they tend to provide health care services more than other health care team members (Ida *et al.*, 2009; Poggenpoel *et al.*, 2011) in all countries (Burke, Ng, & Fiksenbaum, 2009). They also provide treatment, comfort and support to life-saving of patients (Le Blanc *et al.*, 2001; van der Heijden *et al.*, 2008). Moreover, nurses play a significant task by being there in sharp situations, giving both physical and emotional comfort especially to the family to cope with the patients in difficult situations (Blomqvist & Ziegert, 2011; Gavois *et al.*, 2006).

### **3.3.2.3 Task Identity**

Erez and Judge (2001), Hackman and Oldham (1975), and Mehta and Shah (2005) described task identity as the visible outcome of completing a task from the beginning to the end, which is very important for job satisfaction. Also, it refers to whether the job has an identifiable beginning and end or how complete a module of work the employee

performs (Garg & Rastogi, 2006). It may function as initiators of a process that leads to work engagement and performance (Bakker & Demerouti, 2007; Fried & Ferris, 1987; Xanthopoulou *et al.*, 2008).

Task identity is similar to task significance in a way that it refers to broader perspectives of work and whether the job has an impact on other people's lives and the extent to what the job entails. Performance has always been linked to individual activities in specific, isolated activities that do not have to have an impact on anyone besides the doer of the task. In the end, employees will perform flawless tasks when the tasks are first identified to them (Fullagar & Kelloway, 2009; Graham, 2009).

Task identity is one of the characteristics of the job characteristic model that is associated with personal growth and development among employees besides enabling them to achieve their goals and objectives while at work (Erez & Judge, 2001). Provision of employees with opportunities to maximize the use of their talents and abilities in the course of working towards achieving clear goals and objectives, they are more likely to perceive the job as being critical in the fulfillment of their personal goals as well. However, research has shown that there is a relationship between task identity and burnout (Griep *et al.*, 2009). In Taiwan, Lin and Hsieh (2002) found that the employees' age is a factor that influences the relationship between task identity and organizational commitment. Meanwhile, in Nigeria, it was found that task identity and job identity have a significant relationship with doctors' experience of burnout (Adebayo & Ezeanya, 2011).

The importance of the completion of tasks by the employees cannot be over emphasized. In the context of nursing, Al-Kandari and Thomas (2009) evaluated the

factors that hindered nurses in Kuwait in completing their tasks while at work. They evaluated the workload of the nurses besides the nursing activities, routine duties or tasks in medical and surgical wards as well as the work which is left undone by the nurses most of the times. From 820 nurses, they found that the tasks which the nurses began but were unable to complete include comfort talk with the patients and their families, proper documentation of nursing care records, oral hygiene, routine catheter care, and the commencement and replacement of IV fluids on time (Fido & Ghali, 1998, 2008). On top of that, they also revealed that the nurses were more likely to complete their tasks when the nurse-patient load was equal to or less than five and while this was influenced by the age and educational background of the nurse, the gender of the nurse had no hand in it (Erez & Judge, 2001).

Based on the discussions in the previous paragraphs, this study deduces that nursing profession is distinctive in its task identity, in which nurses are not expected to perform only a piece of work, but they need to do the job as a whole piece having a beginning and end. Thus, this study defines task identity as the degree to which nurses should complete an identifiable piece of work as a whole.

#### **3.3.2.4 Feedback**

Feedback is a part of Hackman and Oldham job characteristics model (Goldenhar, LaMontagne, Katz, Heaney, & Landsbergis, 2001). It enables employees to have knowledge of the outcomes of the work that they have undertaken or how successful that they have been in converting their efforts into performance. Feedback is defined as the

process where the output part of the system is returned back to the input for more effective output. It refers to objective information about progress and performance brought about from the job itself, from supervisors or from any other information system (Garg & Rastogi, 2006). In other words, job feedback is defined as the direct communication that an employee receives about the task after it is completed (Graham, 2009).

Job feedback can be received from the customer, co-workers or managers and whether it is positive or negative, it needs to be communicated to the performer of the task at a suitable time (Graham, 2009). In performance feedback, jobs differ in the amount and quality of feedback about performance (Bakker *et al.*, 2010). Generally, job feedback directs employees to the big picture so that they can perform tasks better (Bowen & Lawer, 1992). Further, it aids the employees in developing a sense of meaning and purpose of working (Conger & Kanungo, 1988). It is one of the many windows of opportunities for employees to develop and grow their career growth (Mikkelsen, Ogaard, & Lovrich, 2000), and prevent work problems (Bakker & Demerouti, 2007; Bakker *et al.*, 2005). As an intrinsic resource (Bakker *et al.*, 2003), performance feedback is very important, which is a part of job resources (Demerouti *et al.*, 2000; Hackman & Oldham, 1976).

In an organization, feedback is usually divided into constructive feedback and negative feedback (criticism). Conceptually, constructive feedback deals with the progress of the employee and underlines the areas of improvement in stimulating job performance (Williams, 2010). Meanwhile, the negative feedback focuses on the individual and produces nothing but conflict and hatred at the workplace. It provides

internal support, in that it conveys information that can be used to "fine tune" performance strategies which might result in more efficient (reduced) effort expenditure and hence reducing workload (Becker, Warm, Dember, & Hancock, 1991; Macdonald, 2003).

However, studies have shown that most managers do not like the act of giving feedback and they think it is ineffective (van Hooff, Geurts, Kompier, & Taris, 2007). Most employees on the other hand have reported that they hardly have any feedback concerning their work related activities from their employers that they can implement in the course of their work (Viera, 2007). This state of affairs has been attributed to the involvement of strong emotions by the employers and their managers or their supervisors and the lack of knowledge on what needs to be changed or lack of focus on the critical issues (Munz, Kohler, & Greenberg, 2001).

Csikszentmihalyi (1997) argued that the immediate feedback is an important part in experiencing a great performance and it is an important core dimension of the Job Characteristic Model (JCM). Schonberger (1982) and Krafcik (1988) added that the use of feedback information leads to the transparency of the organization. In the healthcare system feedback can result in a timely response that could target performance policy, increase improvement and improve accountability. Any organization is supposed to provide their employees with direct feedback about their performance in order for the success at work. In hospitals, for example, it is necessary that nurses are given feedback regularly since their job is extremely important to the hospital and community. Hence, this study defines feedback as the purposeful information given to nurses about how well

they perform their tasks. Feedback can be obtained from the supervisors and the job itself.

In the course of giving feedback, management should ensure that they focus on specific behaviour and that they are not vague or general (Bakker & Demerouti, 2008; Schaufeli & Bakker, 2004; van Hooff *et al.*, 2007). They should be impersonal in the delivery of the message and should focus on the behaviour or performance of the individual rather than on his or on her personal attributes and should be related to the work, goals and objectives that are at hand (van Hooff *et al.*, 2007). This makes the process of giving feedback an opportunity to solve a problem as opposed to an opportunity to give criticism (Munz *et al.*, 2001). The feedback should be given at a good time with the best time being a short while after the observation of the employee's behaviour continuously (Griep *et al.*, 2009; van Hooff *et al.*, 2007).

Based on the discussions in the previous paragraphs, feedback is deduced as an important part of evaluation of job performance for employees and employers alike (Richardson & Rothstein, 2008). However, most employers, managers, and supervisors give feedback at long and regular intervals; mostly during the annual appraisal of their employees which has less benefit neither for most of the employees nor for the organization (Sonnentag & Niessen, 2008). These kinds of feedback have been found to be unnerving and fear provoking for both the employers and employees (Morris & Feldman, 1996). However, when done in the right environment and with the right intentions, feedback is one of the job resources that can greatly enhance the job performance of the employees (Goldenhar *et al.*, 2001). Therefore, for feedback to have

the desired effect, it should be addressed frequently and carefully to the employees (Griep *et al.*, 2009).

The process of feeding back, no matter how dreadful it is to the employer, supervisor, manager, and the employee is not an end in itself. In order to ensure that the affected parties actually change their behaviour, it is important to provide ongoing support and thus it is important to plan the next step as well as the next review (Goldenhar *et al.*, 2001). Finally, it is important for the employer to get feedback on the feedback that he or she has just given in order to assess its effectiveness besides how it may be improved in future (Goldenhar *et al.*, 2001).

### **3.3.2.5 Job Security**

Job insecurity has been recognized as a chronic condition affecting the general workforce in this digital age (Ito & Brotheridge, 2007; Roskies & Louis-Guerin, 1990). According to Greenhalgh and Rosenblatt (1984), and Ito and Brotheridge (2007), job insecurity concerns not only with the potential loss of employment but also with the uncertainty regarding job and career issues including one's level of responsibility and promotional opportunities. Besides, globalization and continuous international pressure on organizations to perform better with fewer resources are reflected in the changing psychological contracts between employers and employees (Rothmann & Joubert, 2007). Particularly, employees are expected to give more in terms of time, effort, skills and flexibility, whilst job security, career opportunities, and lifetime employment are diminishing (Maslach, Schaufeli, & Leiter, 2001; Rothmann & Joubert, 2007).



Maslow (1943) in his Needs Hierarchy Theory, describes job security as that belonging to physical needs, a lower level of needs and is classified as a basic need to guarantee an employee's safety (Jeon, 2009). It is basically an extrinsic factor as it is controlled by the actions of supervisors or managers (Beardwell & Holden, 1997; Yahaya, Yahaya, Tamyas, Ismail, & Jaalam, 2010). Greenhalgh and Rosenblatt (1984) argued that individuals who perceive that their job is insecure tend to feel powerless to maintain desired continuity in a threatened job situation. This conceptualization treats job insecurity as the sum of the threat to each job feature multiplied by its importance and by the level of one's powerlessness in coping with the threat.

The importance of job-security lies in its critical influence on work-related outcomes (Yahaya *et al.*, 2010). For instance, a high level of job security means the employee would have a small chance of becoming unemployed. Furthermore, it is one of the most important factors that impacts job performance (Ashford, Lee, & Bobko, 1989; Borg & Elizur, 1992), which leads studies to link job insecurity with psychological reactions such as low self-esteem and self-confidence and ultimately low performance (Wiley, 1997).

Researchers tend to compare job security with job insecurity. Job insecurity is defined as perceived threat or reality of job termination or layoff faced by workers (Lee, Wilbur, Kim, & Miller, 2008; Stewart & Barling, 1996). In addition, it refers to the amount of uncertainty a person has about his or her job continuity or continuity of certain aspects of the job (Greenhalgh & Rosenblatt, 1984; Lim & Teo, 2000). The effects of lack of job security for nurses are the same as the effects for lack of job security among any other employees such as anxiety, depression, stress, burnout, poor health, and poor

sleep (Caplan & Jones, 1975; De Witte, 1999; Lim, 1996; Lim & Teo, 2000; Mikkelsen *et al.*, 2000).

Various factors influence job security include the economy whereby there is more job security in times of economic expansion and very little in times of recessions; laws regulating employment and personal factors such as education, work experience, and the work industry (Ilhan, Durukan, Taner, Maral, & Bumin, 2008). Generally, employees of the government particularly in the education, law enforcement, and healthcare sectors are considered more secured in comparison to jobs in the private sector (Siegrist, Wege, Puhlhofer, & Wahrendorf, 2009). In relation, nursing is considered one of the most secured jobs all over the world and in spite of the fact that a nurse may leave the place of employment for one reason or another, finding another job is usually not problematic (Wu, Zhu, Wang, Wang, & Lan, 2007). However, different nurses have different levels of security as far as their employment is concerned; licensed practical nurses have high levels of job security in comparison to other nurses as well as the general employed population. On a contrary, nurses who work in non-hospital settings have relatively less job security in comparison to their colleagues that are employed in hospitals and in particular, government hospitals (Sperlich *et al.*, 2009).

In addition, the healthcare field is one of the fastest growing industries all over the world regardless of the economic situation. This is attributed to the fact that the need for healthcare among the people in the general population is hardly ever influenced by the prevailing economic situation (Van Den Tooren & De Jonge, 2008). However, in spite of the high demand and low supply of individuals to work as nurses, employers have

constantly sought to enhance efficiency besides eliminate costs by downsizing (Wu *et al.*, 2007).

### **3.4 JOB STRESS IN NURSING**

Beehr (1995) defined job stress as a situation in which some characteristics of the work situation are thought to cause poor psychological or physical health, or to cause risk factors making poor health more likely. The National Institute of Occupational Safety and Health (2007) in the USA, and Williams and Anderson (1991) defined job stress as the harmful physical and emotional responses that occur when the requirements of a job do not match the capabilities, resources or needs of the worker. Besides, other definitions map emotions with psychosomatic symptoms such as hypertension, headache, coronary artery disease and peptic ulcer (McLean, 1974), the equilibrium of an individual (Gray-Toft & Anderson, 1981), psychological, physiological or spiritual discomfort that is experienced when environmental stimuli are too demanding or exceed a person's coping strategies (Burnard, 1991).

Hobfoll and Freedy (1993), and Janssen, Schaufeli, and Houkes (1999) argued that stress occurs when (1) resources are threatened by 'demands' (e.g. work overload or role stress), (2) resources are lost, and (3) levels of return do not match one's investments of resources. Further, Le Blanc *et al.* (2001) believe that the reactions (or strains) can be expressed in different ways including physically, behaviourally, and psychologically. In addition, stress-reactions can differ in their intensity. In comparison, McGrath (1976), Karasek, Baker, Marxer, Ahlbom, and Theorell (1981), Payne, Jabri, and Pearson (1988),

Marshall, Barnett, Baruch, and Pleck (1991), Marshall and Barnett (1992), Searle, Bright, and Bochner (1999), Mikkelsen *et al.*, (2000), Kristensen *et al.* (2002), and McGuire and McLaren (2009) have shown that high demands are more stressful than low demands.

Cooper and Payne (1988), and Lazarus and Folkman (1984) have identified a number of variables related to work stress that are classified as external or internal in nature. Particularly, external variables concern with factors that are outside a particular worker and include job, organization, and environment. Meanwhile, internal variables concern with factors related to the workers themselves and is usually described as individual-level influences (Hsieh, 2004).

Some scholars believe that the extent of an employee's stress at the workplace is dependent on the perceptions of his/her abilities and confidence in the process of engaging with challenges he/she may face in the daily life in the organizations where the employee works (Judge, Thoresen, Bono, & Patton, 2001). Similarly, the transactional model of stress proposed by Byrne and Hochwarter (2008), and Lazarus and Folkman (1984) asserts that stress may be considered a result of an imbalance between demands and resources or resulting from situations where the pressure being exerted on an individual is more than the individual's ability. The model considers stress to be the result of the interaction between an individual and their environment whereby it may result in stress if the factors in their environment are viewed negatively as threats but may not result in job stress if they are viewed as challenges (Settoon, Bennett, & Liden, 1996). Thus the existence of stress according to this model is dependent on the perceptions of the individual employee and therefore employees may be trained on the ways to handle situations that have the potential to result in stress. The theory also recommends that the

best technique in the process of stress management is the assessment and appraisal of the stressful event or events and how an employee does this determines the amount of stress that he or she experiences (Mori, Nakashima, Yamazaki, & Kurita, 2002; Wayne, Shore, Bommer, & Tetrick, 2002).

Studies have shown that there are universal predictors of job stress, that is, factors that are related to job stress in employees regardless of their differences such as their places of origin or the nature of the work which they do (Arnold *et al.*, 2005; LePine, Erez, & Johnson, 2002; Lindholm, 2006; Snelgrove, 1998). These factors includes role ambiguity, role conflict, heavy workloads, having little control or influence in decision-making process, tension or conflict with other employees, and job insecurity or the lack of opportunities to develop, to name a few (Koys, 2001). On top of that, Haworth and Levy (2001) discovered that emerging economies and developing countries including inadequate management infrastructure and practices, inadequate organizational planning, unjust labor regulations, compensation and remuneration policies as well as factors that are associated with specific situations such as the status of women, and the amount of overtime are also contributors to stress. In the Middle East, the unique factors include Wasta where employees are able to advance their careers through the status and ranks of the people that they know as opposed to qualification and experience whereas in China, nationalization laws make it impossible for foreign, qualified employees to compete for jobs with locals who may not be a qualified (Tsui & Farh, 1997). This means that a stressful appraisal occurs when individuals perceive that the demands of the environment exceed their resources, thereby endangering their well-being (Carayon, 1992; Cooper & Marshall, 1976, 1978; Lingard, 2003; Voydanoff, 2004).

Due to the characteristics of the job and the working conditions of health professionals, it is not surprising that nurses suffer from stress (Bourbonnais, Comeau, Vezina, & Dion, 1998; Butterworth, Carson, Jeacock, White, & Clements, 1999; Cheng-min & Bor-wen, 2009; Estryng-Behar *et al.*, 1990; Ida *et al.*, 2009; Shen, Cheng, Tsai, Lee & Guo, 2005; Sveinsdottir, Biering, & Ramel, 2006; Tan, 1991; Tyler & Cushway, 1992). Particularly, they have to confront with increasing job demands in line with technology advancements (Decker, 1997; Demerouti *et al.*, 2000; Schaefer & Moos, 1993; Schaufeli, Keijsers, & Reis Miranda, 1995) and people's needs, problems, and suffering (Demerouti *et al.*, 2000), with the intensity of the emotional demands posed by their patients (Cherniss, 1980; Demerouti *et al.*, 2000; Elfering, Grebner, Semmer, & Gerber, 2002; Evans & Steptoe, 2002; Kawano, 2008; Lewinson *et al.*, 1981; Wu, Chi, Chen, Wang, & Jin, 2010).

Based on the discussions in the previous paragraphs, this study deduces that stress among nurses can originate from four sources: caring for patients, making decisions, taking responsibilities and from changes (Brockner, Tyler, & Cooper-Schneider, 1992; Judge *et al.*, 2001). Further, since the mid 1980's, the amount of stress that is associated with nursing work has increased due to the continuous development and improvement of technologies that are used in the health care sector, an increase in the costs of health care and "turbulence" within the work environment (Murphy, Athanasou, & King, 2002). On top of that, Pang *et al.* (2004) demonstrated that the multiple roles nurses have to do contribute to their stress. Nurses have to assume the role of guardian, coordinator, teacher, and advocate in the course of their work. Consequently, they need to improve their knowledge and ability to meet the future demands of their profession.

Job stress has been associated with various undesirable effects in terms of physical, psychological, and behaviour disorders (Lexshimi, Tahir, Santhna, & Nisam, 2007; Organ & Konovsky, 1989) including headaches, disturbed sleep, and difficulty in concentrating, being easily susceptible to viral infections, back pain, insomnia, weight loss, fatigue, anxiety, boredom, irritability, loss of interest in work, depression, committing errors at work, and having frequent clashes with colleagues and other staff (Organ & Konovsky, 1989). Burnout is another effect of job stress that is commonly associated with jobs that require a lot of direct interactions with people such as nursing and is characterized by emotional exhaustion, depersonalization and reduced accomplishment at a personal level (Agho, Price, & Mueller, 1992; Blegen, 1993; Boumans & Landeweerd, 1993; Doncevic, Romelsjo, & Theorell, 1998; Hekman, Bigley, Steensma, & Hereford, 2009; Morrison, Jones, & Fuller, 1997; Way & MacNeil, 2006).

### **3.5 ORGANIZATIONAL SUPPORT**

Organizational support theory is based on the observation that when the leadership and management of an organization show concern about the commitment of the employees towards the organization, the employees reciprocate by showing commitment towards the organization (Eisenberger, Fasolo, & Davis-LaMastro, 1990). The employees view the organization as a source of social and emotional resources such as respect and care; if the organization regards its employees highly, it enables them to meet their emotional needs such as the need for approval, esteem, and association (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001).

Organizational support theory postulates that the extent to which employees think that their organization values their contribution and is interested in their overall wellbeing is known as perceived organizational support (POS) (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Rhoades & Eisenberger, 2002). Perceived organizational support (POS) refers to the organization's contribution to positive reciprocity dynamic with employees as they tend to perform better in a bid to pay back POS (Erdogan & Enders, 2007; Hochwarter, Witt, Treadway, & Ferris, 2006; Rhoades & Eisenberger, 2002). It reflects the quality of the social exchange that takes place between an employee and the employer (Cropanzano & Mitchell, 2005). The development of perceived organizational support (POS) among employees is facilitated by the tendency of employees to assign human like characteristics to the organization and that the actions of the organization's representatives are perceived to portray the mind of the organization itself rather than the personal motives of those representatives (Hekman *et al.*, 2009). This is further facilitated by the legal, moral and financial responsibilities of the organization as far its representatives are concerned.

Laschinger, Purdy, Cho, and Almost (2006) and Rhoades and Eisenberger (2002) found that perceived organizational support (POS) increases if the organization is seen as voluntarily implementing rewards, job enrichment opportunities, and positive workplace policies. The caring, respect, and approval associated with perceived organizational support (POS) fulfils employees' social and emotional needs and their role and social identity becomes integrated with the organization. A high level of perceived organizational support (POS) provides aid to workers (Kraimer, Wayne, & Jaworski, 2001) in terms of socio-emotional needs, equipment, funding, technology, ideas, and



physical assistance (Eisenberger *et al.*, 1986; Hochwarter *et al.*, 2006). Without such resources, achieving quality and quantity performance expectations is difficult (Hobfoll, 1989; Witt & Carlson, 2006). Wayne, Shore, and Liden (1997), and Rhoades and Eisenberger (2002) found that perceived organizational support (POS) strengthens employees' beliefs that the organization recognizes and rewards increased performance or expected behaviours.

In a different study, Eisenberger *et al.* (1986), and Eisenberger *et al.* (1990) found that employees with high levels of perceived organizational support (POS) absent less often and were more conscientious about carrying out their work responsibilities than those with low levels of perceived organizational support (POS). Besides, George, Reed, Ballard, Colin, and Fielding (1993), Babakus, Cravens, Johnston and Moncrief (1996), Rhoades and Eisenberger (2002), Stamper and Johlke (2003), Witt and Carlson (2006), Dawley, Andrews, and Bucklew (2010), and Karatepe (2011) found that perceived organizational support (POS) reduced stress as the organization provides employees with sufficient aid coping with stressful demands at the workplace (Rhoades & Eisenberger, 2002).

In the nursing context, nurses require organizational support to keep them intrinsically motivated since the delivery of patient care is complex (Fairchild, 2010; Moody & Pesut, 2006; Redman & Fry, 2000). With organizational support, nurses are able to succeed in continuing their professional development (Bradley, Campbell, & Nolan, 2005). In fact, there is rising indication that when registered nurses perceive more support, they are likely to be more happy with their job and plan to stay with their present hospital (Hinno, Partanen, Vehvilainen-Julkunen, & Aaviksoo, 2009). In addition,

sufficient organizational support allows nurses to pay out extra time with their patients (Hinno *et al.*, 2009). Because nursing is a stressful profession (AbuAlrub, 2003; Chengmin & Bor-wen, 2009; Dewe, 1987; Emilia & Hassim, 2007), organization support may have protected nurses from the harmful effects of stress by enhancing their self-esteem and communicating that the organization cared for their well-being (George *et al.*, 1993).

In sum, earlier studies on perceived organizational support (POS) among nursing context indicated that perceived organizational support is a key element to increase nurses' job performance (Nabirye, Brown, Pryor, & Maples, 2011), job satisfaction (Burke, 2003; Cai & Zhou, 2009; Galletta, Portoghese, Penna, Battistelli, & Saiani, 2011; Laschinger *et al.*, 2006; Nabirye *et al.*, 2011; Tourangeau, Cranley, Laschinger, & Pachis, 2010), retention (Galletta *et al.*, 2011), job security (Burke, 2003; Laschinger *et al.*, 2006), reduce the job overload (Nabirye *et al.*, 2011); lower levels of burnout (Laschinger *et al.*, 2006), better mental (Laschinger *et al.*, 2006) and physical health (Laschinger *et al.*, 2006), and reduced job stress (AbuAlRub 2004; Armeli, Eisenberger, Fasolo, & Lynch, 1998; George *et al.*, 1993; Jenkins & Elliott 2004; Nabirye *et al.*, 2011). In contrast, previous studies on nurses found that lack of organizational support was associated with negative health outcomes (Bradley & Cartwright, 2002; O'Neill, Vandenberg, DeJoy, & Wilson, 2009). For instance, job dissatisfaction (Lachman, 2010), turnover intention (Cai & Zhou, 2009; Lachman, 2010; Tourangeau *et al.*, 2010).

### **3.6 RELATIONSHIP BETWEEN JOB DEMANDS RESOURCES WITH JOB STRESS AND JOB PERFORMANCE**

As mentioned earlier, the JD-R model distinguishes between two main types of task characteristics: job demands and job resources. Originally, the model aimed at explaining specific adverse work outcomes, such as emotional exhaustion, cynicism, absenteeism, and performance by job demands and job resources (Bakker *et al.*, 2003; Demerouti *et al.*, 2000, 2001; van Emmerik *et al.*, 2009). Now, it offers a cognitive-emotional framework for understanding human performance under stress (Schaufeli & Barker, 2004).

Schaufeli, Leiter, & Maslach (2009b), and Rich, Lepine and Crawford (2010) have expanded the JD-R model to assess the extent to which burnout and engagement predict outcomes such as performance and citizenship behaviours. In general, the model proposes that exhaustion, cynicism, and lack of efficacy on the part of employees are detrimental to performance and lead to higher absenteeism (Bakker & Demerouti, 2007; Bakker *et al.*, 2004; Lazarova, Westman, & Shaffer, 2010). On a contrary, engaged employees will focus on their physical, cognitive, and emotional efforts toward goal attainment, thus leading to higher performance and citizenship behaviours (Rich *et al.*, 2010).

According to Lazarova *et al.* (2010), applying the JD-R model not only allows researchers and practitioners to make sense of the multitude of individual and contextual predictors but also provides a theoretical grounding for the relationship between these predictors and performance. In the aspect of logical flow in the JD-R model, resources lead to positive emotions such as happiness and enthusiasm, better physical and

psychological health, and the ability to create and mobilize more resources. Consequently, employees become engaged in their roles and in return contribute to effective role performance (Ellis, 2008; Lazarova *et al.*, 2010).

In the following sections, previous studies on the JD-R model or its variants are discussed toward the formulation of the research hypotheses.

### **3.6.1 Relationship between Job Demands, Resources and Job Performance**

As indicated earlier, job demands refer to facets of work which require exertion of effort in one or another (Schmidt & Hunter, 1998). In the present study, job demands include physical demands, quantitative demands, emotional demands, and shift work. Meanwhile, job resources refer to the physical, psychological, social, or organizational aspects of the job which are necessary in the achievement of goals and objectives (Bono & Judge, 2003). Job resources in the present study include skill variety, task significance, task identity, feedback, and job security. Job performance on the other hand refers to how successful the behaviour of individual employees is towards the achievement of organizational goals and objectives and includes task performance. Particularly, it involves critical activities in the execution of activities that are specified by the job description and contextual performance which refers to activities which facilitate the social and psychological growth of the organization (Rotundo & Sackett, 2002).

### 3.6.1.1 Relationship between Job Demands and Job Performance

#### (a) Quantitative demands

The first dimension of job demands investigated in this study is quantitative demands. In general, previous studies have shown that quantitative job demands are associated negatively with positive outcomes such as job performance (Bakker *et al.*, 2008; Dwyer & Fox, 2006; Jamal, 2011), task performance and organizational citizenship behaviour towards individual (OCBI) (Panatik, O'Driscoll, & Anderson, 2009), task enjoyment and organizational commitment (Bakker *et al.*, 2010), satisfaction (Akkermans *et al.*, 2009; Dwyer & Ganster, 1991; Mache, Vitzthum, Nienhaus, Klapp, & Groneberg, 2009; Panatik *et al.*, 2009), work engagement (Coetzer & Rothmann, 2007), work ability index (WAI) (Ghaddar, Ronda, & Nolasco, 2011), well-being (as measured in terms of emotional exhaustion, dedication, professional accomplishment and learning) (Tarisa & Schreurs, 2009), nurses' general health (van der Heijden *et al.*, 2008). In contrast, quantitative job demands were found to be associated positively with negative outcomes such as job stress, sleep problems, and decreasing overall physical health (Mintz-Binder & Sanders, 2012), cognitive stress symptoms (Albertsen, Rugulies, Garde, & Burr, 2010), a problematic relationship with superiors (Vanroelen, Louckx, Moors, & Levecque, 2010), burnout (Borritz, 2006; Castanheira & Chambel, 2010; Mintz-Binder & Sanders, 2012; Schaufeli, Bakker, & Van Rhenen, 2009a; Schaufeli *et al.*, 2009b; Zhou, Li, Zhang, Qiu, & Yang, 2010), presenteeism (Demerouti, Blanc, Bakker, Schaufeli, & Hox, 2009), turnover intentions, and anxiety/depression (one component of psychological

strain) (Panatik *et al.*, 2009), work-home interference (van der Heijden *et al.*, 2008), work-family conflict (WIF) (Fuß, Nubling, Hasselhorn, Schwappach, & Rieger, 2008), emotional exhaustion (Akkermans *et al.*, 2009; Bakker *et al.*, 2005; Brenninkmeijer *et al.*, 2010; Montgomery *et al.*, 2006), and job dissatisfaction (De Croon, Blonk, De Zwart, Frings-Dresen, & Broersen, 2002).

In a nursing context, 46% of the nurses working in nursing and care homes in Utrecht, Netherlands reported that job demands negatively influenced their job performance (van Essen *et al.*, 2006 as cited in Peters *et al.*, 2009). In the nursing profession, the kinds of job demands nurses encounter include sicker patients, short staffing, frequent interruptions and working while sick or injured among others besides poor working conditions (Goodman & Blum, 1996; Ovretweit, 1998). Norman, Sloan, and Wyrwich (2003) conducted various studies among nurses in North Carolina and Illinois involving 633 nurses in 71 hospitals sought to investigate the outcomes of various job demands on the nurses' outcome which may be an indicator of their performance. Another outcome that was investigated among these nurses was the development of deep vein thrombosis among post-surgical patients whereby it was found that in hospitals where the nurses reported high psychological demands, there was a higher probability that surgical patients would suffer from deep vein thrombosis (Norman *et al.*, 2003).

Taris *et al.* (2008) found that in institutions where nurses reported higher levels of psychological demands and quantitative demands, there were more deaths among patients that were directly attributable to pneumonia. Furthermore, Taris and his colleagues observed the association between job demands and heart attacks, congestive heart failure stroke and craniotomies and job demands such as awkward postures and heavy weekly

burdens was also established especially among nurses that were working long shifts, particularly at night and nurses that went to work when not feeling well. Similar results were also reported by Fernandez-Lopez, Martin-Payo, Fernandez-Fidalgo, and Rodel (2006). Patients whose nurses were constantly interrupted while a work were found to suffer from post-operative haemorrhaging and patients whose nurses reported lack of time while away from their jobs were found to be more likely to suffer from respiratory failure besides respiratory infections.

Workloads in the nursing context have also been found to result in negative mental health outcomes (Tyler & Cushway, 1995) and stress (Gray-Toft & Anderson, 1983; Kaufmann & Beehr, 1986). Aiken *et al.* (2010) found that one additional patient to the nurse's workload was often connected with a seven percent increase in mortality following common surgeries. In addition, there are other notable issues like insufficient staffing levels, insufficient beds, and paperwork that add to the pressure of the nurse's job (Currid, 2009).

Tzeng (2004) evaluated the nurses' self-assessment of their competency as far as job demands and job resources are concerned in a Taiwanese hospital. Self-evaluation of the nurses' own job performance was considered an indicator of the quality of the nursing care they offered to their patients. The 21 competencies that were investigated in this study were divided into three categories: basic-level patient care skills, intermediate-level patient care and fundamental management skills, and advanced-level patient care and supervision skills. Eight hundred and fifty nurses were randomly selected from the Kaohsiung Nurse Association roster to participate in the study and questionnaires were sent to their homes. Results revealed that the factors that determined the nurses'

satisfaction with their own job performance were self-assessment of intermediate patient care skills, difference between their self-assessment and job demands for basic patient care skills, and their satisfaction with own nursing competencies.

### **(b) Physical demands**

Most previous studies in hospital context have identified physical job demands as patient-related tasks such as lifting and transferring by nurses and nursing assistants (e.g. Brown & Thomas, 2003; Collins & Owen, 1996; Engkvist *et al.*, 1998; Engkvist, Hjelm, Hagberg, Menckel, & Ekenvall, 2000; Evanoff, Bohr, & Wolf, 1999; Evanoff, Wolf, Aton, Canos, & Collins, 2003; Feldstein, Valanis, Vollmer, Stevens, & Overton, 1993; Geiger-Brown *et al.*, 2004; Janowitz *et al.*, 2006; Ostry *et al.*, 2003; Trinkoff, Lipscomb, Geiger-Brown, Storr, & Brady, 2003; Yassi, Cooper, & Tate, 2000; Yassi *et al.*, 2001; Yassi *et al.*, 1995). Moreover, nursing is physically demanding, and nurses have higher rates of musculoskeletal disorders than most other occupational groups (Trinkoff *et al.*, 2003). In addition, low back pain (LBP) is a frequent health complaint among health care personnel (Nabe-Nielsen, Fallentin, Christensen, Jensen, & Diderichsen, 2008). It is generally found that LBP is more frequent among nursing personnel than many other occupational groups (Nabe-Nielsen *et al.*, 2008; Punnett & Wegman, 2004; Xu, Bach, & Orhede, 1997). According to Pope, Silman, Cherry, Pritchard, and Macfarlane (1998), the high prevalence of musculoskeletal disorders in physically demanding occupations is a well-documented feature of both cross-sectional surveys and cohort studies.



Previous studies have shown that physical job demands are with negatively related to positive outcomes such as job satisfaction (Humphrey, Nahrgang, & Morgeson, 2007; Nahrgang *et al.*, 2011), compliance (Nahrgang *et al.*, 2011), nurses' health (van der Heijden *et al.*, 2008), organizational downsizing (Kivimäki, Vahtera, Pentti, & Ferrie, 2000), and employee well-being (Tuomi, Vanhala, Nykyri, & Janhonen, 2004). In contrast, physical job demands were found to be positively related to negative outcomes such as reported neck, shoulder, and back musculoskeletal disorders cases (Trinkoff *et al.*, 2003), musculoskeletal complaints (Choobineh, Rajaeefard, & Neghab, 2006; Leroux, Dionne, Bourbonnais, & Brisson, 2005), increased prevalence of low back pain (LBP) (Aasa, Barnekow-Bergkvist, Angquist, & Brulin, 2005; Fernandes, Carvalho, Assuncao, & Neto, 2009; Nabe-Nielsen *et al.*, 2008), risk factor for musculoskeletal disorders (MSDs) among homecare workers (Devereux, Vlachonikolis, & Buckle, 2002; Kim, Geiger-Brown, Trinkoff, & Muntaner, 2010; Menzel, 2007), shoulder pain (Pope, Silman, Cherry, Pritchard, & Macfarlane, 2001), work-home interference (van der Heijden *et al.*, 2008), presenteeism (Demerouti *et al.*, 2009), exhaustion (Bakker *et al.*, 2005), inadequate sleep, confidence interval, and pain medication (Trinkoff, Storr, & Lipscomb, 2001), work injury in both sexes (Wilkins & Beudet, 1998), work disability (Eberhardt, Larsson, & Nived, 1993; Garg & Moors, 1992; Tuomi *et al.*, 2004; Wolfe & Hawley, 1998), fatigue and job dissatisfaction (De Croon *et al.*, 2002), and activity limitation (Aasa *et al.*, 2005).

Statistics in the United States showed that about 12% of nurses left their nursing workplace due to back pain in 2000 (Bell, Colins, Galinsky, & Waters, 2008). In addition, Trinkoff *et al.* (2001) found significant links among eight physical demands and

inadequate sleep, pain medication use, and absenteeism on 3727 working registered nurses (RNs). Among the demands, awkward head/arm postures were associated with each outcome (inadequate sleep; confidence interval; pain medication; absenteeism). Other studies indicated that low perceived physical demands reduced negative outcomes such as injury rates. For instance, Smith and Mustard (2004) observed that injury rates were reduced across each grouping of lower physical demands at work, with the largest absolute differences in manual occupational groups (high physical demands).

While studies have generally found a strong support for the association between physical demands and job-related outcomes such as performance, some researchers reported mixed findings. For instance, the effects of physical demands on cognitive task performance and situational awareness were studied by Perry, Sheikh-Nainar, Segall, Ma, and Kaber (2008). Sixteen respondents were involved. They participated in a military operations simulation, directing the loading of helicopters to weight capacity within a prescribed time frame and with the guidance of specific rules. The participants were required to stand, walk, or jog on a treadmill while performing the task. The task performance was assessed through the rates and accuracies in the helicopter loading. At the end, they found that the physical demands were higher when jogging than when walking or standing but they did not seem to affect the cognitive task performance.

Insignificant findings have also been reported by Motowildo, Borman, and Schmit (1997). Specifically the researchers attempted to find out if the muscle strength was related to task performance and to low backload in the course of carrying out nursing duties. The activities that were assessed were trunk extension, elbow flexing, and knee extension strength among 17 nurses as far as the independent effects of muscle strength

on task duration, jerkiness of effort and L5-S1 torque were concerned in the course of administration of care to patients. In spite of a large variation in muscle strength among the individuals that participated in the study, there was no observable effect on task duration, jerkiness of effort and L5-S1 torque. Therefore, poor muscle strength was found to not be related to increased low back load. The researchers attributed the insignificant relationship to the inability of the nurses to withstand the mechanical load that would put them at risk as opposed to an increase in the mechanical load.

### **(c) Emotional demands**

Earlier studies about relationship between the third component of this study and outcomes indicated that emotional job demands were associated negatively with positive outcomes such as enjoyment and commitment (Bakker *et al.*, 2010), emotional exhaustion (Akkermans *et al.*, 2009), work ability index (WAI) (Ghaddar *et al.*, 2011), well-being (Tarisa & Schreurs, 2009), and nurses' health (van der Heijden *et al.*, 2008). In contrast, emotional job demands were associated significant positively with negative outcomes such as high levels of stress, sleep problems, and decreasing overall physical health (Mintz-Binder & Sanders, 2012), intention to leave (Li *et al.*, 2010), long term sickness absence (Bjorner & Pejtersen, 2010; Clausen, Nielsen, Carneiro, & Borg, 2012; Rugulies, Aust, & Pejtersen, 2010), a problematic relationship with superiors (Vanroelen *et al.*, 2010), burnout (Akkermans *et al.*, 2009; Borritz, 2006; Zhou *et al.*, 2010; Mintz-Binder & Sanders, 2012; Montgomery *et al.*, 2006; Schaufeli *et al.*, 2009a), work-home

interference (van der Heijden *et al.*, 2008), the experience of adverse events (Tsutsumi, Umehara, Ono, & Kawakami, 2007), and cynicism (Bakker *et al.*, 2005).

Bakker and Heuven (2006) involved 108 nurses and 101 police officers in studying whether emotionally demanding interactions were responsible for emotional dissonance which is responsible for impairment of performance. They found that emotional demands affect the variance in burnout especially with reference to exhaustion, cynicism and disengagement through their impact on emotional dissonance. Additionally, emotional dissonance was found to negatively impact the in-role performance through its relationship with burnout.

In another study, Grantcharov, Bardram, Peter, and Rosenberg (2001) investigated the effects of sleep deprivation on the accomplishment of simulated laparoscopic operations among laparoscopic surgeons. They revealed that the surgeons experienced impaired speed and accuracy when performing simulated laparoscopic surgeries after a night on call even after just 17 hours which was thought to be compounded by the emotional demands that were involved in their work besides emergency workload and stress.

#### **(d) Work shift**

Previous studies on the relationship between work shift and job performance indicated the negative relationship associated between them. For instance, Browne (1949), Bjerner, Holm, and Swensson (1955), Hart, Ward, Haney, Nasser, and Foltin (2003), Sharkey, Fogg, and Eastman (2001), and Tilley, Wilkinson, Warren, Waston, and Drud (1982)

documented the diminished performance among shift workers, particularly night workers. They identified that psychomotor performance and subjective-effects ratings were altered during the night shift compared with the day shift. Besides, many authors have shown increase in fatigue, or decrease in alertness and performance, over the course of the night shift (Coffey, Skipper, & Jung, 1988; Fitzpatrick, While, & Roberts, 1999; Folkard, 2008; Folkard, Spelten, Totterdell, Barton, & Smith, 1995; Graw, Krauchi, Knoblauch, Wirz-Justice, & Cajochen, 2004; Li, Yang, Cheng, Siegrist, & Cho, 2005; Lowden, Akerstedt, & Wibom, 2004; Moore-Ede & Richardson, 1985; Rödel, Siegrist, Hessel, & Brähler, 2004; Tucker, Smith, Macdonald, & Folkard, 1999; Wright Jr., Hull, & Czeisler, 2002).

Besides, rotating shift work was also found to be associated with sleep disturbance (Crowley, Lee, Tseng, Fogg, & Eastman, 2004; Eastman & Martin 1999; Kirkpatrick *et al.*, 2009; Ohayon, Lemoine, Arnaud-Briant, & Dreyfus 2002) and performance impairment (Cartwright, 2000; Gold *et al.*, 1992; Hart *et al.*, 2003; Kemper, 2001; Knutsson, 2004). Additionally, work shift was found to affect health status and occupational performance (Baba & Jamal, 1991; Coffey *et al.*, 1988; Czeisler, Walsh, Wesnes, Arora, & Roth, 2009; Johnson, Chisholm, & Weatherman, 2008; Ohayon *et al.*, 2002) and higher risk of injury or accident (Leger, 1994; Smith *et al.*, 2007). In short, shift work can seriously affect the well-being of employees (Baba, Jamal, & Tourigny, 1998; Galy, Melan, & Cariou, 2008; Tourigny *et al.*, 2010).

### **3.6.1.2 Relationship between Job Resources and Job Performance**

As far as the JD-R model is concerned, it has been consistently found that job resources are positively related to job performance (Bakker *et al.*, 2008), work engagement (Bakker & Demerouti, 2007; Brenninkmeijer *et al.*, 2010; Coetzer & Rothmann, 2007; Crawford, LePine, & Rich, 2010; Demerouti *et al.*, 2001; Hakanen, Bakker, & Schaufeli, 2006; Hansez & Chmiel, 2010; Llorens, Bakker, Schaufeli, & Salanova, 2006; Nahrgang *et al.*, 2011; Schaufeli & Bakker, 2004; Schaufeli *et al.*, 2009a) job satisfaction (Brenninkmeijer *et al.*, 2010), affective commitment (Brenninkmeijer *et al.*, 2010), task enjoyment and commitment (Bakker *et al.*, 2010), perceived management commitment to safety (Hansez & Chmiel, 2010), and organizational commitment (Llorens *et al.*, 2006; Mathieu & Zajac, 1990). In contrast, job resources were found to be negatively related to burnout (Bakker *et al.*, 2005; Crawford *et al.*, 2010; Nahrgang *et al.*, 2011; Rothmann & Joubert, 2007), and disengagement from work (Bakker & Demerouti, 2007; Demerouti *et al.*, 2001).

The following discusses each job resource considered in the present study.

#### **(a) Job characteristics (skill variety, task identity, task significance and feedback)**

Job characteristics (skill variety, task identity, task significance, and job feedback) contribute positively to experienced meaningfulness, experienced responsibility, and knowledge of results. Stronger experiences of these “critical psychological states”, in turn, lead to more positive attitudinal (e.g. increased job satisfaction) and behavioural

(e.g. better performance) responses to work (Bakker *et al.*, 2010; Fried & Ferris, 1987; Humphrey *et al.*, 2007). Job characteristics variables were presumed to be desirable for employees and, logically, should result in overall higher job performance (Dwyer & Fox, 2006).

Previous studies indicated that job characteristics were associated with job-related outcomes such as high-quality work performance, job satisfaction, and low absenteeism, among others (Cheney, 1984; Coetzer & Rothmann, 2007; Fried & Ferris, 1987; Hirschfeld, Schmitt, & Bedeian, 2002; Millette & Gagne, 2008; Rentsch & Steel, 1998; Schaufeli & Barker, 2004; Taber & Taylor, 1990). Task identity was also found to be significantly and positively related to two objective performance measures: call duration and waiting time (Dwyer & Fox, 2006). Task identity and feedback showed a negative association with anxiety and exhaustion (Xie & Johns, 1995). Skill variety and task significance were related to computer programmer productivity and job satisfaction (Cheney, 1984), and generally associated with lower absenteeism (Fried & Ferris, 1987; Hirschfeld *et al.*, 2002; Rentsch & Steel, 1998; Taber & Taylor, 1990).

For instance, Demerouti (2006) conducted a study to examine the relationship between flow at work and job performance. Results indicated that motivating job characteristics (skill variety, task identity, task significance, autonomy, and performance feedback) were able to predict flow, which consequently predicted in-role and extra-role performance. Later, Grant (2008) investigated whether task significance increases job performance. His study found that task significance intervention increased the levels of job performance among fundraising callers, and task significance increased the job dedication and helping behaviour of life guards.

Furthermore, performance feedback was found to be positively related to job performance, work engagement, job satisfaction, influence, task enjoyment, organizational commitment, and productivity (Bakker & Bal, 2010; Bakker *et al.*, 2010; Brass, 1985; Chakrabarty, Oubreb, & Brown, 2008; Cheney, 1984; Crawford *et al.*, 2010), and in-role and extra-role performance (Demerouti, 2006). Moreover, feedback and both job satisfaction and job performance were significantly higher among the managers high in need for achievement and need for independence than among those low in these needs (Orpen, 1985). Positive feedback seems to enhance work engagement levels, whereas negative feedback diminishes it (Coetzer & Rothmann, 2007). On the other hand, performance feedback was negatively related to negative outcome. For instance, performance feedback had a negative relationship with exhaustion and cynicism (Bakker *et al.*, 2005), burnout (Schaufeli *et al.*, 2009a), and anxiety and exhaustion (Xie & Johns, 1995). For instance, Murphy, Michael, Robbins, and Sahakian (2003) investigated the relationship between the responses of individuals to performance feedback and the development of mental illnesses as well as the ability of the individuals to use the feedback advantageously in order to enhance their performance. They found that negative misleading feedback disrupted the performance of the individuals and compounded their mental illnesses.

#### **(b) Job (in)security**

The fifth component of job resources is job security. Previous studies indicated that job security as job resource was associated positively with positive outcomes and negative



relationship with negative outcomes. Job security associated positively with job performance (Frenkel & Lee, 2010; Kraimer, Wayne, Liden, & Sparrowe, 2005; Rehman, 2010 as cited in Rehman, 2011; Yousef, 1998), product/service performance (Akhtar, Ding, & Ge, 2008), higher levels of job satisfaction (Noble, 2008), benefit perceptions (Kraimer *et al.*, 2005), employee organizational commitment (Gong & Chang, 2008; Yousef, 1998), and trust in organization (Wong, Ngo, & Wong, 2002). In contrast, job security was found to be associated negatively with the intention to quit (Arnold & Feldman, 1982; Ashford *et al.*, 1989; Wong *et al.*, 2002).

According to Probst (2002), job insecurity has been shown to have multiple negative effects on employees. For instance, job insecurity was shown to have negative relationships with work performance (in-role performance and extra-role performance), job satisfaction, organizational commitment, affective commitment, intention to quit and resistance to change, trust, job involvement, effort, psychological and physical health (Cartwright & Cooper, 1993; Cheng & Chan, 2008; Debus, Probst, Konig, & Kleinmann, 2012; Dekker & Schaufeli, 1995; Feather & Rauter, 2004; Hellgren, Sverke, & Isaksson, 1999; Reisel, Chia, & Maloles, 2005; Rosenblatt & Ruvio, 1996; Sharma, Gassenheimer, & Alford, 2010; Staufenbiel & Konig, 2010; Sverke & Hellgren, 2002).

Wong *et al.* (2002) conducted a study to examine the factors affecting ventures' affective commitment in the People's Republic of China. Results indicated that perceived job security was significantly and positively related to trust in organization but was significantly and negatively related to turnover intention. In 2008, Cheng and Chan conducted a meta-analysis on 133 studies to examine the moderating effects of organizational tenure, age, and gender on the relationship between job insecurity and its

job-related and health-related consequences. Results showed that job insecurity was negatively related to job satisfaction, organizational commitment, psychological health, physical health, work performance, trust, and job involvement, but was positively related to turnover intention. Recently, Staufenbiel and Konig (2010) conducted a study on 136 German non-managerial employees to investigate the effects of job insecurity on four organizationally important outcomes: in-role performance, organizational citizenship behaviour, turnover intention, and absenteeism. Results indicated that insecurity caused lower in-role performance and extra-role performance (OCB), but higher turnover intention. In another study in Beijing, Lee, Joshi, Kim, and Lee (2008) found that a sense of job security influenced performance.

After a thorough review and analysis of the existing literature regarding the effect of job demands resources (JDR) on job performance, the study came up with the following hypothesis:

**H1: Job demands are negatively related to hospital nurses' task performance (provision of information).**

*H1a: Quantitative demands are negatively related to provision of information.*

*H1b: Physical demands are negatively related to provision of information.*

*H1c: Emotional demands are negatively related to provision of information.*

*H1d: Shift work is negatively related to provision of information.*

**H2: Job resources are positively related to hospital nurses' task performance (provision of information).**

*H2a: Skill variety is negatively related to provision of information.*

*H2b: Task significance is negatively related to provision of information.*

*H2c: Task identity is negatively related to provision of information.*

*H2d: Feedback is negatively related to provision of information.*

*H2e: Job security is negatively related to provision of information.*

**H3: Job demands are negatively related to hospital nurses' task performance (coordination of care).**

*H3a: Quantitative demands are negatively related to coordination of care.*

*H3b: Physical demands are negatively related to coordination of care.*

*H3c: Emotional demands are negatively related to coordination of care.*

*H3d: Shift work is negatively related to coordination of care.*

**H4: Job resources are positively related to hospital nurses' task performance (coordination of care).**

*H4a: Skill variety is negatively related to coordination of care.*

*H4b: Task significance is negatively related to coordination of care.*

*H4c: Task identity is negatively related to coordination of care.*

*H4d: Feedback is negatively related to coordination of care.*

*H4e: Job security is negatively related to coordination of care.*

**H5: Job demands are negatively related to hospital nurses' task performance (provision of support).**

*H5a: Quantitative demands are negatively related to provision of support.*

*H5b: Physical demands are negatively related to provision of support.*

*H5c: Emotional demands are negatively related to provision of support.*

*H5d: Shift work is negatively related to provision of support.*

**H6: Job resources are positively related to hospital nurses' task performance (provision of support).**

*H6a: Skill variety is negatively related to provision of support.*

*H6b: Task significance is negatively related to provision of support.*

*H6c: Task identity is negatively related to provision of support.*

*H6d: Feedback is negatively related to provision of support.*

*H6e: Job security is negatively related to provision of support.*

**H7: Job demands are negatively related to hospital nurses' task performance (technical care).**

*H7a: Quantitative demands are negatively related to technical care.*

*H7b: Physical demands are negatively related to technical care.*

*H7c: Emotional demands are negatively related to technical care.*

*H7d: Shift work is negatively related to technical care.*

**H8: Job resources are positively related to hospital nurses' task performance (technical care).**

*H8a: Skill variety is negatively related to technical care.*

*H8b: Task significance is negatively related to technical care.*

*H8c: Task identity is negatively related to technical care.*

*H8d: Feedback is negatively related to technical care.*

*H8e: Job security is negatively related to technical care.*

**H9: Job demands are negatively related to hospital nurses' contextual performance (interpersonal support).**

*H9a: Quantitative demands are negatively related to interpersonal support.*

*H9b: Physical demands are negatively related to interpersonal support.*

*H9c: Emotional demands are negatively related to interpersonal support.*

*H9d: Shift work is negatively related to interpersonal support.*

**H10: Job resources are positively related to hospital nurses' contextual performance (interpersonal support).**

*H10a: Skill variety is negatively related to interpersonal support.*

*H10b: Task significance is negatively related to interpersonal support.*

*H10c: Task identity is negatively related to interpersonal support.*

*H10d: Feedback is negatively related to interpersonal support.*

*H10e: Job security is negatively related to interpersonal support.*

**H11: Job demands are negatively related to hospital nurses' contextual performance (job-task support).**

*H11a: Quantitative demands are negatively to related job-task support.*

*H11b: Physical demands are negatively related to job-task support.*

*H11c: Emotional demands are negatively related to job-task support.*

*H11d: Shift work is negatively related to job-task support.*

**H12: Job resources are positively related to hospital nurses' contextual performance (job-task support).**

*H12a: Skill variety is negatively related to job-task support.*

*H12b: Task significance is negatively related to job-task support.*

*H12c: Task identity is negatively related to job-task support.*

*H12d: Feedback is negatively related to job-task support.*

*H12e: Job security is negatively related to job-task support.*

**H13: Job demands are negatively related to hospital nurses' contextual performance (compliance).**

*H13a: Quantitative demands are negatively related to compliance.*

*H13b: Physical demands are negatively related to compliance.*

*H13c: Emotional demands are negatively related to compliance.*

*H13d: Shift work is negatively related to compliance.*

**H14: Job resources are positively related to hospital nurses' contextual performance (compliance).**

*H14a: Skill variety is negatively related to compliance.*

*H14b: Task significance is negatively related to compliance.*

*H14c: Task identity is negatively related to compliance.*

*H14d: Feedback is negatively related to compliance.*

*H14e: Job security is negatively related to compliance.*

**H15: Job demands are negatively related to hospital nurses' contextual performance (volunteering for additional duties).**

*H15a: Quantitative demands are negatively related to volunteering for additional duties.*

*H15b: Physical demands are negatively related to volunteering for additional duties.*

*H15c: Emotional demands are negatively related to volunteering for additional duties.*

*H15d: Shift work is negatively related to volunteering for additional duties.*

**H16: Job resources are positively related to hospital nurses' contextual performance (volunteering for additional duties).**

*H16a: Skill variety is negatively related to volunteering for additional duties.*

*H16b: Task significance is negatively related to volunteering for additional duties.*

*H16c: Task identity is negatively related to volunteering for additional duties.*

*H16d: Feedback is negatively related to volunteering for additional duties.*

*H16e: Job security is negatively related to volunteering for additional duties.*

### **3.6.2 Relationship between Job Demands, Job Resources and Job Stress**

This section looks at the empirical studies on the relationship between job demands, job resources, and job stress. Job demands are usually associated with causing job stress in employees whereas job resources are credited with reducing the impact of job demands in the causation of job stress besides other negative effects (Fernandez-Lopez *et al.*, 2006).

As mentioned earlier, the Job Demands-Resources (JD-R) model is used to explain the effect of job demands and resources on job stress. At the heart of this model (Bakker & Demerouti, 2007; Bakker *et al.*, 2003; Demerouti *et al.*, 2001) lies the assumption that every occupation may have its own specific risk factors associated with job stress. Job demands are usually associated with causing job stress in employees (Fernandez-Lopez *et al.*, 2006). For instance, high levels of quantitative and emotional work demands were found to correlate with high levels of stress (Mintz-Binder & Sanders, 2012). Parry-Jones *et al.* (1998) indicated that increased workload of nurses were the main sources of stress. In addition, both role overload and shift work had a significant positive effect on job stress (Tourigny *et al.*, 2010). Rotating shift work is positively correlated with job stress. Shift work disruption is positively correlated with job stress (Jamal & Baba, 1992; Tourigny *et al.*, 2010). Similarly, Leonard, Bourke, and

Schofield (2000) found that 25% of employees' workload among other management issues as the cause for stress at the workplace.

Baba and Jamal (1991), and Lang *et al.* (2007) have found a link between job demands and employee strain. Particularly, Xie (1996) associated jobs characterized by high demands and low control with the highest stress. Also, Hipwell, Tyler and Wilson (1989), Parry-Jones *et al.* (1998), and Hammer, Saksvik, Nytro, Torvatn, and Bayazit (2004) indicated that increased workload of nurses and administrative works as well as decreased contact with clients were the main sources of stress. Similarly, Williams, Dale, Glucksman, and Wellesley (1997), Wilkes *et al.* (1998), TholdyDoncevic, Romelsjo, and Theorell (1998), Weinberg and Creed (2000), Pinikahana and Happell (2004), Tyson and Pongruengphant (2004), and Pal and Saksvik (2008) found that workload was the biggest stressor at the workplace followed by inadequate preparation of psychiatric nurses. In addition, job demands and relationships at work are significant stressful psychosocial work environments (House, 1981; Israel, House, Schurman, Heaney, & Mero, 1989; Park, & Wilson, 2003). Karasek and Theorell (1990) found that psychosocial job demands along with time pressure and conflicts were also significant sources of risk for stress-related illness (Lindholm, 2006).

As mentioned earlier, job resources are credited with reducing the impact of job demands that cause job stress and other negative effects (Fernandez-Lopez *et al.*, 2006). Hackman and Oldham (1976, 1980) proposed that job characteristics increase an employee's sense of responsibility. However, job characteristics have potential negative effects on workers and their work such as stress (Chen & Chiu, 2009; Fogarty & Kalbers, 2000; Martin & Wall, 1989; Pierce, Jussila, & Cummings, 2009; Xie & Johns, 1995).



Moreover, different works in varying locations create diverse job characteristics more or less likely to create job stress such as conflict, ambiguity, and overload (Evans, Kiggundu, & House, 1979). In addition, Xie and Johns (1995), and Chen and Chiu (2009) stressed that the possible negative influences of job characteristics on employees and workplace need further examine in future studies.

Many studies have investigated the relationship between job characteristics and job stress variables (Fogarty & Kalbers, 2000). To summarize the literature on job design and stress, previous research has focused on a linear, negative relationship between job scope (characteristics) and stress (Jackson & Schuler, 1985). In other words, low job characteristics are often associated with stressful contextual factors (Baba & Jamal, 1991; Fogarty & Kalbers, 2000; Poulton, 1978; Shostak, 1980; Xie & Johns, 1995). For instance, insufficient communication and lack of performance feedback about job performance are significant contributors to stress (Collins & Killough, 1989). When an employee does not receive acknowledgement, his/her job is depreciated (Olofsson, Bengtsson, & Brink, 2003).

While earlier studies indicated that high performance feedback was associated with low stress (Fogarty & Kalbers, 2000), dysfunctional performance feedback appears to be associated with high all the forms of job stress (Fogarty & Kalbers, 2000). For instance, Fogarty and Kalbers (2000) conducted study to investigate the relationship between job characteristics, role stress (role ambiguity, role conflict, and role overload) and professionalism. The results revealed that feedback was negatively significantly related to all dimensions of role stress. Herold, Leatherwood, and Liden (1987) indicated that feedback from co-worker, supervisors, and job had significantly negatively related to

mental stress and role ambiguity. Burke (1988) stated that lack of job resources such as performance feedback was associated with managerial stress. Andrews and Kacmar (2001) indicated that feedback from job and supervisor decreased the feelings of role ambiguity. Feedback from organization also decreased feelings of role conflict, role ambiguity, and job stress (Andrews & Kacmar, 2001). Teas (1983) found that feedback significantly and negatively related to role ambiguity. Adriaenssens, Prins, and Vloeberghs (2006) conducted a study on stress among academic university staff. The results indicated that lack of feedback was one of the elements most likely to cause job stress. Russell, Altmaier and Van Velzen (1987) found that teachers who reported that they had supportive supervisors and stated that they received positive job feedback about their skills and abilities from others were less likely to face burnout (Russell *et al.*, 1987). In contrast, lack of feedback and support were acknowledged as causing additional job stress in teachers (Brown & Nagel, 2004; Kyriacou, 2001). In addition, Pousette and Jacobsson (1999), and Jacobsson, Pousette, and Thylefors (2001) showed that negative feedback was positively related to role ambiguity (stress reactions and work demands), whereas positive feedback had negative association with it. Similar finding was reported by Cuirrin (2007) found that reduced feedback from management was a cause of increased levels of stress.

In the nursing context, lack of positive feedback was found to cause job stress (Olofsson *et al.*, 2003). Furthermore, research among nurses has shown positive relationships between stress-reactions and poor performance feedback (Eisenstat & Felner, 1984). Indeed, Olofsson *et al.* (2003) stated that lack performance feedback either positive or negative led to burnout. Skill variety has been identified to be among the key

job resources protecting from stress and burnout (Hakanen, Bakker, & Jokisaari, 2011; Schaufeli & Enzmann, 1998). In other words, when workers use diverse skills and talents at occupation (high skill variety) they usually find their jobs more meaningful, which in turn may increase motivation and satisfaction and reduce the improvement of negative outcomes such as burnout (Hakanen *et al.*, 2011; Hackman & Oldham, 1980). Many studies indicated that the skill variety had negatively predicted burnout (e. g. Hakanen *et al.*, 2011; Hakanen, Schaufeli, & Ahola, 2008; Rafferty, Friend, & Landbergis, 2001; Taris, Screurs, & Schaufeli, 1999). In contrast, other studies shown that at unfavourable working environment, especially lack of skill variety positively correlated with burnout (Hakanen *et al.*, 2011).

In terms of task significance, Spector and Jex (1991) found that task significance and task variety correlated significantly and negatively with frustration and anxiety as psychological stress. Later, Cuirrin (2007) conducted study to examine the inter-relationship between employee motivation and job stress. He indicated that lack of skill variety was a cause of stress. In other words, the threat of occupation of work can be a significant contributor to stress. When nurses have a high level awareness of task identity, they are likely to experience a low degree of burnout (Adebayo & Ezeanya, 2011).

Task identity is viewed as helping workers to grow and develop and as such meet up with the demands of their job. This clarifies the result that when task identity is on the raise, burnout is reducing (Adebayo & Ezeanya, 2011). Furthermore, many studies found that employee's task identity helped decrease the experience of burnout (e. g., Adebayo & Ezeanya, 2010; Bacharach, Bamberger, & Conley, 1990; Bremner & Carrere, 2011;

Grandey, Fisk, & Steiner, 2005; Pizam & Neumann, 1988). Later, Adebayo and Ezeanya (2011) conducted a study on 79 nurses in Jos, Nigeria to examine the relationships between task identity, job autonomy and burnout of nurses. The results indicated that task identity and job autonomy had negative and significant correlation with nurses' experience of burnout which was usually related to the development of stress. But other researchers argue that task identity may prove to be very stressful for an individual (Dwyer & Fox, 2000; Schaubroeck, Ganster, & Kemmerer, 1994; Xie & Johns, 1995).

Further, according to Yahaya *et al.* (2010), job security can be attributable to occupational stress as there is a positive relationship between them. While Roskies, Louis-Guerin, and Fournier (1993), Tyler and Cushway (1995), Burke (1998), Mohr (2000), Kraimer *et al.* (2005), Salleh, Abu Bakar, and Keong (2008) revealed that low job security is psychologically stressful. Other studies also indicated similar result. Previous studies observed that perceived job insecurity was positively associated with stress at work (Dekker, & Schaufeli, 1995; Gillespie, Walsh, Winefield, Dua, & Stough, 2001; Lim, 1997; Mak & Mueller, 2000; Roskies & Louis-Guerin, 1990; Sethi, King, & Quick, 2004), depression, anxiety, hostility, and feelings of distress (Kuhnert, Sims, & Lahey, 1989; Roskies & Louis-Guerin, 1990). Likewise, the positive relationship between job insecurity and strain indicates that misfit exists between individual and environment with respect to perceptions of job security (Ayyagari, Grover, & Purvis, 2011; Naswall, Sverke, & Hellgren, 2005).

The next section deals with the relationship between job stress and performance.

### **3.7 RELATIONSHIP BETWEEN JOB STRESS AND JOB PERFORMANCE**

Many studies have investigated the relationship between job stress and job performance. Some of these found that high job stress led to low job performance (Motowidlo *et al.*, 1986; Siu, 2003; Welker-Hood, 2006; Westman & Eden, 1996). However, a few other findings have reported an inverted U-shaped curve (Cohen, 1980), and a positive relationship (Keijsers, Schufeli, Blanc, Zwerts, & Miranda, 1995).

Most of the studies that have focused on the relationship between job stress and job performance have leaned towards the negative effects of stress on job performance and have ignored the fact that not all stress is negative and that some amount of stress is necessary for the performance of individuals in all aspects of their lives. There is a substantial amount of research that has focused on positive stress as well as its effects on the performance of employees (Organ & Konovsky, 1989). Yerkes and Dodson (1908) revealed the inverted U-shaped relationship between stress and performance in a laboratory experiment that was carried out using rats in three trials whereby low, moderate and high levels of stimulus were used. Studies have supported the existence of the inverted U relationship between job stress and job performance among employees in the industrial context such as Selye (1977) and McGrath (1976). Also, Scott (1966) demonstrated that individual performance increased with an increase in the amount of stress up to a specific point and then performance starts to decrease (Organ & Lingl, 1995).

In general, the studies discussed in the previous paragraph argue that stress enhances performance as long as the stress levels are moderate but is detrimental to job

performance while at high or moderate levels (Organ & Konovsky, 1989). However, the inverted U theory of the relationship between job stress and job performance is not universally accepted and hence the proposition of a negative linear relationship between job stress and job performance and a linear positive relationship between the same variables (Organ & Konovsky, 1989; Salami, Ojokuku, & Ilesanmi, 2010).

On a contrary, other researchers found no relation between stress and job performance (Blau, 1981; Matteson, Ivancevich, & Smith, 1984; Orpen & Welch, 1989) as well as negative linear relationship (Allen, Hitt, & Greer, 1982; Friend, 1982; Greer & Castro, 1986; Harris & Berger, 1983; Jamal, 1984; Lagace, 1988; Westman & Eden, 1991, 1996). In fact, Arsenault and Dolan (1983), Kahn and Long (1988), and Hatton, Brown, Caine, and Emerson (1995) found that the most challenging factor to optimal performance is the high level of stress and therefore, they support for the positive linear relationship.

In short, the relationship between job stress and job performance can be divided into four kinds, namely a positive relationship, a negative relationship, no relationship and an inverted u-shaped relationship. The next section deals with each group of research findings.

### **3.7.1 Negative Relationship**

A negative relationship between job stress and performance was proposed by those who consider job stress as being primarily negative for the organizations and its employees (Gupta & Beehr, 1979; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Westman &

Eden, 1996). Advocates for this proposition found constant job stress to be extremely aversive to employees as they have to spend most of their time and energy dealing with stresses which negatively impact their performance (Beehr, Walsh, & Taber, 1976; Breugh, 1980; Campo, Weiser & Koenig, 2009; Ida *et al.*, 2009; Jamal, 1984, 1985, 2007, 2011; Maslach, 2003; Motowidlo *et al.*, 1986; Muse, Harris & Field, 2003; Schuler, 1975; Tuten & Neidermeyer, 2004; Van Dyne, Jehn, & Cummings, 2002).

Jamal (1984) assessed the relationship between job stress and job performance besides withdrawal behaviour among 440 nurses in two hospitals in Canada. The stressors investigated were role ambiguity, role overload, role conflict, and resource inadequacy. Nurses' performance was operationalized by job performance, motivation and patient care skills. Withdrawal behaviour was measured by absenteeism, tardiness, and anticipated turnover. Data were analysed in multiple regression analyses, curvilinear correlational coefficients, and canonical relationships. The findings supported a negative relationship between job stress and job performance. In a different study, Ida *et al.* (2009) investigated the relationship between job stress and performance among nurses that were members of a Japanese nursing association. Results revealed that the job performance of the nurses, both contextual and task, performance was affected by the stressors which included medical risks and sickness-absences leading to a reduction in their performance.

### **3.7.2 Positive Relationship**

According to Jamal (2011), and Muse *et al.* (2003), the advocates of a linear positive relationship between job stress and job performance usually associate job stress with

“challenge” (e.g. Arsenault & Dolan, 1983; Hatton *et al.*, 1995; Kahn & Long, 1988; Meglino, 1977). In addition, they view any problems as occasions for positive actions and enhanced job performance. Moreover, linear positive relationship indicates that if the level of job stress is low, employees do not feel any challenge and hence do not necessarily perform better. When the level of job stress is intermediate, the employees will be moderately aroused and challenged and hence will perform in a moderate manner. When job stress is high, the employees are best challenged and perform their best (Jamal, 2011; Meglino, 1977; Muse *et al.*, 2003). Such theory has received empirical validation (Muse *et al.*, 2003).

Knoop (1994) believes that the more importance a person gives to a value and the more desirable it appears to be, the more psychological and physical effort the person will spend. This phenomenon may be called positive stress. In a different context, Singh and Singh (2010) studied 210 front level managers to examine the role of stress on organizational citizenship behaviour (OCB). They found that stress was positively correlated with organizational citizenship behaviour directed toward individuals (altruistic and courtesy). This result suggests that role stress does not hinder the organizational citizenship behaviour. In addition, under small levels of job stress, challenge is absent and job performance is poor (Meglino, 1977).

### **3.7.3 Curvilinear U-Shaped Relationship**

AbuAlRub (2004) investigated the effects of job-related stress on job performance among 263 American nurses and non-American nurses. She revealed a curvilinear relationship



(U-shaped) between job stress and job performance as illustrated in Figure 3.1. Nurses who had moderate levels of job stress did not perform their jobs as good as those nurses who reported low or high levels of stress.

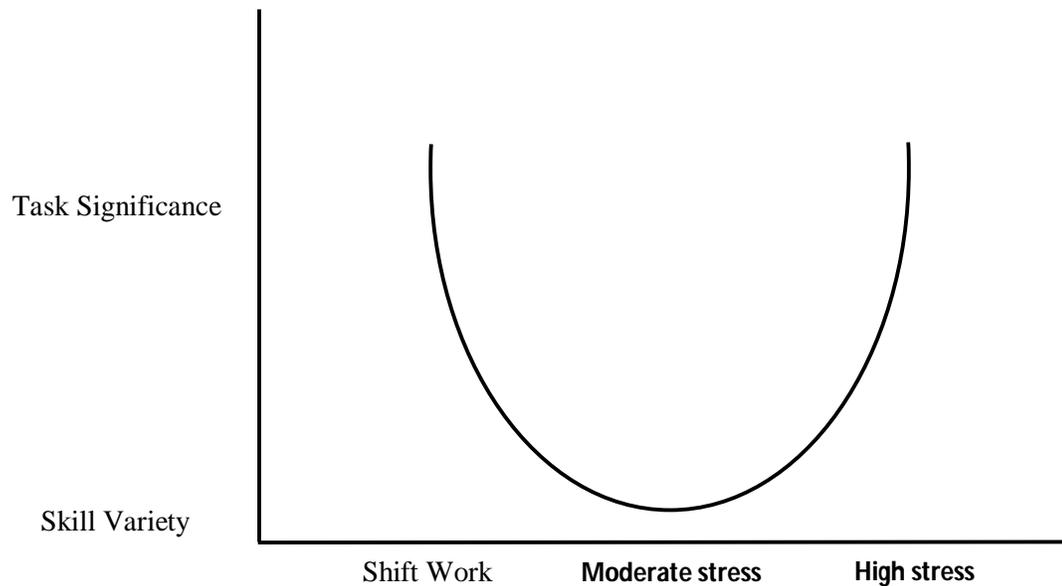


Figure 3.1  
*U-Shaped Relationship between Stress and Performance*  
Source: AbuAlRub (2003)

When nurses have low levels of stress, the negative effects of job stress do not affect them both mentally and physically, so that they perform better and with more productivity. In contrast, when nurses experience high level of stress, they are expected to be more activated. They will challenge working conditions and emerge more powerful once they do their tasks properly. These nurses are characterized by being super-humans who are proud of themselves. In other words, high stress is positive since it creates a sense, cooperation and active competition among nurses.

On the contrary, it is possible for nurses experiencing moderate level of stress to have some of the negative effects on their mental and physical health. As a result, they

will lack motivation and thus become threatened. This unfortunately, may contribute to low level of performance (AbuAlRub, 2003). Similar to his previous suggestion, AbuAlRub (2004) opted for a support group to be set up for the nurses to help them deal with stress.

In contrast, the inverted-U theory of the job stress-job performance relationship appears to be a combination of the negative linear relationship in which stress is bad, and the positive linear relationship in which stress is good by suggesting that increasing stress is good to a point, beyond which it becomes bad. In other words, the inverted-U suggests that much stress is necessary to motivate optimal job performance (McGrath, 1976; Seyle, 1975). Figure 3.2 illustrates curvilinear relationship inverted (U-shaped) between job stress and job performance.

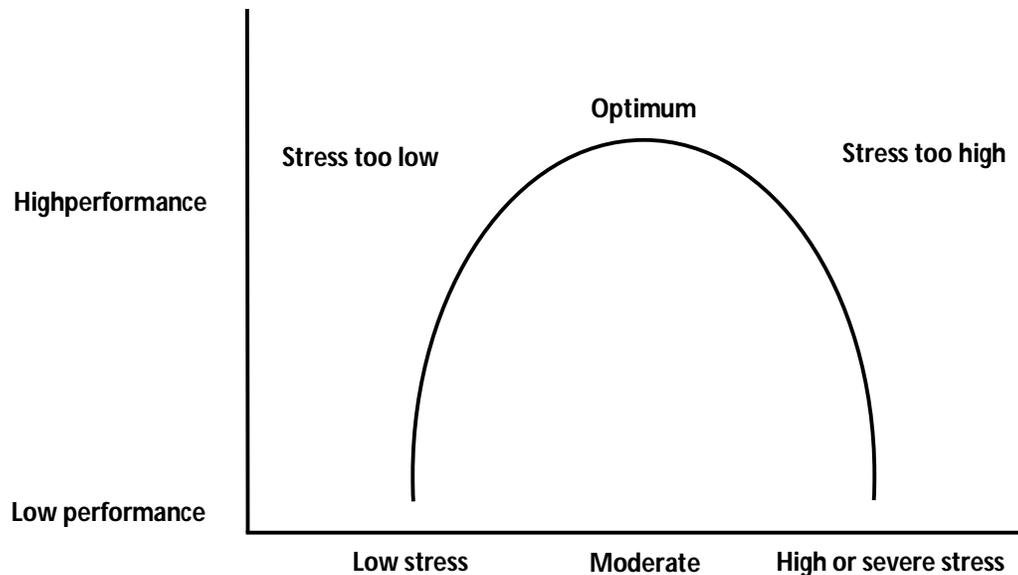


Figure 3.2  
*Inverted U-Shaped Relationship between Stress and Performance*  
Source: Umstot (1988)

In another study, Hunter and Thatcher (2007) surveyed banking employees in American national bank and found a relationship between job stress and performance. They pointed from their observation that a moderate level of stress is considered challenging owing to long working hours and repetitive work reduces work commitment and performance. Besides, Keijsers *et al.* (1995) indicated that stress is productive up to a certain extent and increases performance.

### **3.8 RELATIONSHIP BETWEEN ORGANIZATIONAL SUPPORT AND JOB STRESS**

In this section, the role of organizational support in buffering the effect of jobs stress will be considered, as one of the objectives of the present research. To recap, organizational support is generally defined as the concern shown by leadership and management of an organization (Judge *et al.*, 2001; Morrison, 1994; Murphy *et al.*, 2002).

Perceived organizational support (POS) are an important resource (Hobfoll, 1989) that could bolster employees' confidence in their ability to cope with role demands (Lazarus, 1991). Models of stress (Hobfoll, 1989; Lazarus, 1991) and research suggest that POS could directly reduce role stress as well as cushion the negative effects of role stress (Jawahar *et al.*, 2007). This is because organizations that care about their employees' well-being tend to reduce unnecessary work complications and distractions for their workers and tend to specify and clarify job expectations and norms for their employees in order to better prepare them for work assignments (Jawahar *et al.*, 2007) or help them meet the needs for emotional support (Eisenberger *et al.*, 2001). Indeed, in a

study conducted with sales personnel, Stamper and Johlke (2003) reported POS to be negatively related to role stressors.

In Jordan, Hamdan-Mansour, Al-Gamal, Puskar, Yacoub, and Marini (2011) investigated job stress and organizational support in mental health institutions among 92 mental health nurses. The findings revealed that the mental health nurses had moderate levels of stress, caused by lack of resources while on the job as well as conflict with other employees that were part of the provision of healthcare. As far as organizational support was concerned, the nurses claimed that they perceived very low levels of support from their supervisors. Job stress, conflict with other professionals contributed to their perceptions as far as organizational support from their supervisors was concerned.

Job stress and organizational support have also been studied in their role as antecedents of organizational citizenship behaviour which is loosely related to contextual performance as far as job performance is concerned (Judge *et al.*, 2001). Singh and Singh (2010) indicated a positive correlation between job stress, perceived organizational support and organizational citizenship behaviour among employees. Meanwhile, Wang and Shu (2008) sought to establish the relationship between techno-stress, role stress, and organizational support. Techno-stress in this case refers to the negative psychological link between people and the introduction of new technologies. The study indicated that techno-stress experienced by employees was positively related to role stress and that perceived organizational support moderated the relationship between techno-stress and role stress in a way that the relationship is negative when the perceived organizational support is higher.

Foley, Hang-yue, and Lui (2005) investigated the effects of work stressors, perceived of organizational support (POS), and gender on work-family conflict in Hong Kong. The specific objectives of the study were to assess the direct and moderating effects of POS and gender on the relationship between work-stressors and work-family conflict. It was found that perceived of organizational support (POS) was negatively related to work-family conflict but work stressors were positively linked to work-family conflict.

Vagg and Spielbereger (1998) made use of the Job Stress Survey (JSS) used to assess the severity and frequency of the 30 sources of occupational stress. They showed that lack of organizational support and job pressure were the major dimensions of occupational stress among male and female employees in a variety of work environments.

In the nursing context, studies suggest that organizational support is an important factor in nurses' work environment. Employees view favourable or unfavourable treatment by the organization as an indication of the extent to which the organization cares or does not care about them. Burke (2003) found that nurses' perceptions of low levels of organizational support were significantly correlated with hospital restructuring stressors. Also, Shamian, O'Brien-Pallas, Thomson, Alksnis, and Kerr (2003) found that lack of social support from management and peers and a perceived lack of respect from management were important predictors of stress experienced by nurses. Greenglass and Burke (2001) linked perceived of organizational support (POS) to various nurses' health outcomes, such as depression, anxiety, and somaticisation symptoms, while George *et al.* (1993) suggested that perceived of organizational support (POS) may have protected

nurses from the detrimental effects of stress by bolstering their self-esteem and communicating that the organization cared about their wellbeing.

Pearlin (1993), Brotheridge and Lee (2005), and, Jawahar *et al.* (2007) focused on social support as a means of reducing the harmful effects of stressors. In general, when people feel that they have social support from others, they report less psychological distress or strain. Besides, Carlson and Perrewe (1999), and Parasuraman, Greenhaus, and Granrose (1992) argued that social support reduces the negative effects of role stressors by helping employees cope with stress.

Based on the discussion above, generally speaking, most empirical studies have shown the role of organizational support in reducing job stress at work. Next, empirical studies on the relationship between organizational support and job performance are presented.

### **3.9 RELATIONSHIP BETWEEN ORGANIZATIONAL SUPPORT AND JOB PERFORMANCE**

In general, job performance is considered to be linked to organizational support (Frost, 1998; Hung & Wong, 2007; Woods, 1993). If an organization treats an employee well enough, he/she can be expected to devote greater effort towards helping the organization achieve its goals (Debrah & Ofori, 2001; Settoon *et al.*, 1996). Becker (1978), Floyd and Wooldridge (1997), Alexander (2001), and Hung and Wong (2007) believe that when workers are given positive feedback about their performance, they respond by improving their job performance.

Most studies that have focused on the relationship between POS, job satisfaction and job performance have been carried out in the Western countries and very few have been carried out in the Middle East and Asian countries and specifically among health care employees, particularly among nurses working in government hospitals (Miao & Kim, 2010). Results of Miao and Kim's (2010) study in the Asian context (i.e. Chinese) supported the existing result in the Western literature about the positive effect of perceived organizational support and job satisfaction on OCBs and work performance. The researchers argued that since the Chinese respond in a manner similar to Westerners, there is no difference on the effects of these variables on performance between them. But is still debatable whether the findings of the Western studies can be generalized to other situations in other parts of the world especially to the health care sector and particularly nursing in government hospitals in the Middle East and other Asian countries (Miao & Kim, 2010).

Eisenberger *et al.* (2001) conducted a study on 413 postal employees to investigate the relationships of perceived organizational support (POS) with employees' affective organizational commitment and job performance. The results indicated that POS strengthens affective commitment and performance by a reciprocation process. In a different study, Muse and Stamper (2007) conducted a study on 313 employees to examine the effect of perceived organizational support (POS) on both task and contextual performance. The results indicated the direct relationship from POS to the performance variables were positive and significant. Yet in a different study, Witt and Spitzmuller (2007) conducted a study on 96 programmers and 181 cash vault employees to examine the main and interactive effects of POS on typical performance and maximum

performance. Results empirically supported the difference between typical performance and maximum performance. Perceived organizational support was related to two out of three measures of typical performance. Interactive effects of POS were detected in both samples for maximum performance outcomes but not found for typical performance outcomes.

The relationship between perceived organizational support (POS), organizational citizenship behaviour (a variant of contextual performance), and task performance was carried out in India by Singh and Singh (2010). The specific objectives of this study were to explore if there was a positive association between organization support and aspects of organizational citizenship behaviour (organization and individual) such as altruistic behaviour and courtesy. They hypothesized that perceived organizational support (POS) associated positively with organizational citizenship behaviour (organization and individual). Results of this study established that POS was a good predictor of organizational citizenship behaviour (organization and individual). Moreover, the results indicated that perceived organizational support (POS) was more strongly positively associated with organizational citizenship behaviour-organization than organizational citizenship behaviour-individual.

Rocha and Chelladurai (2011) investigated the mediator effect of affective commitment on the relationship between perceived organizational support (POS) and athletic performance. The respondents in this study were 267 NCAA divisions I coaches. Results revealed a positive and significant link between affective commitment and athletic performance but the direct relationship between POS and athletic performance was not supported.



Various characteristics of organizational citizenship behaviour that are part and parcel of contextual behaviour, which include helping behaviour, courtesy, conscientiousness and civic virtue, were investigated with regards to their relationship with POS in a study by Miao and Kim (2010). The respondents for this study were employees in two Chinese steel companies and 159 pairs of questionnaires were distributed to the employees and their immediate supervisor. The researchers found that positive correlations between POS and job performance.

Next, empirical studies on the link among the main variables of the present study are offered.

### **3.10 RELATIONSHIP BETWEEN JOB DEMANDS, JOB RESOURCES, JOB STRESS, AND JOB PERFORMANCE**

#### **3.10.1 Mediating Effect of Job Stress**

A few studies have examined job stress as mediator variable. For instance, job stress was examined as a mediator between general perfectionistic tendencies and psychological outcome (life satisfaction, negative mood and worry) (Chang, 2000), and adaptive and maladaptive perfectionism - rated psychological functioning (Chang, Watkins, & Banks, 2004), work intensification and job satisfaction (Zeytinoglu *et al.*, 2007), and self-efficacy and burnout (Schwarzer & Hallum, 2008) relationship.

For instance, Chang (2000) conducted a study on a sample of 270 younger and 256 older adults to examine the relationship between general perfectionistic tendencies, stress, and psychological outcome. Results indicated that the influence of perfectionism

on a measure of positive psychological outcome (life satisfaction) was fully mediated by stress. In contrast, the influence of perfectionism on measures of negative psychological outcome (negative mood and worry) were only partially mediated by stress. These path analytic findings were consistent across both age groups.

In a different study, Chang *et al.* (2004) conducted a study on a sample of 150 black and 150 white female college students to investigate racial variations in how adaptive and maladaptive perfectionism relate to psychological functioning. Results indicated that black women, as compared with white women, reported less adaptive perfectionism, less life satisfaction, greater stress, and greater negative effect. Moreover, the results indicated that for both groups, maladaptive perfectionism, but not adaptive perfectionism, was associated with stress. Accordingly, a model in which stress mediates the link between maladaptive perfectionism and psychological functioning was tested. Overall, path-analytic results indicated that stress completely or partially mediated the link between maladaptive perfectionism and psychological functioning for both Black and White women.

Zeytinoglu *et al.* (2007) examined stress as an individual worker health and wellness outcome and as a mediator of work intensification on job satisfaction. The author expected the nurses' work intensification to be related to increased stress and decreased job satisfaction with stress mediating the effect of work intensification. Results showed that stress mediated the effect of work intensification partially.

Despite the extensive consideration of job stress as mediating variable as shown by previous studies, a limited number of works have been carried out to investigate the mediating role of job stress in the relationship between job demands, job resources, and

job performance, which opens up an excellent opportunity for new theoretical contribution. Therefore, this study attempts to investigate the mediating effect of job stress on linkage of job demands resources and nurse's job performance in Saudi Ministry of Health. As mentioned earlier, the present study attempts to look at two different dimensions of job performance of nurses i.e. task and contextual performance. The hypotheses that follow indicate the specific work activities nurses carry out in their job:

**H17: The relationship between job demands resources and provision of information is mediated by job stress.**

*H17a: The relationship between quantitative demands and provision of information is mediated by job stress.*

*H17b: The relationship between physical demands and provision of information is mediated by job stress.*

*H17c: The relationship between emotional demands and provision of information is mediated by job stress.*

*H17d: The relationship between shift work and provision of information is mediated by job stress.*

*H17e: The relationship between skill variety and provision of information is mediated by job stress.*

*H17f: The relationship between task significance and provision of information is mediated by job stress.*

*H17g: The relationship between task identity and provision of information is mediated by job stress.*

*H17h: The relationship between feedback and provision of information is mediated by job stress.*

*H17i: The relationship between job security and provision of information is mediated by job stress.*

**H18: The relationship between job demands resources and coordination of care is mediated by job stress.**

*H18a: The relationship between quantitative demands and coordination of care is mediated by job stress.*

*H18b: The relationship between physical demands and coordination of care is mediated by job stress.*

*H18c: The relationship between emotional demands and coordination of care is mediated by job stress.*

*H18d: The relationship between shift work and coordination of care is mediated by job stress.*

*H18e: The relationship between skill variety and coordination of care is mediated by job stress.*

*H18f: The relationship between task significance and coordination of care is mediated by job stress.*

*H18g: The relationship between task identity and coordination of care is mediated by job stress.*

*H18h: The relationship between feedback and coordination of care is mediated by job stress.*

*H18i: The relationship between job security and coordination of care is mediated by job stress.*

**H19: The relationship between job demands resources and provision of support is mediated by job stress.**

*H19a: The relationship between quantitative demands and provision of support is mediated by job stress.*

*H19b: The relationship between physical demands and provision of support is mediated by job stress.*

*H19c: The relationship between emotional demands and provision of support is mediated by job stress.*

*H19d: The relationship between shift work and provision of support is mediated by job stress.*

*H19e: The relationship between skill variety and provision of support is mediated by job stress.*

*H19f: The relationship between task significance and provision of support is mediated by job stress.*

*H19g: The relationship between task identity and provision of support is mediated by job stress.*

*H19h: The relationship between feedback and provision of support is mediated by job stress.*

*H19i: The relationship between job security and provision of support is mediated by job stress.*

**H20: The relationship between job demands resources and technical care is mediated by job stress.**

*H20a: The relationship between quantitative demands and technical care is mediated by job stress.*

*H20b: The relationship between physical demands and technical care is mediated by job stress.*

*H20c: The relationship between emotional demands and technical care is mediated by job stress.*

*H20d: The relationship between shift work and technical care is mediated by job stress.*

*H20e: The relationship between skill variety and technical care is mediated by job stress.*

*H20f: The relationship between task significance and technical care is mediated by job stress.*

*H20g: The relationship between task identity and technical care is mediated by job stress.*

*H20h: The relationship between feedback and technical care is mediated by job stress.*

*H20i: The relationship between job security and technical care is mediated by job stress.*

**H21: The relationship between job demands resources and interpersonal support is mediated by job stress.**

*H21a: The relationship between quantitative demands and interpersonal support is mediated by job stress.*

*H21b: The relationship between physical demands and interpersonal support is mediated by job stress.*

*H21c: The relationship between emotional demands and interpersonal support is mediated by job stress.*

*H21d: The relationship between shift work and interpersonal support is mediated by job stress.*

*H21e: The relationship between skill variety and interpersonal support is mediated by job stress.*

*H21f: The relationship between task significance and interpersonal support is mediated by job stress.*

*H21g: The relationship between task identity and interpersonal support is mediated by job stress.*

*H21h: The relationship between feedback and interpersonal support is mediated by job stress.*

*H21i: The relationship between job security and interpersonal support is mediated by job stress.*

**H22: The relationship between job demands resources and job-task support is mediated by job stress.**

*H22a: The relationship between quantitative demands and job-task support is mediated by job stress.*

*H22b: The relationship between physical demands and job-task support is mediated by job stress.*

*H22c: The relationship between emotional demands and job-task support is mediated by job stress.*

*H22d: The relationship between shift work and job-task support is mediated by job stress.*

*H22e: The relationship between skill variety and job-task support is mediated by job stress.*

*H22f: The relationship between task significance and job-task support is mediated by job stress.*

*H22g: The relationship between task identity and job-task support is mediated by job stress.*

*H22h: The relationship between feedback and job-task support is mediated by job stress.*

*H22i: The relationship between job security and job-task support is mediated by job stress.*

**H23: The relationship between job demands resources and compliance is mediated by job stress.**

*H23a: The relationship between quantitative demands and compliance is mediated by job stress.*

*H23b: The relationship between physical demands and compliance is mediated by job stress.*

*H23c: The relationship between emotional demands and compliance is mediated by job stress.*

*H23d: The relationship between shift work and compliance is mediated by job stress.*

*H23e: The relationship between skill variety and compliance is mediated by job stress.*

*H23f: The relationship between task significance and compliance is mediated by job stress.*

*H23g: The relationship between task identity and compliance is mediated by job stress.*

*H23h: The relationship between feedback and compliance is mediated by job stress.*



*H23i: The relationship between job security and compliance is mediated by job stress.*

**H24: The relationship between job demands resources and volunteering for additional duties is mediated by job stress.**

*H24a: The relationship between quantitative demands and volunteering for additional duties is mediated by job stress.*

*H24b: The relationship between physical demands and volunteering for additional duties is mediated by job stress.*

*H24c: The relationship between emotional demands and volunteering for additional duties is mediated by job stress.*

*H24d: The relationship between shift work and volunteering for additional duties is mediated by job stress.*

*H24e: The relationship between skill variety and volunteering for additional duties is mediated by job stress.*

*H24f: The relationship between task significance and volunteering for additional duties is mediated by job stress.*

*H24g: The relationship between task identity and volunteering for additional duties is mediated by job stress.*

*H24h: The relationship between feedback and volunteering for additional duties is mediated by job stress.*

*H24i: The relationship between job security and volunteering for additional duties is mediated by job stress.*

### **3.11 RELATIONSHIP BETWEEN JOB STRESS, ORGANIZATIONAL SUPPORT, AND JOB PERFORMANCE**

#### **3.11.1 Moderating Effect of Organizational Support**

Lynch *et al.* (1999) conducted two studies related to perceived organizational support (POS). They focused on retail employees in Study 1, and employees from multiple organizations in Study 2. They investigated the relationship of employees' fear of exploitation in exchange relationships (reciprocation wariness) and their in-role and extra-role job performance. They observed that when POS was low, reciprocation wariness was negatively related to in-role and extra-role job performance. But with high perceived of organizational support (POS), reciprocation wariness was positively related to extra-role performance and either positively related to in-role performance (for retail employees) or showed no reliable relationship with in-role performance (for the multi-organizational sample).

Later, Hochwarter *et al.* (2006) conducted a study to examine the moderating effect of perceived organizational support (POS) on the relationship between social skill and supervisor-rated job performance. Results on data gathered from two samples indicated that social skill was more strongly related to performance among workers reporting low rather than high levels of organizational support.

Erdogan and Enders (2007) conducted a study on 210 subordinates and 38 supervisors of a grocery store chain to examine the effects of perceived organizational support (POS) in moderating the relationships between leader–member exchange (LMX) and job performance. They found that LMX was related to performance only when

supervisors had high POS. Webster and Adams (2010) examined POS as a moderator of the relationship between preferred work status and job performance on 164 participants working in a health and fitness organization. Results indicated that the relationship between preferred work status and extra-role performance was negative when POS was higher but not when POS was lower and no moderating effects were found on in-role performance.

While organizational support has been considered as a moderating variable in previous studies, the literatures indicate that a limited number of works have been carried out to investigate the moderating role of organizational support in the relationship between job demands, job resources, and job performance, which opens up an excellent opportunity for new theoretical contribution. Therefore, this study attempts to investigate the moderating effect of organizational support on linkage of job demands resources and nurse's job performance in Saudi Ministry of Health. As mentioned earlier, the present study attempts to look at two different dimensions of job performance of nurses i.e. task and contextual performance. The hypotheses that follow indicate the specific work activities nurses carry out in their job:

**H25: The relationship between job stress and nurses' task performance is moderated by organizational support.**

*H25a: The relationship between job stress and provision of information is moderated by organizational support.*

*H25b: The relationship between job stress and coordination of care is moderated by organizational support.*

*H25c: The relationship between job stress and provision of support is moderated by organizational support.*

*H25d: The relationship between job stress and technical care is moderated by organizational support.*

**H26: The relationship between job stress and nurses' contextual performance is moderated by organizational support.**

*H26a: The relationship between job stress and interpersonal support is moderated by organizational support.*

*H26b: The relationship between job stress and job-task support is moderated by organizational support.*

*H26c: The relationship between job stress and compliance is moderated by organizational support.*

*H26d: The relationship between job stress and volunteering for additional duties is moderated by organizational support.*

### **3.12 THEORETICAL FRAMEWORK**

Literatures indicate that job demands and resources are keys that affect job stress and job performance. Job demands factors namely quantitative demands, physical demands, emotional demands, and shift work (Bakker *et al.*, 2004; Bakker *et al.*, 2008; Bakker *et al.*, 2010; Chambel & Curren, 2005; Dwyer & Fox, 2006; Hart *et al.*, 2003; Jamal, 2011; Lang *et al.*, 2007; Nabe-Nielsen *et al.*, 2008; Ohayon *et al.*, 2002; Panatik *et al.*, 2009; Trinkoff *et al.*, 2003; Tustin, 2010; van der Heijden *et al.*, 2008) have been shown to

influence job performance. In addition, job resources factors namely skill variety, task significance, task identity, feedback, and job security (Akhtar *et al.*, 2008; Ashford *et al.*, 1989; Bakker & Bal, 2010; Bakker *et al.*, 2008; Bakker *et al.*, 2010; Fried & Ferris, 1987; Brass, 1985; Chakrabarty *et al.*, 2008; Cheney, 1984; Demerouti, 2006; Dwyer & Fox, 2006; Frenkel & Lee, 2010; Humphrey *et al.*, 2007; Kraimer *et al.*, 2005; Millette & Gagne, 2008; Orpen, 1985; Rehman, 2010 as cited in Rehman, 2011; Coetzer & Rothmann, 2007; Schaufeli & Barker, 2004; Yousef, 1998) have all been found to influence job performance.

In the studies on the relationship between job demands and job resources, and job stress, job demands factors such as quantitative demands, physical demands, emotional demands, and shift work (Bakker & Demerouti, 2007; Bakker *et al.*, 2003; Demerouti *et al.*, 2001; Fernandez-Lopez *et al.*, 2006; Jamal & Baba, 1992; Mintz-Binder & Sanders, 2012; Parry-Jones *et al.*, 1998; Tourigny *et al.*, 2010; Wilkes *et al.*, 1998) have been shown to influence job stress. In addition, job resources factors such as skill variety, task significance, task identity, feedback, and job security (Ayyagari *et al.*, 2011; Baba & Jamal, 1991; Bacharach *et al.*, 1990; Dwyer & Fox, 2000; Eisenstat & Felner 1984; Fernandez-Lopez *et al.*, 2006; Gillespie *et al.*, 2001; Hamwi, Rutherford, & Boles, 2011; Mak & Mueller, 2000; Martin & Wall, 1989; Naswall *et al.*, 2005; Poulton, 1978; Sethi *et al.*, 2004; Shostak, 1980; Xie & Johns, 1995) have all been found to influence job stress.

In another group of studies, the literature also reveals that organizational support influences job stress (Babakus *et al.*, 1996; Dawley *et al.*, 2010; Eisenberger *et al.*, 1990; George *et al.*, 1993; Hekman *et al.*, 2009; Karatepe, 2011; Morris & Feldman, 1996; Rhoades & Eisenberger, 2002; Richardson & Rothstein, 2008; Stamper & Johlke, 2003).

Studies also revealed that organizational support influences job performance (Cook *et al.*, 1979; Dawley *et al.*, 2010; Eisenberger *et al.*, 1986; Eisenberger *et al.*, 1990; Eisenberger *et al.*, 2001; George & Brief, 1992; Hekman *et al.*, 2009; Morris & Feldman, 1996; Rhoades & Eisenberger, 2002; Richardson & Rothstein, 2008; Wang, 2009; Witt & Carlson, 2006). Moreover, job stress was also found to influence job performance (AbuAlrub, 2004; AbuAlrub & Al-Zaru, 2008; Blau, 1981; Gupta & Beehr, 1979; Hayajneh 2000; Jamal, 2011; Kahn *et al.*, 1964; Matteson *et al.*, 1984; Orpen & Welch, 1989; Siu, 2003; Westman & Eden, 1996; Wu, 2011). Given that job stress is one of employee responses to the stimuli in the environment (the stimuli here refers to job demands and job resources), it is therefore possible to theoretically link the work conditions with job performance.

The theoretical relationship between job demands and resources, job stress, organizational support and job performance can be schematically diagrammed as shown in Figure 3.3. The first independent variable in the present study is job demands which comprise four factors namely quantitative demands, physical demands, emotional demands, and shift work. The second independent variable is job resources comprising five factors namely skill variety, task significance, task identity, feedback, and job security. The dependent variable is nurses' performance. Job stress was hypothesized to mediate the relationship between variables of job demands, job resources, and nurses' performance, while organizational support is hypothesized to moderate the relationship between job stress and nurses' performance.

In brief, as shown in Figure 3.3, job demands and job resources are expected to produce a response from employees at work such that job demands will make employees

feel stressful but job resources will decrease job stress. For instance, the more demanding their job is, the more likely they will be experiencing work stress. However, when employees perceive that their job is interesting and challenging, the less stress they will experience. Regardless of the sources of job stress, employee job performance will tend to be affected. It is hypothesized that the higher the stress level, the poorer the job performance will be. However, organizational support at work is expected to mitigate the stressful condition at work and hence enhance job performance.

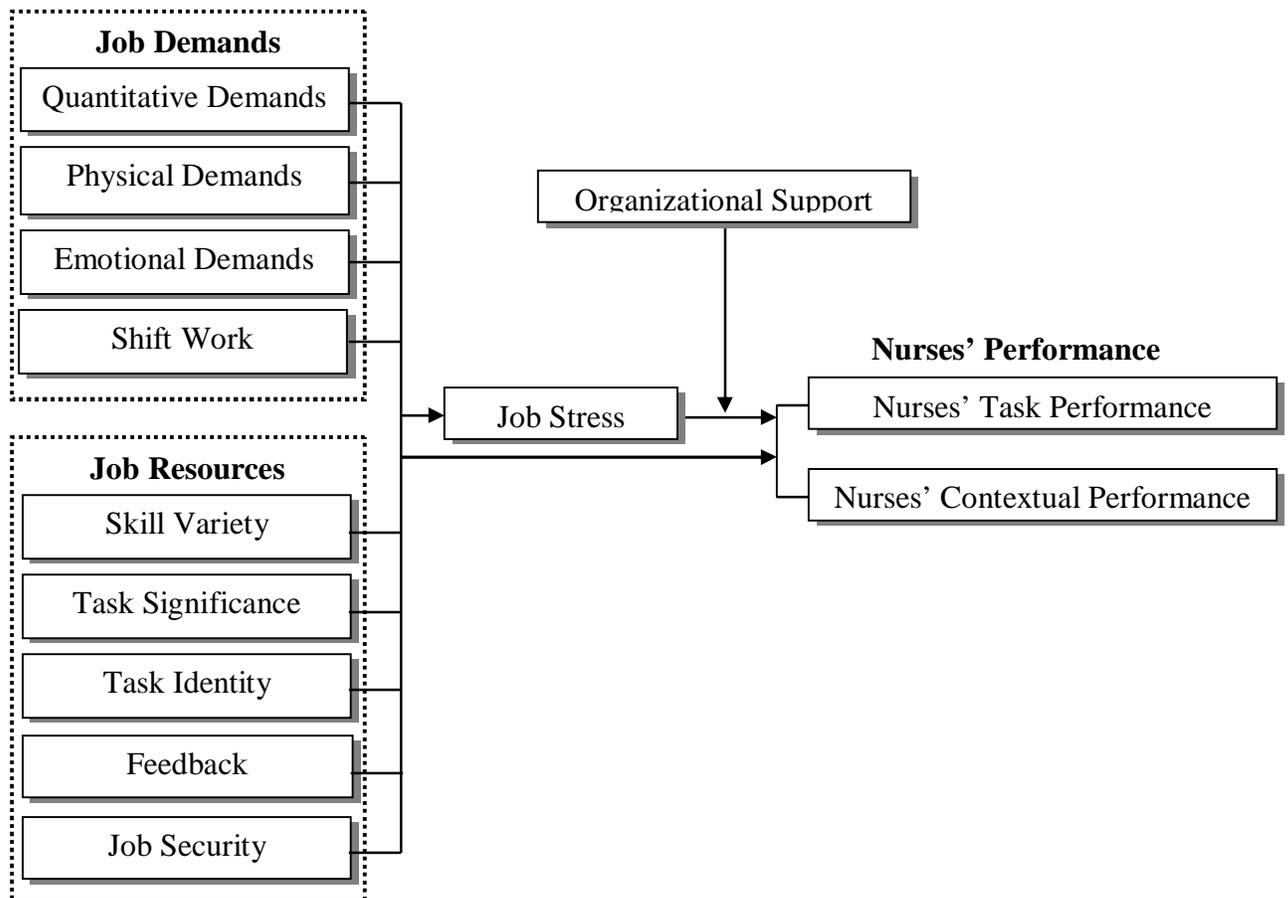


Figure 3.3  
Theoretical Framework for the Study

### **3.13 UNDERPINNING THEORIES**

The link between job demands and resources, job stress, organizational support, and job performance can be postulated by a number of relevant theories. This section discusses the main theories that underpin the present research. The theories of focus are conservation of resources theory (COR), social exchange theory, and linear negative theory.

#### **3.13.1 Conservation of Resources Theory (COR)**

The theory is based on the general principle of minimization of loss and maximization of gain. It enables general areas of behaviour to be identified when an individual is confronted with loss (Wennerberg, 2011). The theory posits that when an individual is confronted with the loss of resources he/she will act in a way to minimize the loss, or to produce gain in an order of magnitude similar or greater to the loss. Individuals perceive losses differently and gains are always seen through the personal perspective of the individual. However, overarching themes and social norms show an emergence of common values of loss (Wennerberg, 2011).

Earlier, Hobfoll (1989, 1998) and Johnson, Palmieri, Jackson, and Hobfoll (2007) categorized resources into four types: (a) objects, (b) conditions, (c) personal characteristics, and (d) energies. The classifications were validated by recent studies such as Deihl (2009), Ko (2011), and Murphy (2011). In detail, objects include physical things, both necessities and luxuries, while conditions valued resources are social



circumstances in which work and love take place, such as amiable or stressful workplaces, compatible or contentious families, self-esteem, and job security. On the other hand, personal characteristics refer to attributes and skills, and energies (i.e. time, money, and knowledge), which are resources that provide access to other resources, such as understanding how to access increased knowledge or credit.

Additionally, Cook (2003), Gorgievski and Hobfoll, (2008), Deihl (2009), Vassar (2011), and Olson (2011) coin the resource loss with stress. Similarly, Wright and Hobfoll (2004) claim that stress can occur in situations where there are: (1) resource losses; (2) the potential for resource losses; and (3) inadequate resources to meet work demands (Hamwi *et al.*, 2011; Janssen *et al.*, 1999). In other words, the promotion of wellbeing and prevention of stress are subjected to the availability and successful management of resources (Beutell, 2010; Brotheridge & Lee, 2005; Hobfoll, 2001).

COR theory proposes that a downward spiral in energy loss can occur when personal resources are inadequate to meet significant and ongoing demands confronted by the worker (Hobfoll, 1998). This leads to emotional exhaustion, which can arise when there is chronic draining of one's energies (Burke & Richardson, 1993; Buunk & Schaufeli, 1993). Further, the theory suggests that contact with customers and clients, and the nature of those interactions may influence the resource drain (Cooper, Dewe, & O'Driscoll, 2001; Hobfoll & Freedy, 1993; Wilk & Moynihan, 2005) and invokes positive emotions (Beutell, 2010; Brotheridge & Lee, 2005; Fredrickson & Joiner, 2002).

Hobfoll (2002) also argues that resource gain becomes more important when there is resource loss. Job resources become more salient and gain their motivational potential when employees are confronted with high job demands (e.g. workload, emotional

demands, and mental demands) because they can help accomplish goals (Bakker & Demerouti, 2008). In essence, the theory predicts that resource loss is a principal ingredient in stress (Hobfoll, 2001). In addition to predicting stress when resource loss occurs, the theory postulates that when resources are gained they can be used to compensate for previous resource losses (Hobfoll, 2001).

Conservation of resources (COR) theory is a stress and motivational theory that has been useful broadly in the organizational literature (Hobfoll, 2011). Conservation of resources theory has been used as an explanatory model for stress in health systems and other organizations (Alvaro *et al.*, 2010). Halbesleben and Wheeler (2011) tested a model based on conservation of resources theory to predict organizational citizenship behaviors and in-role performance. Witt and Carlson (2006) conducted a study based on conservation of resources theory to test the effect of two aspects of the work-family interface family to work conflict and family to work enrichment on job performance. According to Sun and Pan (2008), the conservation-of-resources theory provided the theoretical underpinning for the relationship among HR practices perceived by employees, emotional exhaustion, and work outcomes (job satisfaction and job performance). Earlier study has used the conservation of resources theory as an explanation for a stressor–job performance relationship (Treadway *et al.*, 2005). Based on the main proposition of COR and the broad empirical support it receives, the application of COR as one of the main underpinning theory in the present study is justified.

### 3.13.2 Social Exchange Theory

Social exchange theory, which was developed by Blau (1964), can be used to explain how organizational support enhances work performance of individuals (Cheung & Law, 2008). According to this theory employees exchange their loyalty and effort for material and social rewards from the organization (Eisenberger *et al.*, 1986). Employees' perceptions of support from the organization serve as the link between actions taken by the organization and actions taken by the employee (Hutchison, 1997). In conjunction, Eisenberger *et al.* (1986) have used Perceived Organizational Support (POS) to shed light on the employee-organization exchange process (Cheung & Law, 2008). Further, it has been argued that POS is not only affected by the amount of discretionary rewards which is a signal of the aids available to employees (Rhoades & Eisenberger, 2002), but is also influenced by the supervisors who act as the organizational agents to provide timely information and constructive feedback to the employees (Chen, Tsui, & Farh, 2002; Cheung & Law, 2008; Eisenberger *et al.*, 1986; Farh, Podsakoff, & Organ, 1990; Loi, Hang-yue, & Foley, 2006).

Muse and Stamper (2007) note that the theory has been used to explain positive impacts of Perceived Organizational Support (POS) on behaviors including in-role performance (e.g., Eisenberger *et al.*, 2001; Settoon *et al.*, 1996); extra-role performance (e.g., Shore & Wayne, 1993); and turnover intentions (e.g., Wayne *et al.*, 1997). While social exchange theory has definitely been useful in helping identify positive outcomes associated with perceived organizational support, it does not provide guidance to researchers on how to appropriately model these outcomes in order to comprehend the

whole underlying mechanisms of how perceptions of organizational support result in employee behavioral change. Specifically, social exchange theory does not direct researchers to believe that workplace attitudes and behaviors may be linked to each other, aside from their relationship to perceived organizational support. Therefore, the present study examined the whole picture of the impact perceived organizational support has on consequences that may be more appropriately modeled as distal outcomes versus those that are actually more proximal (Muse & Stamper, 2007). It is expected that high levels of perceived organizational support may be negatively associated with role stress because organizations that care about their employees' well-being are more likely to reduce unnecessary work complications and distractions for their workers (Jawahar *et al.*, 2007; Stamper & Johlke, 2003).

### **3.13.3 Negative Linear Theory**

The root of negative linear theory is not new. It belongs to the works of Vroom's expectancy theory (Vroom, 1964). It came as a result of extensive research which investigated the relationship between job stress and job performance. The findings of the previous studies proposed four types of relations between job stress and job performance: negative linear relationship, positive linear relationship, curvilinear/U-shaped relationship, and no relationship between them (Jamal, 1984).

Negative linear theory is based on the proposition that job stress consumes an individual's time, energy, attention, and takes away the tasks at hand, which hinders job performance (Jamal, 1985). Earlier, Vroom (1964) offered two explanations for the

theory: (a) when individuals experience a high level of stress, their perception of the surrounding is limited and this causes them to ignore important information and cues; and (b) job stress causes involuntary physiological responses that interfere with performance.

Negative linear theory has been validated extensively by many researchers in different domains (e.g. Allen *et al.*, 1982; Beehr *et al.*, 1976; Breugh, 1980; Friend, 1982; Greer & Castro, 1986; Gupta & Beehr, 1979; Harris & Berger, 1983; Jamal, 1984, 1985, 2007, 2011; Lagace, 1988; Schuler, 1975; Vroom, 1964; Westman & Eden, 1991, 1996). Muse *et al.* (2003) in their meta-analysis found that 46% out of the 52 empirical studies supported the existence of negative linear relationship between job stress and job performance.

### **3.14 SUMMARY**

This chapter reviews the past studies that have considered job performance specifically in reference to task performance and contextual performance. Job demand and job resources have been investigated with special regards to the nursing profession and further discussions concerning job demands have been carried out with special reference to physical demands, emotional demands, quantitative demands and shift work. As far as job resources are concerned, they have been explored with special attention to skill variety, task significance, task identity, feedback, and job security. The job demands resources model, which is usually designated JD-R as well as job stress have been discussed with reference to the nursing profession besides theory of organizational support. Finally, the relationships between various variables have been assessed to

include the relationship between job demand, job resources and job performance, the relationship between job demand, job resources and job stress, the relationship between job stress and job performance, the relationship between organizational support and job stress, and finally, the relationship between organizational support and job performance.

Despite the extant literatures, studies pertaining to the nursing in government hospitals in Middle East and the rest of Asia were very few. Many studies have focused on the Western countries. Additionally, most of these studies have focused on numerous other professions with the exception of the health care industry and with the exception of the nursing profession as a whole. In other words, research concerning job performance, job demands, job resources, job stress and perceived organizational commitment has not been done sufficiently with regards to the nursing profession and with specific regards to the Middle East and the rest of Asia besides other continents of Africa.

The various job demands that have been looked at in this study are the physical demands, which are the stressors that are associated with the physical setting such as the humidity, lighting, temperature and noise among others. It is also referred to as the intensity of the effort that is required physically in the course of working (Michiel *et al.*, 1998); emotional demands which are the aspects of work which require constant emotional input from the employees mostly as a result of interactions with clients for example in human service; quantitative demands which refer to work overload, work pressure or too much work to do in too little time, and shift work which is a work arrangement whereby employees go to work in turns in order to ensure that the services that are being provided are available around the clock (Karriker & Williams, 2009). On the other hand, the various job resources that have been discussed include skill variety

which is the incorporation of various skills and talents in the course of undertaking work which is thought to create motivation and establish meaningfulness by eliminating boredom among the employees (Mehta & Shah, 2005; Rotundo & Sackett, 2002); task significance which is the extent to which a job is important to people in the community as well as people in the organization; task identity which is the visible outcome of completing a task from the beginning to the end; feedback, which is the work itself and other employees provides worker with information on their job performance; and job security which is the probability that an employee will remain in his or her employment. Job performance has revolved around task performance which is the activities which are critical in the execution of activities that are specified by the job description; and contextual performance which refers to activities which facilitate the social and psychological growth of the organization (Rotundo & Sackett, 2002).

Job demands, job resources, job stress, and organizational support are all involved in one way or another to job performance, both contextual performance and task performance. Job demands are responsible for the production of negative health and wellbeing effects in employees whereas job resources are known to elicit positive effects in the employees besides enhancing job performance and countering the effects of job demands. However, the processes through which these two interact to produce various effects have not been well established. Moreover, the existing literatures reveal a fragmented element to the literature that deals with the investigation of the relationship among job performance, job stress, and other job variables. In other words, previous literature presented either a single variable or small numbers of variables were explored

with regards to their relationship with job performance. Finally, the research hypotheses of the study were formulated based on the theories and previous studies.

The next chapter discusses in detail how the present study was carried out practically amongst nurses in government hospitals in the Kingdom of Saudi Arabia toward meeting the research objectives spelled out earlier.



## **CHAPTER FOUR**

### **RESEARCH DESIGN AND METHOD**

#### **4.1 INTRODUCTION**

As stated earlier in the previous chapters, the main objectives of the present study are: (1) to examine the relationship between job demands and resources, and nurses' performance; (2) to investigate the effect of job stress as a mediating variable on the relationship between job demands and resources, and nurses' performance; and (3) to determine the moderating effect of organizational support on the relationship between job stress and nurses' performance. In order to achieve these objectives, the present chapter discusses the research design and the methodology used to conduct the study. Specifically, the discussions here will revolve around all pertinent matters that address the research approach, sampling design, variables and measurements, data collection technique, and methods for data analysis.

#### **4.2 RESEARCH DESIGN**

Research design spells out how the research is carried out toward the accomplishment of research objectives and answering of questions. In other words, research design constitutes the outline for the collection, measurement, and analysis data (Cooper & Schindler, 2008). Zikmund, Babin, Carr, and Griffin (2010) defined research design as a master plan

that outlines the methods and procedures for collecting and analyzing data. Moreover, research design helps the researcher in the allocation of inadequate resources by posing vital choices in methodology (Cooper & Schindler, 2008).

The main research design employed in the present research was survey. Survey is defined as a measurement process that utilises a measurement tool called a questionnaire, measurement instrument, or interview schedule (Cooper & Schindler, 2008). Surveys attempt to describe what is happening or to study the reasons for an exacting business activity (Zikmund *et al.*, 2010). The questionnaire is the most common information collection tool in business research (Cooper & Schindler, 2008). The questionnaire is the most extensively used information collection technique in a survey study (DeVaus, 2002). Questionnaire is an organized set of questions or measures used by respondents or interviewers to record answers data (Hair, Money, Samouel, & Page, 2007).

The use of survey was appropriate in the present study because the researcher is interested to get opinions of the research participants on certain issues of interest. In the present study, the researcher aimed at obtaining information on how the participants view their job. In addition, a survey supplies a fast, inexpensive, efficient, and precise means of assessing data about a population (Zikmund *et al.*, 2010). Furthermore, due to the majority survey study is descriptive study; the term survey is most often linked with quantitative finding (Zikmund *et al.*, 2010).

### **4.2.1 Research Approach**

There are two main research approaches, namely, quantitative and qualitative (Cooper & Schindler, 2008; Hair *et al.*, 2007; Sekaran, 2003; Zikmund *et al.*, 2010). Quantitative research is defined as the precise count of some behavior, knowledge, opinion, or attitude (Cooper & Schindler, 2008). In other word, quantitative research is defined as study that addresses study objectives during empirical assessments that include numerical measurement and analysis approaches (Zikmund *et al.*, 2010). This study is quantitative in nature because it attempts to explore the relationship between job demands and resources variables and nurses' performance, and the effect of job stress as a mediating variable on the relationship between job demands resources and nurses' performance, and the effect of organizational support as a moderating variable on the relationship between job stress and nurses' performance. The quantitative nature lies in the fact that the data collected were mainly numerical.

The unit of analysis in any study is represented by the level of aggregation of the data collected during the data analysis state (Sekaran, 2003). Because the present study is interested in examining job experiences of nurses and how these affect their job performance, thus the level of analysis is individual. This means that the data were collected and aggregated at the individual level based on data obtained from the nurses selected.

### **4.3 POPULATION, SAMPLE AND SAMPLING TECHNIQUE**

This section explains the population, sample, and the sampling technique. Specifically, it talks about what the population of the study is, and how the sample was selected. It explains in detail the sampling technique used to select the sample to represent the population identified.

#### **4.3.1 Population**

Population is defined by Cooper and Schindler (2008) as those people, events, or records that contain the desired information and can answer the measurement questions. As the present study is interested to investigate nurses' experience at work with regards to how they would respond to various stimuli at work and how such response will affect their job performance, the study naturally focused on nurses. In this study, the general population consists of nurses who are working in public hospitals administered under the umbrella of the Ministry of Health of Saudi Arabia. The nursing sector under the Ministry of Health makes up 57.10% of the total number of nurses in the Kingdom of Saudi Arabia. As of 2009, there were 44,719 nurses working in public hospitals in the Kingdom (MOH, 2009). Table 4.1 shows the distribution of nurses employed in public hospitals in all regions in the Kingdom of Saudi Arabia.

Table 4.1  
*Total Number of Nurses in Ministry of Health Hospitals, in 2009*

No.	Region	No. of public hospitals	Nurses	
			Number	%
1	Riyadh	44	8,652	19.35
2	Makkah	35	9,974	22.30
3	Medinah	20	3,579	08.00
4	Qaseem	17	2,557	05.72
5	Eastern	33	6,253	13.98
6	Aseer	23	3,180	07.11
7	Tabouk	11	1,528	03.42
8	Ha'il	9	1,443	03.23
9	Northern	7	1,136	02.54
10	Jazan	16	2,234	04.99
11	Najran	9	1,367	03.06
12	Al-Bahah	10	1,238	02.77
13	Al-Jouf	10	1,578	03.53
Total		244	44,719	100.00

Source: Ministry of Health Saudi (2009)

Only nurses working in public hospitals in the Kingdom of Saudi Arabia and not those working in private hospitals were considered because the majority of nurses work in public hospitals (MOH, 2010). In addition, as of 2010, 60% of nursing care services is provided by the nurses in public hospitals while the remaining 40% is provided by nurses in private sector and other governmental sector (Al-Khoshim, 2010; Almalki *et al.*, 2011; MOH, 2010). Furthermore, the private sector contributes only 20% in providing health care services especially in cities and large towns (Almalki *et al.*, 2011; MOH, 2010). This means that the nurses in public hospitals in Saudi Arabia are working under high job stress and job demands, especially in high populated areas. Indeed as reported by Tyson and Pongruengphant (2004), nurses working in public hospitals generally indicated to experience more stress than those in private hospitals. In the present study, nurses that were considered in the population were those employed as staff nurses in public

hospitals. Only these groups of nurses were taken into consideration in the present study as they make up the bulk of nurses.

#### **4.3.2 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. Sample size is the number of units that is required to get accurate findings (Fink, 2002). Gay and Diehl (1992) argue that choosing a suitable sample is very crucial as its quality will generalize the outcome of the analysis. Sampling is usually carried out rather than collecting data from every element of the population due to its practicality (Sekaran, 2003; Zikmund, 2003) because selecting a sample will lead to a more successful outcome due to the reduction of fatigue and errors resulting in the data collected specially when the number of elements involved are huge (Sekaran, 2003).

Pallant (2007) noted that while there is little consensus among scholars about the sample size, the larger the sample is better because small samples tend to result in unreliable correlation coefficients and thus defeats the purpose of the study. 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. As a rule of thumb, sample size between 30 and 500 could be considered effective depending on the type of sampling design and research question investigated (Roscoe, 1975). However, in multivariate researches, the sample size should be several times larger, preferably 10 times, than the variables of the study.

For the purpose of this study, the sample size was 380, based on Krejcie and Morgan's (1970) formula, for a population size of 44,719 nurses. As mentioned before, in a multivariate analysis, the sample size should be several times larger than the number of variables. Because there are 19 variables in the present study, the required sample size should be at least 190 or more, and hence 380 subjects are deemed an appropriate size.

### **4.3.3 Sampling Technique**

An area sampling was used in order to select the sample of the present study. This is the most popular type of cluster sample especially when the design comprises geographic clusters (Sekaran, 2003). The main objective of cluster sampling is to sample 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 individuals with multiple backgrounds, attitudes and behaviours in one cluster have similar characteristics with those in other clusters (Gay & Diehl, 1992).

In the present study, the geographic clusters are the different administrative regions in the Kingdom of Saudi Arabia. As shown in Table 4.1, 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 *et al.*, 2008; Ministry of Foreign Affairs, 2006), 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 backgrounds, jobs performed, etc. 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 technique of sampling requires six steps:

1. Define the population. Here the population is 44,719 hospital nurses (Table 4.1).
2. Define the sample size. Here the sample size of 380 was determined based on Krejcie and Morgan's (1970) formula.
3. Define a logical cluster. The logical cluster in the present study was the administrative region 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 were estimated by dividing the population size of 44,719 nurses in public hospitals by the number of clusters (13 regions). This results in 3,440 hospital nurses (elements per cluster).
5. The number of cluster was determined by dividing the determined sample size (380) by the estimated size of a cluster (3,440), which resulted in  $0.11 \approx 1$  cluster or region.
6. This means that one cluster/region needs to be randomly selected. If the number of the sample does not meet the determined sample size, then an additional region needs to be randomly selected. Based on the above calculation, one cluster/region in Kingdom of Saudi Arabia was randomly selected. To choose one region out of 13 regions, a simple random sampling without replacement was used. The name of each region was written on different pieces of paper, and one region was later chosen. Based on this procedure, the Hail region was selected. Because the number of nurses in the Hail region was higher than the determined sample size,



no additional region/cluster was required, and data were collected from all nurses who are working in the public hospitals in this region (1,443 nurses as shown in Table 4.1). In the Hail region, there are nine public hospitals (refer Table 4.1).

#### **4.4 DATA COLLECTION PROCEDURE**

According to Sekaran (2003), there are many methods that can be possibly used to collect data from respondents such as interviews and questionnaires. Interviews involve unstructured and structured approach. Interviews can differ from being highly unstructured to highly structured. Unstructured interviews are usually conducted by an extremely flexible approach. In contrast, the interviewer controls structured interviews in a consistent and orderly manner (Hair *et al.*, 2007). There are many types of interviews such as personal or face-to-face interview, and telephone or online interview. Self or face-to-face interviews are costly and need more time especially when the research covers broad geographic district. Furthermore, participants may be worried about confidentiality of data given. Interviews can also introduce researcher biases, and interviewers need to be trained (Hair *et al.*, 2007; Sekaran, 2003; Zikmund *et al.*, 2010).

A questionnaire, on the other hand, is a pre-written set of questions that respondents are required to answer, which is generally within close defined alternatives (Sekaran, 2003). 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, 2003). In the present study, questionnaires were used because the researcher was interested in getting specific responses on the issues at hand i.e. job demands and

resources, job stress, organizational support, and job performance via specific measurements.

To get the relevant data, self-administered questionnaires were employed in which participants take the task for reading and answering the questions on their own (Zikmund *et al.*, 2010). Before the questionnaires were finally distributed, an introduction letter was forwarded to the General Directorate of Planning and Research and the General Directorate of Nursing, Ministry of Health in Saudi Arabia, regarding the intention of the researcher. A sample of the questionnaire was also given to the Ministry of Health for their perusal so that they understood exactly what the research was all about in order to secure their approval. A written approval had to be obtained from the Ministry of Health in Saudi Arabia to facilitate the data collection process. With the approval letter attached together with the questionnaire, higher responses could be likely as participants would understand the importance of the research conducted. The approval letter can be seen in Appendix B.

The formal permission to conduct the research at the public hospitals in the Hail region was obtained in the month of May, 2011. Once the approval was granted, the data collection started immediately. The Director of each public hospital in the Hail region was then contacted to get access to the hospital nurses. The Director was initially briefed about the objective and purpose of the research, its importance, and the way the study would be carried out. The approval from the Ministry was also shown to them to encourage active participation in the research. Once the Director gave access to the researcher, the questionnaires were distributed immediately.

Since all nurses in the Hail region were supposed to respond to the questionnaire, cooperation from the director of each hospital to help distribute the questionnaires to the nurses employed there was imperative. Upon the director's approval, the questionnaires were handed personally to the head of the department of continuous training and education. After the questionnaires had been completed by all nurses in the hospital, the researcher collected the questionnaires personally from the department. The researcher conducted follow-up visits to increase the participants' response rate. Telephone calls were also made to the head of the department reminding him about the survey. New survey forms were also given to those who had misplaced the original form based on the feedback from the head of the department. All in all, the data collection took three months to complete, starting from the mid month of June to the mid month of September 2011.

#### **4.5 OPERATIONAL DEFINITION AND MEASURES**

This section discusses how each variable in the present study was measured. Altogether there are 19 main variables involved. In addition, demographic variables were also considered, as discussed below.

In general, all responses in this study were made on a five-point scale. The five-point scale was adopted because it is the most common scaled-response form used in recent researches (Gwinner, 2006) and has the ability to provide the most accurate measurement (Hair, Black, Babin, & Anderson (2010). In addition, it is also considered appropriate to test the proposed hypothesis (DeVellis, 1991). Neutral rating was included just in case there are respondents who feel neutral about certain topics, and according to

Gwinner (2006), neutrality is a legitimate opinion that exists among respondents and can be used to show neutrality or mixed opinions.

#### **4.5.1 Job Demands**

Job demands refer to “those physical, psychological, social, or organizational aspects of the job that require sustained physical or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological or psychological costs” (Demerouti *et al.*, 2001). The job demands variables in this study comprise quantitative demands, physical demands, emotional demands, and shift work. Nineteen items were used to measure job demands variables.

##### **4.5.1.1 Quantitative Demands**

Quantitative job demands refer to “work overload or work pressure or too much work to do in too little time” (Peeters *et al.*, 2005). A total of five items were used to measure quantitative demands. These items were adopted from van der Heijden *et al.* (2008). A five-point Likert scale, ranging from '1' "hardly ever" to '5' "always", was employed. Participants were asked to indicate whether they were able to carry out specific job duties listed at work such as "How often they lack time to complete their tasks," "Can they pause in their work whenever they want," and "Do they have to work very fast." The internal consistency of the scale reported by van der Heijden *et al.* (2008) was 0.75.

#### **4.5.1.2 Physical Demands**

Physical demands refer to “what the extent to which the job requires strenuous movements like bending, physical strength, lifting, or carrying objects” (Demerouti & Geurts, 2004). A total of eight items were used to measure physical demands. These items were adopted from van der Heijden *et al.* (2008). A five-point Likert scale, ranging from '1' "0-1 times a day" to '5' "> 10 times a day", was used. Participants were asked to indicate how frequent they were required to do a number of specific movements at their job, such as "Bedding and positioning patients," "Transferring or carrying patients," and "Helping with feeding." The internal consistency of the scale reported by van der Heijden *et al.* (2008) was 0.93.

#### **4.5.1.3 Emotional Demands**

Emotional demands refer to “what the extent to which employees are confronted in their job with things or persons that touch them personally” (Demerouti & Geurts, 2004). A total of four items were used to measure emotional demands. These items were adopted from van der Heijden *et al.* (2008). A five-point Likert scale, ranging from '1' “never” to '5' “always”, was employed. Participants were asked to indicate the degree of frequency they were confronted with different situations such as death, illness, aggressive patients, and troublesome patients at work. The internal consistency of the scale reported by van der Heijden *et al.* (2008) was 0.78.

#### **4.5.1.4 Shift Work**

Shift characteristics refer to “frequency of working shifts longer than 8 hours, and frequency of working double shifts” (Burke, 2003). A total of two items were used to measure shift work, which were adopted from Burke (2003). A five-point scale, ranging from '1' “not at all” to '5' “quite a lot”, was employed. Participants were asked to indicate the frequency they had to work more than eight hours per shift, and to work two shifts, back to back.

#### **4.5.2 Job Resources**

Job resources refer to “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” (Demerouti *et al.*, 2001). In this study job resources variables comprise skill variety, task significance, task identity, feedback, and job security. Nineteen items were used to measure job resources variables.

##### **4.5.2.1 Skill Variety**

Skill variety reflects the degree to which a job requires an employee to use a variety of different skills to complete the work (Hackman & Oldham, 1980). A total of four items were used to measure skill variety. These items were adopted from McKnight, Phillips

and Hardgrave (2009) and measured based on a five-point Likert scale, ranging from '1' "strongly disagree" to '5' "strongly agree". Participants were asked to indicate their level of agreement or disagreement on items such as "My job requires me to do many things at work, using a variety of my skills and talents," "My job requires me to use a number of complex of high-level skills," and "My job requires that I make use of a wide range of my talents and abilities." The scale was reported to have an internal consistency of 0.91 (McKnight *et al.*, 2009).

#### **4.5.2.2 Task Significance**

Task significance reflects the extent to which a job influences the lives or work of others, whether inside or outside the organization (Hackman & Oldham, 1975). Those people who have jobs that significantly affects other either physically or psychologically are inclined to experience meaningfulness in their work as opposed to those who do not (Hackman & Oldham, 1980). A total of three items were used to measure task significance. These items were adopted from McKnight *et al.* (2009) and measured on a five-point Likert scale, ranging from '1' "strongly disagree" to '5' "strongly agree". Participants were asked to indicate their level of agreement or disagreement on items such as "My job is one where a lot of other people, in this hospital and other hospitals, can be affected by how well my work gets done," and "My job is important in that the results of my work can significantly affect other people's ability to do their work." The scale was reported to have an internal consistency of 0.94 (McKnight *et al.*, 2009).

#### **4.5.2.3 Task Identity**

Task identity reflects the degree to which a job involves a whole piece of work, the results of which can be easily identified (Sims Jr., Szilagyi, & Keller, 1976). Jobs that are comprised of a structured task such as putting together a product are more interesting than those that involve different small tasks (Hackman & Oldham, 1980). A total of three items were used to measure task identity, which were taken from McKnight *et al.* (2009) and measured on a five-point Likert scale, ranging from '1' "strongly disagree" to '5' "strongly agree". Participants were asked to indicate their level of agreement or disagreement on items such as "My job is arranged so that I can usually do an entire piece of work from beginning to end, not just a small part of an overall piece of work," and "My job usually involves a complete piece of work that has an obvious beginning and end." The scale was reported to have an internal consistency of 0.92 (McKnight *et al.*, 2009).

#### **4.5.2.4 Feedback**

Feedback from job reflects the extent to which the job provides direct and clear information about the effectiveness of task performance (Hackman & Oldham, 1976) which is thought of as to improve knowledge of the results of the job done (Hackman & Oldham, 1980). A total of three items were used to measure feedback. These items were adapted from McKnight *et al.* (2009) and measured based on a five-point Likert scale ranging from '1' "strongly disagree" to '5' "strongly agree". Participants were asked to



indicate their level of agreement or disagreement on items such as "After I finish my task, I know whether I performed well," and "Just doing the work required by this job provides many chances for me to figure out how well I am doing." The scale was reported to have an internal consistency of 0.92 (McKnight *et al.*, 2009).

#### **4.5.2.5 Job Security**

Greenhalgh and Rosenblatt (1984) studied job insecurity and defined it as the inability to keep the desired persistence in an endangered job situation. Because job insecurity is the opposite of job security, the definition of Greenhalgh and Rosenblatt was used. Hence, job security is defined here as the ability to maintain the desired continuity and stability in a threatened job situation. A total of six items were used to measure job security, which were taken from Zeytinoglu, Denton, and Plenderleith (2011). The variable was measured by six items on five-point scale ranging from '1' "strongly disagree" to '5' "strongly agree". Participants were asked to indicate their level of agreement or disagreement on items such as "I am presently safe from dismissal at this hospital," "I feel uneasy about the security in my present job" (reverse-coded), and "I am worried about my future with this hospital" (reverse-coded). The internal consistency of the scale reported by Zeytinoglu *et al.* (2011) was 0.92.

### **4.5.3 Job Stress**

Stress, which indicates self-reported symptoms, is caused by the transactions among people and the environment (Lazarus, 1990). A total of fourteen items were used to measure job stress. These items were taken from Zeytinoglu *et al.* (2007) and measured on a five-point scale ranging from '1' "none of the time" to '5' "all of the time". Participants were asked to indicate the frequency they experienced uncomfortable situations such as "feeling exhausted at the end the day, "not feeling energized on the job," and "not able to sleep through the night." The internal consistency of the scale reported by Zeytinoglu *et al.* (2007) was 0.87.

### **4.5.4 Organizational Support**

Perceived organizational support is defined as "a general perception concerning the extent to which the organization values employees' contribution, and cares for their well-being" (Eisenberger *et al.*, 1986, 1990). A total of eight items were used to measure organizational support, which were adopted from Saks (2006). The items were measured on a five-point Likert scale ranging from '1' "strongly disagree" to '5' "strongly agree". Participants were asked to indicate their level of agreement or disagreement on items such as "My organization really cares about my well-being," "My organization shows little concern for me" (reverse-coded), and "Help is available from my organization when I have a problem." The internal consistency of the scale reported by Saks (2006) was 0.89.

#### 4.5.5 Nurses' Performance

Borman and Motowidlo (1993) assert that job performance consists of task performance and contextual performance. Task performance is described as the actions that are done to help the running of the organization and those common activities that a worker has to perform (Coleman & Borman, 2000). On the other hand, contextual performance is described as those activities done to necessitate the good functioning of the technical core. In other words, they are activities that include autonomous actions that help run the hospital (Borman & Motowidlo, 1993).

In the present study, subjective measures of performance were used instead of objective measures. Wall *et al.* (2004) said that many researches of human resource management adopted the subjective measures of job performance as they enable them to generalize the outcomes to a huge performance construction. Furthermore, subjective measurements of performance have been found to have a strong correlation with objective measurements and are often used as a valid indicator of performance (Wall *et al.*, 2004).

A total of 41 items were used to measure nurses' performance, in which 23 items to measure task performance, and 18 items to measure contextual performance. These items were adopted from Greenslade and Jimmieson (2007).

Task performance was measured on a five-point scale ranging from '1' "much below average" to '5' "much above average." Here, participants were requested to indicate to what extent they were able to perform the specific job duties listed such as "Explaining to patients what to expect when they leave the hospital," "Providing

instructions for care at home," and "Communicating to patients the purpose of nursing procedures" in comparison to other nurses.

Contextual performance was measured on a five-point scale ranging from '1' "not at all" to '5' "a great deal". Participants were requested to indicate to what extent they performed or did not perform the specific job duties listed such as "Explaining to patients what to expect when they leave the hospital", "Raising morale of other nurses in the unit," "Staying late to help patients," and "Attending and participating in meetings regarding the hospital." The internal consistencies of the scale reported by Greenslade and Jimmieson (2007) were 0.94 and 0.91, for task and contextual performances, respectively.

#### **4.5.6 Demographic Variables**

Participants of the present study were also asked to provide personal information such as their gender, age, nationality, marital status, academic qualification, monthly income, years experience as a hospital staff nurse, years working in this unit as nurse, and type of clinical work. All the demographic variables were measured on a categorical scale.

In sum, Table 4.2 shows the list items asked in the present study and their sources. All in all, 101 items were asked, as shown.

Table 4.2  
*List of Items of the Main Variables*

Variables	Items	Source
Job Demands		
• Quantitative demands	1. How often do you lack time to complete all your work tasks?	van der Heijden <i>et al.</i> (2008)
	2. Can you pause in your work whenever you want?	
	3. Do you have to work very fast?	
	4. Is your workload unevenly distributed so that things pile up?	
	5. Do you have enough time to talk to patients?	
• Physical demands	1. Bedding and positioning patients.	van der Heijden <i>et al.</i> (2008)
	2. Transferring or carrying patients.	
	3. Lifting patients in bed without aid.	
	4. Mobilizing patients.	
	5. Clothing patients.	
	6. Helping with feeding.	
	7. Making beds.	
	8. Pushing patient's beds, food trolleys, or laundry trolleys.	
• Emotional demands	1. Death.	van der Heijden <i>et al.</i> (2008)
	2. Illness or any other human suffering.	
	3. Aggressive patients.	
	4. Troublesome patients' in their work.	
• Shift work	1. Times worked more than 8 hours per shift. During the last month, approximately how many times did you work more than 8 hours per shift?	Burke (2003)
	2. Times worked two shifts, back to back. During the last month, how often did you work two shifts, back to back?	
Job Resources		
• Skill variety	1. My job requires me to do many different things as work, using a variety of my skills and talents.	McKnight <i>et al.</i> (2009)
	2. My job requires me to use a number of complex or high-level skills.	
	3. Overall, my tasks are not simple and repetitive.	
	4. My job requires that I make use of a wide range of my talents or abilities.	
• Task significance	1. My job is one where a lot of other people, in this hospital and other hospitals, can be affected by how well my work gets done.	McKnight <i>et al.</i> (2009)
	2. My job is important in that the results of my work can significantly affect other peoples' ability to do their work.	
	3. My job itself is very significant and important in that it facilitates or enables other peoples' work.	
• Task identity	1. My job is arranged so that I can usually do an entire piece of work from beginning to end, not just a small part of an overall piece of work.	McKnight <i>et al.</i> (2009)
	2. My job generally provides me the chance to completely finish the pieces of work I begin.	
	3. My job usually involves a complete piece of work that has an obvious beginning and end.	

(Continued)

Table 4.2 (Continued)

Variables	Items	Source
Job Resources		
• Feedback	<ol style="list-style-type: none"> <li>1. My job itself provides me information about my work performance. That is, the actual work itself provides clues about how well I am doing aside from any feedback co-workers or supervisors may provide.</li> <li>2. After I finish a task, I know whether I performed it well.</li> <li>3. Just doing the work required by this job provides many chances for me to figure out how well I am doing.</li> </ol>	McKnight <i>et al.</i> (2009)
• Job security	<ol style="list-style-type: none"> <li>1. I am presently safe from dismissal at this hospital.</li> <li>2. I am confident that this hospital will remain a steady place of employment for as long as I want to continue working here.</li> <li>3. I feel uneasy about the security in my present job (R).</li> <li>4. I feel I am likely to be laid off at this hospital (R).</li> <li>5. I am worried about my future with this hospital (R).</li> <li>6. I am worried about my job security (R).</li> </ol>	Zeytinoglu <i>et al.</i> (2011)
Job Stress		
	<ol style="list-style-type: none"> <li>1. I feel exhausted at the end of the day.</li> <li>2. I am not feeling energized on the job.</li> <li>3. I am not able to sleep through the night.</li> <li>4. I feel burnt out most or all of the time.</li> <li>5. There is nothing more to give.</li> <li>6. I have little or no control over my life.</li> <li>7. I feel irritable and tense.</li> <li>8. I am suffering from headaches or migraines.</li> <li>9. I am feeling helpless.</li> <li>10. I am feeling like yelling at people.</li> <li>11. I am feeling angry.</li> <li>12. I like crying.</li> <li>13. I have concentrating difficulty.</li> <li>14. I am feeling dizzy.</li> </ol>	Zeytinoglu <i>et al.</i> (2007)
Organizational Support		
	<ol style="list-style-type: none"> <li>1. My organization really cares about my well-being.</li> <li>2. My organization strongly considers my goals and values.</li> <li>3. My organization shows little concern for me (R).</li> <li>4. My organization cares about my opinions.</li> <li>5. My organization is willing to help me if I need a special favor.</li> <li>6. Help is available from my organization when I have a problem.</li> <li>7. My organization would forgive a honest mistake on my part.</li> <li>8. If given the opportunity, my organization would take advantage of me (R).</li> </ol>	Saks (2006)
Job Performance		
• Task performance	<ol style="list-style-type: none"> <li>1. Explaining to patients what to expect when they leave the hospital.</li> <li>2. Providing instructions for care at home.</li> <li>3. Explaining to families what to do if the patient's problems or symptoms continue, get worse, or return.</li> </ol>	Greenslade and immieson (2007)

(Continued)

Table 4.2 (Continued)

Variables	Items	Source
Job Performance		
• Task performance	<ol style="list-style-type: none"> <li>4. Explaining to patients when they can resume normal activities, such as going to work or driving a car.</li> <li>5. Providing appropriate information to families about nursing procedures performed.</li> <li>6. Communicating to patients the purpose of nursing procedures.</li> <li>7. Informing patients of the possible side-effects of nursing procedure.</li> <li>8. Explaining to nurses in the unit the nature of the patient's condition.</li> <li>9. Reporting the critical elements of patients' situations when turning over work shifts.</li> <li>10. Explaining to patients what to expect when they leave the hospital.</li> <li>11. Providing instructions for care at home.</li> <li>12. Explaining to families what to do if the patient's problems or symptoms continue, get worse, or return.</li> <li>13. Explaining to patients when they can resume normal activities, such as going to work or driving a car.</li> <li>14. Providing appropriate information to families about nursing procedures performed.</li> <li>15. Communicating to patients the purpose of nursing procedures.</li> <li>16. Informing patients of the possible side-effects of nursing procedure.</li> <li>17. Explaining to nurses in the unit the nature of the patient's condition.</li> <li>18. Reporting the critical elements of patients' situations when turning over work shifts.</li> <li>19. Taking patient observations (e.g. blood pressure, pulse, temperature).</li> <li>20. Assisting patients with activities of daily living (e.g. showering, toileting and feeding).</li> <li>21. Developing a plan of nursing care for patients.</li> <li>22. Administering medications and treatments.</li> <li>23. Evaluating the effectiveness of nursing care.</li> </ol>	Greenslade and Jimmieson (2007)
Job Performance		
• Contextual performance	<ol style="list-style-type: none"> <li>24. Raising morale of other nurses in the unit.</li> <li>25. Helping nurses in the unit to resolve work problems.</li> <li>26. Consulting amongst each other when actions might affect other nurses in the unit.</li> <li>27. Taking time to meet unit nurses' emotional needs.</li> <li>28. Volunteering to share special knowledge or expertise with other nurses in the unit.</li> <li>29. Helping nurses in the unit to catch up on their work.</li> <li>30. Making special arrangements for a patient's family.</li> <li>31. Staying late to help families.</li> <li>32. Taking extra time to respond to a family's needs.</li> <li>33. Making special arrangements for the patient.</li> <li>34. Staying late to help patients.</li> </ol>	Greenslade and Jimmieson (2007)

(Continued)

Table 4.2 (Continued)

Variables	Items	Source
Job Performance		
<ul style="list-style-type: none"> <li>• Contextual performance</li> </ul>	<ul style="list-style-type: none"> <li>35. Taking extra time to respond to a patient's needs.</li> <li>36. Complying with hospital rules, regulations and procedures, even when no one is watching.</li> <li>37. Representing the hospital favorably to individuals outside the hospital.</li> <li>38. Making sure that materials and equipment are not wasted.</li> <li>39. Volunteering to participate on committees within the hospital that are not compulsory.</li> <li>40. Attending and participating in meetings regarding the hospital.</li> <li>41. Making innovative suggestions to improve the overall quality of the department.</li> </ul>	Greenslade and Jimmieson (2007)

#### 4.6 TRANSLATION OF QUESTIONNAIRE

All measures in the questionnaire were originally written in the English language. Because some of the subjects were local people, there was a need to translate the items into Arabic. Hence back translation was used, using Brislin's (1970) procedure. Back translation is the method most commonly used to test the precision of translation in survey study (Douglas & Craig, 2007). Back translation is a process that is commonly used to examine the precision of translation in a multi-country study (Brislin, 1970, 1980). Moreover, historically in the social sciences back translation has been broadly used to examine the precision of the translation and to detect errors in translation (Brislin, 1970, 1980; Douglas & Craig, 2007). For instance, back translation is the most frequently used approach in marketing to help identify problems and egregious errors in translation (Douglas & Craig, 2007).

The English version of the questionnaire was first translated into Arabic by a native Arab who was fluent in both languages and is an expert in health. Then, the translated version was back translated again into English by another expert who was also



fluent in both languages to enable the researcher to compare the translated version with the original version. After comparing the original version of the English questionnaire and the back translated English version questionnaire was done, no major paraphrase was required for any item.

#### **4.7 QUESTIONNAIRE DESIGN**

The questionnaire was prepared in a booklet type form that had five main sections. According to Sudman and Bradburn (1982), a booklet type questionnaire has several advantages such as it (1) prevents pages from being lost or misplaced, (2) makes it easier for the respondent to turn the pages, (3) looks more professional and is easier to follow, and (4) makes it possible to use a double page format for questions about multiple events or persons. The participants were asked to circle the appropriate response, while for multiple choice questions, they were asked to tick their responses that best represented them.

An introductory letter was also attached to the final questionnaire for distribution. The letter specifically informed the participants about the purpose of the research, soliciting their cooperation in participating in the study, confidentiality of their responses, and how they could return the completed questionnaires. The participants were asked to return their responses to the researcher directly. The participants were also encouraged to communicate with the researcher if they were interested in the outcome of the study or if they had any questions to ask. An introductory letter containing such information is important as it helps promote high responses from the participants (Sekaran, 2003).

#### 4.8 PILOT STUDY

A pilot study can be described as a small-scale project that culls data from respondents that are similar to the target respondents of the study (Zikmund *et al.*, 2010). It normally serves as a guide to the researcher for his/her actual larger study or to examine the ambiguous aspects of the research to find out whether the procedures will work as intended. In other words, pilot studies are important because they refine survey questions and reduce flaws in the study (Zikmund *et al.*, 2010). Furthermore, the pilot study's importance lies in the fact that it improves the questionnaires (Neuman, 1997). Normally, the size of the pilot study ranges from 25-100 subjects (Cooper & Schindler, 2008).

For the above reasons, the researcher conducted a pilot study. The questionnaires were distributed to 30 hospital nurses in a county hospital of Bukeryyah in Al-Qaseem region in Saudi Arabia. During the pilot study, the nurses were encouraged to provide comments to the questionnaire in terms of the wordings used, the format, the layout etc., in addition to answering the questions. For example, the nurses commented that the researcher increase the space allocated for respondents' comments. The final questionnaire was later prepared by incorporating the comments given by the participants.

In addition to checking for clarity of the questions, the researcher also examined the questionnaire instruments' reliability. The present study suggested that the threshold of an acceptable level of reliability is at least .70, according to Hair *et al.* (2010), Nunnally (1978), and Zikmund *et al.* (2010), in which a reliability estimate of .7 or higher suggests a good reliability. Table 4.3 shows the Cronbach's alpha values of the

variables used in pilot study. As shown, the alpha values ranged from .735 to .964. These values were higher than the threshold value of .70, indicating that the instruments used to measure the main variables were reliable.

Table 4.3  
*Result of Cronbach's Alphas of the Main Variables in Pilot Study*

<b>Number of Items</b>	<b>Variables</b>	<b>Alpha</b>
5	Quantitative Demands (QD)	.745
8	Physical Demands (PD)	.899
4	Emotional Demands (ED)	.735
2	Shift Work (SW)	.846
4	Skill Variety (SV)	.801
3	Task Significance (TS)	.828
3	Task Identity (TI)	.828
3	Feedback (FB)	.773
6	Job Security (JSec)	.882
14	Job Stress (JS)	.964
8	Organizational Support (OS)	.806
23	Nurses' Task Performance (NTP)	.943
18	Nurses' Contextual Performance (NCP)	.922

## **4.9 DATA ANALYSIS TECHNIQUES**

To analyse the data, descriptive analysis, content validity, factor analysis, test of reliability, correlation test, and multiple regression analysis were performed. These analyses were run on Statistical Package for Social Science program (Version 16). The following explains each analysis run.

### **4.9.1 Descriptive Analysis**

According to Sekaran (2003) and Trochim (2006), descriptive statistics like maximum, minimum, means, standard deviations, and variance can be obtained for variables that are

measured on an interval scale. Descriptive statistics are the statistics that describe the phenomena of interest (Sekaran, 2003). In the present study, descriptive statistics were run to get the feel of the data in general especially of the main variables.

#### **4.9.2 Content Validity**

Content validity refers to the sufficiency with which a measure or scale has been sampled from the intended universe or field of content (Pallant, 2010). Content validity depends on how well the dimensions and elements of a concept have been ascertained (Sekaran, 2003). It is the extent to which measurement scales cover sufficiently the questions under investigation (Cooper & Schindler, 2008). In other words, the data are considered to have met the content validity if panels of judges have an agreement that the instruments contain items that sufficiently cover all variables being measured (Sekaran, 2003; Zikmund *et al.*, 2010). Hair *et al.* (2010) argued that content validity or face validity of a scale includes a regular but subjective evaluation of a scale's ability to evaluate what it is supposed to measure. According to, Sekaran (2003), "face validity is considered by some as a basic and a very minimum index of content validity" (p. 206). For these purposes, the researcher ensured the content validity based on views and feedback from four lecturers in college of nursing in Saudi universities to ensure that the items were valid to be used in the nursing context.

### 4.9.3 Factor Analysis

According to Hair *et al.* (2010) and Pallant (2001), factor analysis is a set of techniques used to explain the underlying structure of a data matrix. The main objective of this type of analysis is to divide the factors into more manageable groups of factors (Sekaran, 2003). A second reason for using factor analysis is to establish goodness of fit for the scales used since they are all adapted from other research. Factor analysis is also conducted to reduce the number of items used to measure the variables to keep the minimum loss of information (Hair *et al.*, 2010).

There are generally two main approaches to factor analysis – the exploratory approach and the confirmatory approach. The EFA or the exploratory type is performed when the researcher is uncertain about the number of factors that exist in a set of variables, while the CFA or the confirmatory factor analysis is performed when the researcher has theoretical expectations about the number of factors and which variables relate to which factor. In other words, the CFA is appropriate for examining construct validity because it tests how well the researcher’s “theory” about the factor structure fits the actual observations (Zikmund *et al.*, 2010). As the present study aimed to identify and observe the underlying dimensions of a set of variables, exploratory factor analysis (EFA) was considered as justifiable and suitable.

Statistical measures to help assess the factor ability of the data include the following:

1. The result of Bartlett’s test of sphericity (BTS) should come out as significant ( $p < .05$ ) in order to pronounce the suitability of the factor analysis. If the situation is

otherwise, i.e. the associated probability is more than .05, then there is a danger that the identify matrix is manifested (where the diagonal elements are 1 and the off diagonal elements are 0) which would make it irrelevant for the next step in the analysis (Kinnear & Gray, 1994).

2. Kaiser-Meyer-Olkin (KMO), measures the adequacy of the sample and its index, should range from 0 to 1. For the purpose of an effective factor analysis, its lowest value should be 0.6 (Tabachnick & Fidell, 2007). In other words, if the index is lower than .60, then KMO test will be irrelevant. Similarly, Kinnear and Gray (1994) indicated that the KMO value should be higher than .50 for the result to be suitable for further factor analysis. Hair *et al.* (2010) have come up with a rule of thumb in interpreting KMO values, as follows: .90 indicates a marvelous result, .80 indicates a meritorious result, .70 a middling result, .60 is a mediocre one, .50 is acceptable but not recommended while below .50 is not acceptable. Therefore, the above factor analysis criteria were applied in this research. In this study, the threshold applied to an acceptable level of KMO was at least 0.6 and the BTS was significant as suggested by Tabachnick and Fidell (2007), indicating that the factor analysis is appropriate.

#### **4.9.4 Reliability Analysis**

This type of analysis is used to assess the degree of consistency between measurements of a variable (Hair *et al.*, 2010). Reliability can be described as the extent to which a variable or set of variables is consistent with what it is intended to measure (Hair *et al.*,

2010). For instance, if multiple measures are taken, there will be consistency of values with regards to the measures. Therefore, reliability is the indicator of a measure's internal consistency. According to Zikmund *et al.* (2010), a measure is only reliable when different measuring attempts come out with the same result. 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 *et al.*, 2010).

Internal consistency is normally measured by a coefficient alpha - the most commonly applied estimate of a multiple-item scale's reliability representing internal consistency by computing the average of all possible split-half reliabilities for a multiple-item scale (Zikmund *et al.*, 2010). The coefficient alpha demonstrates whether or not the different items converge (Zikmund *et al.*, 2010). Coefficient alpha ranges in value from 0, meaning no consistency, to 1 (Hair *et al.*, 2010; Pallant, 2007; Zikmund *et al.*, 2010), meaning complete consistency (all items yield corresponding values). Scales with a coefficient alpha between .80 and .95 are considered to have very good reliability, and the coefficient alpha value between .60 and .70 indicates fair reliability. When the coefficient alpha is below 0.60, the scale has poor reliability (Zikmund *et al.*, 2010). Nunnally (1978) recommends a minimum level of .70, with values of .60 to .70 deemed the lower limit of acceptability (Hair *et al.*, 2010), with higher values indicating greater reliability (Pallant, 2007). In this study, the threshold of an acceptable level of the reliability applied was at least .70, as suggested by Nunnally (1978).

#### **4.9.5 Correlation Analysis**

Correlation analysis is carried out when the researcher desires to describe the magnitude or strength and direction of the linkage between two variables that are measured on a continuous scale. A positive correlation shows that when one variable goes up, so does the other, while a negative one shows that as one variable goes up, the other goes down (Pallant, 2007).

In this study Pearson correlation was used to test the relationship between the main variables. Pearson correlation coefficient,  $r$ , symbolizes the estimated strength of linear association and its direction between interval and ratio variables, based on sampling data and varies over a range of +1 to -1. The prefix (+, -) indicates the direction of the relationship (positive or negative), while the number represents the strength of the relationship (the closer to 1, the stronger the relationship; 0 = no relationship) (Cooper & Schindler, 2008).

#### **4.9.6 Regression Analysis**

Standard and hierarchical regression analysis is usually carried out to look into the relationship between the variables as well as to test the hypothesis. Before this test was run, four assumptions namely normality, linearity of the relationship, independence of error term, and homoscedasticity were analyzed (Coakes, Steed, & Dzidic, 2006; Hair *et al.*, 2010). Normality is referred to as the score on each variable that is normally distributed and can be checked by looking at the histograms of scores on each variable



(Pallant, 2007). Linearity is referred to as the linear relationship between two variables. When looking at the scatterplot of scores, a rough straight line will be seen as opposed to a curve (Pallant, 2007). Homoscedasticity is the similarity of the variability of scores in variable X with variable Y, so that when the scatterplot is looked at, it shows a fairly even cigar shaped figure along its length (Pallant, 2007).

Assumptions based on normality, linearity, and homoscedasticity were verified through the residual scatterplot, histogram, and normal probability plot (P-P plot) of the regression standardized residuals (Coakes *et al.*, 2006; Hair *et al.*, 2010), while independence of error term was assessed through Durbin-Watson statistics. The value of Durbin-Watson should be between 1.50 and 2.50 to indicate independence of observation (Coakes *et al.*, 2006).

In addition, outliers and multicollinearity were also examined. Outliers were examined through boxplot and case-wise diagnostics and those identified as such, were excluded from further analysis (Hair *et al.*, 2010). Multiple regression happens to be very sensitive to outliers; therefore this process should initially be done for all variables used in the analysis. Identified outliers should be either deleted or given a suitable score that complements the remaining cluster of scores (Pallant, 2007). Outliers can be identified through the standardized residual plot. Tabachnick and Fidell (2007) define outliers as cases that have a standardized residual values above about 3.3 or less than -3.3 (Pallant, 2007).

Multicollinearity is the term referred to the linkages between independent variables and it exists only when the independent variables are highly correlated ( $r = .9$  and above). In addition, multiple regression analysis is averse to multicollinearity and this

will not be conducive to a desired result; therefore, data should always be examined for it (Pallant, 2007). On identifying multicollinearity, one of the variables might be omitted or a composite variable may be formed from the scores of the two highly correlated variables (Pallant, 2007). Multicollinearity, for the purpose of the present study, was checked using collinearity statistics (i.e. tolerance value and variance inflation factor or VIF). Tolerance value of more than .10 and VIF value of less than 10 indicate the existence of no serious collinearity problems (Hair *et al.*, 2010).

In order to examine the relationship between job demands and resources, and nurses' performance, multiple regression was utilized in the present study. In order to examine job stress as mediating the relationship between job demands and resources, and nurses' performance, and organizational support as moderating the relationship between job stress and nurses' performance, hierarchical multiple regression was utilized. Further explanation of the involved steps is offered in the coming chapter.

Based on the descriptions in the previous paragraphs, the main data analyses used in this study to answer the research questions and hence meet the research objectives are depicted in Table 4.4.

Table 4.4  
*Main Data Analyses Used*

<b>No.</b>	<b>Research Questions</b>	<b>Analysis</b>
1	What is the job performance level among hospital nurses' in public hospitals in Saudi Arabia?	Descriptive
2	To what extent do the job demands resources affect nurse's performance in public hospitals in Saudi Arabia?	Multiple regression
3	Does job stress among hospital nurses mediate the relationship between job demands resources and their performance in public hospitals in Saudi Arabia?	Hierarchical regression
4	Does organizational support among hospital nurses moderate the relationship between job stress and their performance in public hospitals in Saudi Arabia?	Hierarchical regression

#### **4.10 SUMMARY**

The chapter has explained the research design and method used in the present study. It has specifically discussed population and sampling design, formulation of research instruments, data collection procedures, and the statistical tests to analyze the data and test the research hypotheses.

The present study used a quantitative approach to meet the research objectives. Cluster sampling was employed as the main sampling technique to select the sample. The sample of the present study consisted of nurses working in public hospitals in the Kingdom of Saudi Arabia. Based on the cluster sampling, the Hail region was selected. The instruments used to measure the main variables in the study were adopted from previous studies. A number of statistical tests such as factor analysis, reliability analysis, correlation analysis, and multiple and hierarchical regression analysis were run to analyse the data collected.

In the next chapter, results of the data analyses are presented. In particular, it seeks to reveal to what extent the research hypotheses formulated in the present study were able to receive empirical support.

## **CHAPTER FIVE**

### **DATA ANALYSIS AND FINDINGS**

#### **5.1 INTRODUCTION**

In the previous chapter, an explanation on how the present study was practically carried out was offered. Based on the data analyzed, this chapter is devoted to presenting the results. This chapter is organized as follows: the first section explains the response rate and data inspection, description of the sample, validity (factor analysis), and reliability analysis. The second section contains descriptive analyses of the study variables and intercorrelations between variables. Finally, the last section presents the results of multivariate analysis to test the study hypotheses, including the use of multiple regression, to examine the effect of job demands and resources on nurses' performance. The results of the effect of job stress as mediating the relationship between job demands and resources and nurses' performance will be offered next, followed by the findings on the effect of organizational support as moderating the relationship between job stress and nurses' performance.

#### **5.2 RESPONSE RATE AND DATA INSPECTION**

Response rate is calculated by dividing the number of questionnaires returned or completed with the number of participants of the survey (Zikmund *et al.*, 2010). As

mentioned earlier in chapter four on research methodology, the sample size of the current study was 1,443 nurses from nine hospitals in the Hail region in Saudi Arabia, selected through a cluster sampling technique. Out of 1,443 questionnaires distributed, only 689 nurse participated (47.7%) at the end of the data collection period. Upon inspection, 33 cases (4.79%) were excluded due to several missing data per case. As the missing data could impact the validity of the researcher's findings, they therefore must be identified and the problem resolved (Hair *et al.*, 2010). To deal with missing data, the procedure was to identify the cases and variables that have a great percentage of missing data (10% or more). These cases and/or variables were then deleted from the analysis (Hair *et al.*, 2007). Under 10%, any of the imputation methods can be applied (Hair *et al.*, 2010). Because in the present study the missing data were lower than 10% of the total cases and/or variables, estimating the missing values by substituting the mean (replacing missing values was by calculating the mean and inputting them in data file) was performed (Hair *et al.*, 2007).

Like missing data, outliers also can impact the validity of the researcher's findings and therefore must be identified and dealt with (Hair *et al.*, 2010). Outlier is a value that lies outside the normal range of the data. Box-and-whisker plot are particularly useful for spotting outliers (Zikmund *et al.*, 2010). The boxplot, or box-and-whisker plot, is a technique used frequently in exploratory data analysis; a boxplot reduces the detail and provides a different visual image of the distribution's location and outliers (Cooper & Schindler, 2008). Because factor analysis is sensitive to outlying cases, they need to be identified and dealt with either by removing them from the data set or transforming them (Coakes, Steed, & Ong, 2010).

To detect outliers, all the variables were examined. Outliers can either be deleted from the data set or, alternatively, be given a score for that variable that is high but not too different from the remaining cluster of scores (Pallant, 2007). This study opted to delete every case that had outliers. As a result, 24 cases (3.48%) were excluded.

After deleting the missing data and outliers, the questionnaires to be used for further data analysis were 632, yielding a valid response rate of 43.8% from the total number distributed (632/1443). The response rate is similar to that reported by previous research in similar studies on Saudi hospital nursing sector. For example, the response rate in Al-Ahmadi's (2009) study to identify factors influencing performance nurses in Saudi Arabia was 50%, and the response rate of the study conducted by Mitchell (2009) on nurses living and working in Saudi hospitals was 48%. Moreover, according to Damanhoury (2002), previous studies in Saudi Arabia have found low response rates, being approximately between 40% and 50%, for government hospital.

The responses of 632 (or 43.8%) in the present study was considered adequate for the following reasons. Firstly, the data were collected in a self-administered manner, without previous contact or personal relationship with the hospital nurses. Secondly, the total number of 632 responses is greater than Bartlett, Kotrlik, and Higgins's (2001) suggestion that for regression type analysis, the sample size should not fall below five times the number of independent variables because if this minimum is not followed, there is a risk for overfitting, thus lacking generalizability (Hair *et al.*, 2010). But the more conservative figure of 10 is preferred in order to avoid overfitting (Halinski & Feldt, 1970; Miller & Kunce, 1973). Given that there are nine independent variables in this

study, the preferred sample size should be around 90. Thirdly, the response rate is somewhat similar to that reported in the previous study.

As a result of the process above, the obtained data was valid in proceeding with factor analysis, and multiple regression. Table 5.1 demonstrates the response rate and usable response rate.

Table 5.1  
*Sample Study Response Rate (n = 632)*

<b>Questionnaire response</b>	<b>Frequency</b>	<b>Rate</b>
Number of questionnaires distributed	1443	100.00
Returned questionnaires	689	47.75
Usable questionnaire	632	43.80

### 5.3 DESCRIPTION OF PARTICIPANTS

This section describes the sample of the present study. This section provides background information of the respondents that participated in the survey. The characteristics examined included gender, nationality, country of origin, age, educational qualification, job title, job experience, marital status, basic salary per month, years of experience as hospital nurse, clinical ward attached, and years working in the ward.

Table 5.2  
*Respondents' Demographic Profile (n = 632)*

<b>Item</b>	<b>Classification</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>	Male	97	15.3
	Female	535	84.7
<b>Nationality</b>	Saudi	261	41.3
	Non-Saudi	371	58.7

(Continued)

Table 5.2 (Continued)

Item	Classification	Frequency	Percentage
<b>Country of origin (non-Saudi)</b>	Filipino	180	28.5
	Indian	166	26.3
	Arabian	9	1.4
	Indonesian	13	2.1
	Pakistani	3	0.5
<b>Age</b>	25 years or lower	213	33.7
	26-30 years	196	31.0
	31-35 years	90	14.2
	More than 35 years	133	21.0
<b>Educational qualification</b>	Diploma in nursing	406	64.3
	Bachelor's degree in nursing	218	34.5
	Master's degree in nursing	6	0.9
	Doctoral degree in nursing	2	0.3
<b>Job title</b>	Nursing assistant	28	4.4
	Nursing technician	560	88.6
	Nursing specialist	37	5.9
	Nursing senior specialist	7	1.1
<b>Job experience (years)</b>	0-5 years	291	46.0
	6-10 years	181	28.7
	11-15 years	72	11.4
	More than 15 years	88	13.9
<b>Marital status</b>	Single	254	40.2
	Married	357	56.5
	Divorced	11	1.7
	Widowed	10	1.6
<b>Basic salary per month (USD)<sup>a</sup></b>	Less than USD 800	96	15.2
	USD 800-1866	337	53.3
	USD 1867-2933	152	24.1
	USD 2934 or more than	47	7.4
<b>No. of years as hospital nurse</b>	0-5 years	382	60.4
	6-10 years	182	28.8
	11-15 years	32	5.1
	More than 15 years	36	5.7
<b>Clinical ward</b>	Surgical	90	14.2
	Medical	75	11.9
	Maternity	61	9.7
	Pediatric	74	11.7
	Emergency	71	11.2
	Outpatient	37	5.9
	Intensive care	55	8.7
	Obstetrics/Gynecology	38	6.0
	Operating	36	5.7
	Psychiatry	26	4.1
	Recovery	4	0.6
	Other	65	10.3
	<b>Years working as nurse in this ward</b>	0-5 years	438
6-10 years		154	24.4
11-15 years		18	2.8
More than 15 years		22	3.5

Note. <sup>a</sup> USD1 = SR3.75



Table 5.2 shows the demographic profile of the participants. As shown, majority of the participants were female (84.7%). Slightly more than half of them were non-Saudi (58.7%), married (56.5%), and earned a basic salary of between USD800 and USD1866 (53.3%). Close to half of the participants had a minimum work experience of less than five years (46.0%), and majority of them were relatively young, i.e. under the age of 30 years old. Majority had diploma in nursing (64.3%), worked as a hospital nurse less than five years (60.4%), and employed as nursing technician (88.6%). The participants came from various clinical wards at the hospitals and the majority of them had been working in the current ward less than five years (69.3%).

In general, the description of the sample of study mirrored somewhat the characteristics of the general population of nurses in the Kingdom in particular with respect to the nationality of nurses and their gender. For example, as highlighted in Chapter Two, female nurses in the Kingdom represented 75.18% of the total nurses under the purview of the Ministry of Health, while foreign nurses represented 55.86% of the total nurses (MOH, 2010). These results indicated that the sample of this study appeared to be representative of the population of nurses in Saudi Ministry hospitals.

Sample representativeness is a key requirement for using cluster sampling to meet the objectives that the sample is representative of the population of interest (Hail *et al.*, 2010). Whether upward classification, looking for relationships, and simplifying data, cluster sampling results are not generalizable from the sample unless representativeness is established (Hail *et al.*, 2010). The sample of 632 nurses was obtained through a random selection process from nurses among the entire Saudi Ministry of health hospitals. All issues concerned with data collection were addressed adequately to ensure

that the sample was representative of the hospitals nurses in Saudi Ministry of health hospitals. Thus, the sample findings can be safely extended to the population of nurses in public hospitals in Saudi.

#### **5.4 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 (job stress), moderating variable (organizational support), and dependent variables (nurses' task and contextual performance). Factor analysis is an established tool that helps determine the construct adequacy of a measuring device (Cooper & Schindler, 2008). Factor analysis was conducted on the data collected from 632 nurses.

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 *et al.*, 2010). The researchers generally would not factor analyze a sample of fewer than 50 cases and preferably the sample should be 100 or larger (Hair *et al.*, 2010). In a similar vein, according to Bartlett *et al.* (2001), factor analysis should not do with less than 100 cases. In addition, some researchers even propose a minimum of sample size is five cases per variable (Bartlett *et al.*, 2001; Coakes *et al.*, 2010; Hair *et al.*, 2010), and a more acceptable sample size would have 10 cases per variable (Bartlett *et al.*, 2001; Hair *et al.*, 2010). Other researchers even propose a minimum of 20 cases for each variable (Hair *et al.*, 2010). In the present study, the total number of usable questionnaires for factor analysis, that is, 632 was greater than the

minimum number suggested by Bartlett *et al.* (2001), Coakes *et al.*, (2010), Hair *et al.* (2010), and Tabachnick and Fidell (2007).

However, Meyers, Gamst, and Guarino's (2006) ratio of ten subjects per item, and Hair *et al.*'s (2010) ratio of 20 subjects per item were not met. The required sample size to run the factor analysis for all the items together is 1010 subjects (101 interval scale x 10 = 1010 respondents); the sample of 632 was considered less than satisfactory for a single factor analysis to be conducted. Therefore, a separate factor analysis was performed for all items measured on an interval scale (Hair *et al.*, 2010; Meyers *et al.*, 2006). Four constructs were tested for validity and reliability namely job demands and resources, job stress, organizational support, and nurses' job performance. The following section reports and discusses the construct validity of the study variables.

#### **5.4.1 Factor Analysis for Job Demands and Resources Construct**

Job demands and resources construct dimensions were measured using 38 averaged items responded by nurses. The items included four negatively worded items which were reverse coded (job security # 3, # 4, 5 and # 6). A principle component factor analysis using varimax rotation was then conducted on the 38 items to determine which items should group to form dimensions. The criterion developed by Igbaria, Iivari, and Maragahh (1995) was used in the present study for cross loading. They recommended that a given item should load .50 or higher on a specific factor and whose loading is lesser than .35 on other factors. The Kaiser-Meyer-Olkin criterion was applied to extract the number of factors with only an eigenvalues equal or greater than one can be extracted

(Kaiser, 1960). As a result, nine factors with an eigenvalue of more than 1 were extracted.

Table 5.3 shows that the Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) for the nine dimension solutions was .89, with a significant Bartlett's Test of Sphericity, which is a “statistical test for the overall significance of all correlations within a correlation matrix” (Hair *et al.*, 2010, p. 92) is (Sig= .000). Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) are both tests that can be used to determine the factorability of the matrix as a whole. If Bartlett's Test of Sphericity is large and significant, and the Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) is greater than .6, then factorability is assumed (Coakes *et al.*, 2010). This indicates that the data are suitable for factor analysis (Coakes *et al.*, 2010; Hair *et al.*, 2010).

The nine extracted factors explained 68.83% of the variance in the construct. Hair *et al.* (2010) stress that in social science research it is common to consider a solution that accounts for 60% or, in some instances, even less, of the total variance, as satisfactory. In the present study, the factor loading in the components met the criteria by Igarria *et al.* (1995), that is, a given item should load .50 or higher on a specific factor and have a loading no higher than .35 on other factors. The first factor (i.e. job security) consisted of six items and explained 12.69% of the variance in job demands and resources construct. The second factor (i.e. physical demands) consisted of eight items and explained 12.64% of the variance in job demands and resources construct. The third factor (i.e. quantitative demands) consisted of five items and explained 8.86% of the variance in job demands and resources construct. The fourth factor (i.e. skill variety) consisted of four items and

explained 6.67% of the variance in job demands and resources construct. The fifth factor (i.e. emotional demands) consisted of four items and explained 6.29% of the variance in job demands and resources construct. The sixth factor (i.e. feedback) consisted of three items and explained 5.85% of the variance in job demands and resources construct. The seventh factor (i.e. task identity) consisted of three items and explained 5.57% of the variance in job demands and resources construct. The eighth factor (i.e. task significance) consisted of three items and explained 5.45% of the variance in job demands and resources construct. The last factor (i.e. shift work) consisted of two items and explained 4.81% of the variance. In short, the results of the factor analysis provide evidence that the job demands and resources construct is meaningful in a theoretical sense.

#### **5.4.2 Factor Analysis for Job Stress Construct**

As indicated in Table 5.4, to assess the underlying structure of job stress measure, 14 items were submitted to principle component method and varimax rotation analysis. The 14 items achieved more than 0.5 communalities and loaded on one factor. The Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) for the single dimension solution was .98, with chi-square of Bartlett's test of sphericity of 10210.22, degrees of freedom of 91.00, and was significant at .000. The variance explained was 76.59% with extracted factors eigenvalue of more than 1. This indicates that the data were suitable for factor analysis (Coakes *et al.*, 2010; Hair *et al.*, 2010; Meyers *et al.*, 2006).

Table 5.3  
*Summary of Factor Analysis of Job Demands Resources Construct (n = 632)*

Items	Components								
	1	2	3	4	5	6	7	8	9
<b>Factor 1: Job security</b>									
1. I am presently safe from dismissal at this hospital.	<b>.853</b>	.144	.085	-.143	.074	-.115	-.075	-.079	.078
2. I am confident that this hospital will remain a steady place of employment for as long as I want to continue working here.	<b>.841</b>	.122	.092	-.111	.113	-.119	-.052	-.064	.062
3. I feel uneasy about the security in my present job.	<b>.835</b>	.161	.039	-.121	.076	-.119	-.077	-.084	.071
4. I feel I am likely to be laid off at this hospital.	<b>.842</b>	.178	.044	-.100	.101	-.086	-.084	-.091	.032
5. I am worried about my future with this hospital.	<b>.847</b>	.151	.085	-.152	.086	-.088	-.069	-.133	.015
6. I am worried about my job security.	<b>.848</b>	.159	.048	-.108	.116	-.113	-.060	-.125	.059
<b>Factor 2: Physical demands</b>									
1. Bedding and positioning patients.	.218	<b>.579</b>	-.238	-.098	-.041	-.049	-.029	-.117	.197
2. Transferring or carrying patients.	.114	<b>.742</b>	-.169	-.004	-.013	-.008	-.058	-.101	-.008
3. Lifting patients in bed without aid.	.097	<b>.774</b>	-.104	.028	.001	-.020	-.051	-.046	-.069
4. Mobilizing patients.	.104	<b>.744</b>	-.104	-.032	-.072	-.076	.031	.004	.044
5. Clothing patients.	.062	<b>.758</b>	-.068	-.053	.004	.016	.006	.003	.115
6. Helping with feeding.	.093	<b>.737</b>	-.126	-.042	-.089	-.051	-.071	5.641E-5	.005
7. Making beds.	.106	<b>.787</b>	-.128	-.086	.011	-.006	-.065	-.033	.038
8. Pushing patient's beds, food trolleys, or laundry trolleys.	.136	<b>.774</b>	-.119	-.073	-.027	-.069	-.056	-.057	.030
<b>Factor 3: Quantitative demands</b>									
1. How often do you lack time to complete all your work tasks?	.087	-.194	<b>.792</b>	-.014	.037	-.062	-.022	-.005	.077
2. Can you pause in your work whenever you want?	.106	-.153	<b>.803</b>	-.058	.040	-.014	.000	-.014	.057
3. Do you have to work very fast?	-.010	-.162	<b>.776</b>	-.015	-.041	-.065	-.058	.011	.006
4. Is your workload unevenly distributed so that things pile up?	.128	-.212	<b>.762</b>	-.006	.001	.014	-.077	.054	-.006
5. Do you have enough time to talk to patients?	.029	-.154	<b>.814</b>	-.002	.021	-.092	.002	.026	.064
<b>Factor 4: Skill variety</b>									
1. My job requires me to do many different things as work, using a variety of my skills and talents.	-.159	-.038	-.058	<b>.758</b>	-.040	.105	.085	.189	-.024
2. My job requires me to use a number of complex or high-level skills.	-.126	-.072	-.060	<b>.718</b>	-.071	.027	.070	.244	-.106
3. Overall, my tasks are not simple and repetitive.	-.141	-.089	-.014	<b>.710</b>	-5.419E-5	.080	.143	.095	.033
4. My job requires that I make use of a wide range of my talents or abilities.	-.159	-.059	.038	<b>.726</b>	.002	.130	.185	.071	.000
<b>Factor 5: Emotional demands</b>									
1. Death.	.104	-.078	-.013	-.091	<b>.741</b>	-.059	-.112	.135	.052
2. Illness or any other human suffering.	.112	-.098	.003	-.032	<b>.765</b>	-.110	-.091	.081	.017

(Continued)

Table 5.3 (Continued)

Items	Components									
	1	2	3	4	5	6	7	8	9	
3. Aggressive patients.	.112	-.055	-1.422E-5	.012	<b>.752</b>	.036	.078	-.174	.032	
4. Troublesome patients' in their work.	.091	.041	.054	.012	<b>.768</b>	.037	.006	-.026	-.103	
<b>Factor 6: Feedback</b>										
1. My job itself provides me information about my work performance. That is, the actual work itself provides clues about how well I am doing aside from any feedback co-workers or supervisors may provide.	-.158	-.031	-.111	.144	-.042	<b>.795</b>	-.028	.196	-.032	
2. After I finish a task, I know whether I performed it well.	-.152	-.105	-.060	.109	-.003	<b>.818</b>	.029	.075	-.040	
3. Just doing the work required by this job provides many chances for me to figure out how well I am doing.	-.193	-.057	-.048	.082	-.050	<b>.837</b>	.050	.090	-.006	
<b>Factor 7: Task identity</b>										
1. My job is arranged so that I can usually do an entire piece of work from beginning to end, not just a small part of an overall piece of work.	-.037	-.136	-.064	.171	-.103	.029	<b>.772</b>	.156	-.035	
2. My job generally provides me the chance to completely finish the pieces of work I begin.	-.106	-.086	-.076	.183	-.027	.007	<b>.804</b>	.094	-.043	
3. My job usually involves a complete piece of work that has an obvious beginning and end.	-.161	-.003	-.012	.112	.007	.015	<b>.789</b>	.159	-.020	
<b>Factor 8: Task significance</b>										
1. My job is one where a lot of other people, in this hospital and other hospitals, can be affected by how well my work gets done.	-.189	-.131	.014	.231	-.008	.158	.180	<b>.744</b>	-.094	
2. My job is important in that the results of my work can significantly affect other peoples' ability to do their work.	-.220	-.047	.026	.258	.008	.126	.192	<b>.729</b>	-.029	
3. My job itself is very significant and important in that it facilitates or enables other peoples' work.	-.126	-.086	.056	.207	.028	.141	.141	<b>.774</b>	-.114	
<b>Factor 9: Shift work</b>										
1. During the last month, approximately how many times did you work more than 8 hours per shift?	.077	.099	.113	-.024	.002	-.021	-.031	-.086	<b>.927</b>	
2. During the last month, how often did you work two shifts, back to back?	.155	.119	.079	-.049	-.013	-.052	-.063	-.108	<b>.904</b>	
Eigenvalues	8.30	5.16	2.71	2.46	1.92	1.72	1.62	1.26	1.01	
Percentage of variance Explained = 68.83%	12.69	12.64	8.86	6.67	6.29	5.85	5.57	5.45	4.81	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.89									
Bartlett's Test of Sphericity Approx. Chi-Square	12808.52									
<i>df</i>	703.00									
Sig.	.000									

In the present study, principle component analysis using varimax rotation found general support for this model with minor expectations. Similar to the adopted measure, the factor construct was found to be undimensional. The responses for these 14 questions were summed to form an index of job stress.

Table 5.4  
*Summary of Factor Analysis for Job Stress Construct (n = 632)*

Items	Factor loading
<b>Job stress items</b>	
1. Exhausted at the end of the day.	.882
2. Did not feel energized on the job.	.898
3. Was not able to sleep through the night.	.856
4. Felt burnt out most or all of the time.	.845
5. Felt that there is nothing more to give.	.836
6. Had little or no control over my life.	.876
7. Felt irritable and tense.	.843
8. Suffered from headaches or migraines.	.833
9. Felt helpless.	.877
10. Felt like yelling at people.	.898
11. Angry.	.885
12. Felt like crying.	.877
13. Had difficulty concentrating.	.902
14. Felt dizzy.	.939
Eigenvalues	10.72
Percentage of Variance Explained =76.59%	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.98
Bartlett's Test of Sphericity Approx. Chi-Square	10210.22
<i>df</i>	91.00
<i>Sig.</i>	.000

### 5.4.3 Factor Analysis for Organizational Support Construct

As indicated in Table 5.5, eight items were used to measure organizational support. The items included two negatively worded items which was reverse coded (# 3 and # 8). The eight items attained more than .5 cumulative and loaded into a single factor.



Table 5.5  
*Summary of Factor Analysis for Organizational Support Construct (n = 632)*

Items	Factor loading
<b>Organizational support items</b>	
1. My hospital really cares about my well-being.	.788
2. My hospital strongly considers my goals and values.	.814
3. My hospital shows little concern for me.	.723
4. My hospital cares about my opinions.	.762
5. My hospital is willing to help me if I need a special favor.	.755
6. Help is available from my hospital when I have a problem.	.738
7. My hospital would forgive a honest mistake on my part.	.730
8. If given the opportunity, my hospital would take advantage of me.	.747
Eigenvalues	4.59
Percentage of Variance Explained	57.42%
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.93
Bartlett's Test of Sphericity Approx. Chi-Square	2286.76
<i>df</i>	28.00
Sig.	.000

Table 5.5 indicates that the Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) for the single dimension solution was .93, with chi-square of Bartlett's test of sphericity of 2286.76, the degree of freedom of 28.00, and was significant at .000. This suggests that the data were suitable for factor analysis (Coakes *et al.*, 2010; Hair *et al.*, 2010; Meyers *et al.*, 2006). The variance explained was 57.42% with extracted factors eigenvalue of more than 1. Similar to the adopted measure the factor construct was found to be unidimensional. The responses for these eight questions were summed to form an index of organizational support.

#### **5.4.4 Factor Analysis for Nurses' Performance Construct**

Nurses' performance construct dimensions were measured using 41 averaged items. A principle component factor analysis using varimax rotation was then conducted on the 41 items to determine which items should group to form what dimensions. The criteria

developed by Igarria *et al.* (1995) was used for cross loading, that is, a given item should load .50 or higher on a specific factor and have a loading no higher than .35 on other factors. Two items were deleted after applying this criterion. The Kaiser-Meyer-Olkin criterion was applied to extract the number of factors with only an eigenvalues equal or greater than one can be extracted (Kaiser, 1960). The result of factor analysis demonstrated eight factors with an eigenvalue of more than 1. The results are presented in Table 5.6.

The output in Table 5.6 shows that the Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) for the eight dimensions solution was .95, with a significant Bartlett's Test of Sphericity (Sig= .000). This indicates that the data were suitable for factor analysis (Coakes *et al.*, 2010; Hair *et al.*, 2010). Hair *et al.* (2010) also stress that in social science research it is common to consider a solution that accounts for 60% or, in some instances, even less, of the total variance as satisfactory. In the present study, factor loading in the components met the criteria by Igarria *et al.* (1995), that is, a given item should load .50 or higher on a specific factor and have a loading no higher than .35 on other factors.

The variance explained was 68.50% with eight extracted factors, instead of the original two factors. The first factor was labeled provision of information. It consisted of seven items and explained 12.35% of the variance in nurses' task performance construct. The second factor was labeled job-task support. It consisted of six items and explained 9.82% of the variance. The third factor was labeled technical care and consisted of five items, which explained 9.63% of the variance in nurses' task performance construct. The fourth factor was labeled interpersonal support consists of six items. It explained 9.25%

of the variance in nurses' contextual performance construct. The fifth factor was labeled provision of support and consisted of five items, which explained 7.96% of the variance. The sixth factor was labeled coordination of care. It consisted of four items and explained 7.51% of the variance in nurses' task performance construct. The seventh factor was labeled compliance. It consisted of three items and explained 6.00% of the variance in nurses' contextual performance construct. The last factor was labeled volunteering for additional duties. It consisted of three items, which explained 5.98% of the variance in nurses' contextual performance construct.

When one compares the eight components of the nurse's performance construct in Table 5.6, and the list of items of performance constructs in Table 4.2, one will be able to discern that the eight factors extracted fall under the task and contextual performance constructs neatly. Hence, as shown in Table 5.6, Factors #1, #3, #5, and #6 indicate task performance constructs, while Factors #2, #4, #7, and #8 fall under the contextual performance construct. In essence, the results of the factor analysis provide assurance that the nurses' task and contextual performance construct is meaningful in a theoretical sense. In fact, the eight dimensions are consistent with those proposed by Greenslade and Jimmieson (2007). The eight factors were later used as inputs for further analyses.

Table 5.6  
*Summary of Factor Analysis for Nurses' Performance Construct (N = 632)*

Items	Components							
	1	2	3	4	5	6	7	8
<b>Factor 1: Provision of information (Nurses' task performance)</b>								
1. Explaining to patients what to expect when they leave the hospital.	<b>.641</b>	.208	.127	.169	.148	.203	.053	.157
2. Providing instructions for care at home.	<b>.733</b>	.090	.185	.189	.097	.156	.120	.119
3. Explaining to families what to do if the patient's problems or symptoms continue, get worse, or return.	<b>.789</b>	.123	.200	.135	.069	.121	.057	.157
4. Explaining to patients when they can resume normal activities, such as going to work or driving a car.	<b>.789</b>	.142	.133	.124	.108	.057	.043	.087
5. Providing appropriate information to families about nursing procedures performed.	<b>.730</b>	.204	.187	.100	.193	.091	.110	.053
6. Communicating to patients the purpose of nursing procedures.	<b>.697</b>	.116	.192	.141	.274	.190	.112	.067
7. Informing patients of the possible side-effects of nursing procedure.	<b>.657</b>	.101	.012	.152	.250	.325	.063	.092
<b>Factor 2: Job-task support (Nurses' contextual performance)</b>								
1. Making special arrangements for a patient's family.	.121	<b>.653</b>	.035	.209	.244	.120	.070	.122
2. Staying late to help families.	.128	<b>.814</b>	.048	.071	.119	-.048	.010	.042
3. Taking extra time to respond to a family's needs.	.141	<b>.835</b>	.000	.108	.127	.032	.037	.057
4. Making special arrangements for the patient.	.171	<b>.641</b>	.142	.186	.113	.151	.172	.237
5. Staying late to help patients.	.147	<b>.600</b>	.174	.210	.003	.039	.286	.089
6. Taking extra time to respond to a patient's needs.	.142	<b>.614</b>	.206	.202	.075	.020	.181	.164
<b>Factor 3: Technical care (Nurses' task performance)</b>								
1. Taking patient observations (e.g. blood pressure, pulse, temperature).	.162	-.014	<b>.654</b>	.257	.173	.257	.112	.118
2. Assisting patients with activities of daily living (e.g. showering, toileting and feeding).	.122	.203	<b>.739</b>	.058	.235	.086	.091	.044
3. Developing a plan of nursing care for patients.	.201	.205	<b>.708</b>	.135	.221	.197	.070	.136
4. Administering medications and treatments.	.228	.006	<b>.791</b>	.219	.094	.181	.073	.145
5. Evaluating the effectiveness of nursing care.	.231	.133	<b>.744</b>	.193	.146	.121	.080	.162
<b>Factor 4: Interpersonal support (Nurses' contextual performance)</b>								
1. Raising morale of other nurses in the unit.	.271	.189	.091	<b>.660</b>	.162	.156	.123	.204
2. Helping nurses in the unit to resolve work problems.	.228	.117	.232	<b>.703</b>	.119	.239	.153	.161
3. Consulting amongst each other when actions might affect other nurses in the unit.	.154	.206	.254	<b>.705</b>	.106	.163	.130	.072
4. Taking time to meet unit nurses' emotional needs.	.089	.257	.127	<b>.708</b>	.244	.000	.106	.084

(Continued)

Table 5.6 (Continued)

Items	Components							
	1	2	3	4	5	6	7	8
5. Volunteering to share special knowledge or expertise with other nurses in the unit.	.216	.187	.173	<b>.562</b>	.165	.150	.245	.243
6. Helping nurses in the unit to catch up on their work.	.178	.233	.144	<b>.562</b>	.170	.166	.178	.223
<b>Factor 5: Provision of support (Nurses' task performance)</b>								
1. Showing care and concern to families.	.251	.120	.246	.314	<b>.625</b>	.172	.064	.115
2. Listening to families' concerns.	.275	.117	.231	.169	<b>.687</b>	.230	.106	.113
3. Taking time to meet families' emotional needs.	.232	.286	.073	.153	<b>.758</b>	.093	.112	.098
4. Listening to patients' concerns.	.257	.126	.313	.169	<b>.611</b>	.230	.108	.168
5. Taking time to meet the emotional needs of patients.	.160	.181	.316	.179	<b>.653</b>	.149	.047	.177
<b>Factor 6: Coordination of care (Nurses' task performance)</b>								
1. Explaining to nurses in the unit the nature of the patient's condition.	.314	.087	.081	.126	.123	<b>.732</b>	.087	.026
2. Reporting the critical elements of patients' situations when turning over work shifts.	.147	.067	.241	.199	.105	<b>.774</b>	.125	.027
3. Ensuring all members of the nursing unit are familiar with the patient's recent medical history.	.191	.099	.174	.073	.198	<b>.769</b>	.088	.099
5. Informing all nurses in the unit about patient tests and their results.	.203	-.082	.294	.215	.196	<b>.619</b>	.152	.070
<b>Factor 7: Compliance (Nurses' contextual performance)</b>								
1. Complying with hospital rules, regulations and procedures, even when no one is watching.	.048	.096	.172	.208	.056	.140	<b>.772</b>	.096
2. Representing the hospital favorably to individuals outside the hospital.	.109	.256	.008	.147	.099	.104	<b>.795</b>	.124
3. Making sure that materials and equipment are not wasted.	.187	.132	.119	.168	.121	.119	<b>.744</b>	.165
<b>Factor 8: Volunteering for additional duties (Nurses' contextual performance)</b>								
1. Volunteering to participate on committees within the hospital that are not compulsory.	.176	.230	.138	.190	.122	.044	.144	<b>.752</b>
2. Attending and participating in meetings regarding the hospital.	.198	.212	.181	.192	.193	.091	.166	<b>.736</b>
3. Making innovative suggestions to improve the overall quality of the department.	.168	.128	.188	.245	.150	.067	.135	<b>.771</b>
Eigenvalues	15.04	2.85	2.13	1.71	1.47	1.32	1.19	1.02
Percentage of Variance Explained = 68.50%	12.35	9.82	9.63	9.25	7.96	7.51	6.00	5.98
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.95							
Bartlett's Test of Sphericity Approx. Chi-Square	15531.18							
Df	741.000							
Sig.	.000							

## 5.5 RELIABILITY ANALYSIS

The following section discusses the results of reliability. Reliability analysis was performed on the 19 dimensions extracted (i.e. quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, job security, job stress, organizational support, provision of information, coordination of care, provision of support, technical care, interpersonal support, job-task support, compliance and volunteering for additional duties). Cronbach's alpha coefficient was computed for each variable and presented in Table 5.7.

Table 5.7  
*Cronbach's Alphas of the Study Variables after Factor Analysis (n = 632)*

No. of items	Variables	Alpha	Items dropped after factor analysis
5	Quantitative demands (QD)	.88	-
8	Physical demands (PD)	.90	-
4	Emotional demands (ED)	.77	-
2	Shift work (SW)	.89	-
4	Skill variety (SV)	.78	-
3	Task significance (TS)	.82	-
3	Task identity (TI)	.78	-
3	Feedback (FB)	.82	-
6	Job security (JSec)	.95	-
14	Job stress (JS)	.98	-
8	Organizational support (OS)	.89	-
7	Provision of information (PI)	.91	-
4	Coordination of care (CC)	.85	1
5	Provision of support (PS)	.89	1
5	Technical care (TC)	.89	-
6	Interpersonal support (IntSup)	.88	-
6	Job-Task support (J-TSup)	.86	-
3	Compliance (Com)	.81	-
3	Volunteering for additional duties (VAD)	.85	-

The results of the reliability of the measurement in this study appeared acceptable. Internal consistency of the scales ranged from .77 (emotional demands) to .98 (job

stress), which suggest the specified indicators were sufficient for use (Hair *et al.*, 2010; Nunnally, 1978; Sekaran, 2003; Zikmund *et al.*, 2010). The result suggests that the variables were appropriate for further analysis.

## **5.6 RESTATEMENT OF RESEARCH HYPOTHESES**

Because the factor analysis produced eight components or dimensions of job performance, the earlier research hypotheses were re-formulated, as follows:

**H1: Job demands are negatively related to hospital nurses' task performance (provision of information).**

H1a: Quantitative demands are negatively related provision of information.

H1b: Physical demands are negatively related to provision of information.

H1c: Emotional demands are negatively related to provision of information.

H1d: Shift work is negatively related to provision of information.

**H2: Job resources are positively related to hospital nurses' task performance (provision of information).**

H2a: Skill variety is positively related provision of information.

H2b: Task significance is positively related provision of information.

H2c: Task identity is positively related provision of information.

H2d: Feedback is positively related provision of information.

H2e: Job security is positively related provision of information.

**H3: Job demands are negatively related to hospital nurses' task performance (coordination of care).**

H3a: Quantitative demands are negatively related coordination of care.

H3b: Physical demands are negatively related to coordination of care.

H3c: Emotional demands are negatively related to coordination of care.

H3d: Shift work is negatively related to coordination of care.

**H4: Job resources are positively related to hospital nurses' task performance (coordination of care).**

H4a: Skill variety is positively related coordination of care.

H4b: Task significance is positively related coordination of care.

H4c: Task identity is positively related coordination of care.

H4d: Feedback is positively related coordination of care.

H4e: Job security is positively related coordination of care.

**H5: Job demands are negatively related to hospital nurses' task performance (provision of support).**

H5a: Quantitative demands are negatively related provision of support.

H5b: Physical demands are negatively related to provision of support.

H5c: Emotional demands are negatively related to provision of support.

H5d: Shift work is negatively related to provision of support.

**H6: Job resources are positively related to hospital nurses' task performance (provision of support).**

H6a: Skill variety is positively related provision of support.



H6b: Task significance is positively related provision of support.

H6c: Task identity is positively related provision of support.

H6d: Feedback is positively related provision of support.

H6e: Job security is positively related provision of support.

**H7: Job demands are negatively related to hospital nurses' task performance (technical care).**

H7a: Quantitative demands are negatively related technical care.

H7b: Physical demands are negatively related to technical care.

H7c: Emotional demands are negatively related to technical care.

H7d: Shift work is negatively related to technical care.

**H8: Job resources are positively related to hospital nurses' task performance (technical care).**

H8a: Skill variety is positively related technical care.

H8b: Task significance is positively related technical care.

H8c: Task identity is positively related technical care.

H8d: Feedback is positively related technical care.

H8e: Job security is positively related technical care.

**H9: Job demands are negatively related to hospital nurses' contextual performance (interpersonal support).**

H9a: Quantitative demands are negatively related interpersonal support.

H9b: Physical demands are negatively related to interpersonal support.

H9c: Emotional demands are negatively related to interpersonal support.

H9d: Shift work is negatively related to interpersonal support.

**H10: Job resources are positively related to hospital nurses' contextual performance (interpersonal support).**

H10a: Skill variety is positively related interpersonal support.

H10b: Task significance is positively related interpersonal support.

H10c: Task identity is positively related interpersonal support.

H10d: Feedback is positively related interpersonal support.

H10e: Job security is positively related interpersonal support.

**H11: Job demands are negatively related to hospital nurses' contextual performance (job-task support).**

H11a: Quantitative demands are negatively related job-task support.

H11b: Physical demands are negatively related to job-task support.

H11c: Emotional demands are negatively related to job-task support.

H11d: Shift work is negatively related to job-task support.

**H12: Job resources are positively related to hospital nurses' contextual performance (job-task support).**

H12a: Skill variety is positively related job-task support.

H12b: Task significance is positively related job-task support.

H12c: Task identity is positively related job-task support.

H12d: Feedback is positively related job-task support.

H12e: Job security is positively related job-task support.

**H13: Job demands are negatively related to hospital nurses' contextual performance (compliance).**

H13a: Quantitative demands are negatively related compliance.

H13b: Physical demands are negatively related to compliance.

H13c: Emotional demands are negatively related to compliance.

H13d: Shift work is negatively related to compliance.

**H14: Job resources are positively related to hospital nurses' contextual performance (compliance).**

H14a: Skill variety is positively related compliance.

H14b: Task significance is positively related compliance.

H14c: Task identity is positively related compliance.

H14d: Feedback is positively related compliance.

H14e: Job security is positively related compliance.

**H15: Job demands are negatively related to hospital nurses' contextual performance (volunteering for additional duties).**

H15a: Quantitative demands are negatively related volunteering for additional duties.

H15b: Physical demands are negatively related to volunteering for additional duties.

H15c: Emotional demands are negatively related to volunteering for additional duties.

H15d: Shift work is negatively related to volunteering for additional duties.

**H16: Job resources are positively related to hospital nurses' contextual performance (volunteering for additional duties).**

H16a: Skill variety is positively related volunteering for additional duties.

H16b: Task significance is positively related volunteering for additional duties.

H16c: Task identity is positively related volunteering for additional duties.

H16d: Feedback is positively related volunteering for additional duties.

H16e: Job security is positively related volunteering for additional duties.

**H17: The relationship between job demands and resources and provision of information is mediated by job stress.**

H17a: The relationship between quantitative demands and provision of information is mediated by job stress.

H17b: The relationship between physical demands and provision of information is mediated by job stress.

H17c: The relationship between emotional demands and provision of information is mediated by job stress.

H17d: The relationship between shift work and provision of information is mediated by job stress.

H17e: The relationship between skill variety and provision of information is mediated by job stress.

H17f: The relationship between task significance and provision of information is mediated by job stress.

H17g: The relationship between task identity and provision of information is mediated by job stress.

H17h: The relationship between feedback and provision of information is mediated by job stress.

H17i: The relationship between job security and provision of information is mediated by job stress.

**H18: The relationship between job demands and resources and coordination of care is mediated by job stress.**

H18a: The relationship between quantitative demands and coordination of care is mediated by job stress.

H18b: The relationship between physical demands and coordination of care is mediated by job stress.

H18c: The relationship between emotional demands and coordination of care is mediated by job stress.

H18d: The relationship between shift work and coordination of care is mediated by job stress.

H18e: The relationship between skill variety and coordination of care is mediated by job stress.

H18f: The relationship between task significance and coordination of care is mediated by job stress.

H18g: The relationship between task identity and coordination of care is mediated by job stress.

H18h: The relationship between feedback and coordination of care is mediated by job stress.

H18i: The relationship between job security and coordination of care is mediated by job stress.

**H19: The relationship between job demands and resources and provision of support is mediated by job stress.**

H19a: The relationship between quantitative demands and provision of support is mediated by job stress.

H19b: The relationship between physical demands and provision of support is mediated by job stress.

H19c: The relationship between emotional demands and provision of support is mediated by job stress.

H19d: The relationship between shift work and provision of support is mediated by job stress.

H19e: The relationship between skill variety and provision of support is mediated by job stress.

H19f: The relationship between task significance and provision of support is mediated by job stress.

H19g: The relationship between task identity and provision of support is mediated by job stress.

H19h: The relationship between feedback and provision of support is mediated by job stress.

H19i: The relationship between job security and provision of support is mediated by job stress.

**H20: The relationship between job demands and resources and technical care is mediated by job stress.**

H20a: The relationship between quantitative demands and technical care is mediated by job stress.

H20b: The relationship between physical demands and technical care is mediated by job stress.

H20c: The relationship between emotional demands and technical care is mediated by job stress.

H20d: The relationship between shift work and technical care is mediated by job stress.

H20e: The relationship between skill variety and technical care is mediated by job stress.

H20f: The relationship between task significance and technical care is mediated by job stress.

H20g: The relationship between task identity and technical care is mediated by job stress.

H20h: The relationship between feedback and technical care is mediated by job stress.

H20i: The relationship between job security and technical care is mediated by job stress.

**H21: The relationship between job demands and resources and interpersonal support is mediated by job stress.**

H21a: The relationship between quantitative demands and interpersonal support is mediated by job stress.

H21b: The relationship between physical demands and interpersonal support is mediated by job stress.

H21c: The relationship between emotional demands and interpersonal support is mediated by job stress.

H21d: The relationship between shift work and interpersonal support is mediated by job stress.

H21e: The relationship between skill variety and interpersonal support is mediated by job stress.

H21f: The relationship between task significance and interpersonal support is mediated by job stress.

H21g: The relationship between task identity and interpersonal support is mediated by job stress.

H21h: The relationship between feedback and interpersonal support is mediated by job stress.

H21i: The relationship between job security and interpersonal support is mediated by job stress.

**H22: The relationship between job demands and resources and job-task support is mediated by job stress.**

H22a: The relationship between quantitative demands and job-task support is mediated by job stress.

H22b: The relationship between physical demands and job-task support is mediated by job stress.

H22c: The relationship between emotional demands and job-task support is mediated by job stress.

H22d: The relationship between shift work and job-task support is mediated by job stress.

H22e: The relationship between skill variety and job-task support is mediated by job stress.

H22f: The relationship between task significance and job-task support is mediated by job stress.



H22g: The relationship between task identity and job-task support is mediated by job stress.

H22h: The relationship between feedback and job-task support is mediated by job stress.

H22i: The relationship between job security and job-task support is mediated by job stress.

**H23: The relationship between job demands and resources and compliance is mediated by job stress.**

H23a: The relationship between quantitative demands and compliance is mediated by job stress.

H23b: The relationship between physical demands and compliance is mediated by job stress.

H23c: The relationship between emotional demands and compliance is mediated by job stress.

H23d: The relationship between shift work and compliance is mediated by job stress.

H23e: The relationship between skill variety and compliance is mediated by job stress.

H23f: The relationship between task significance and compliance is mediated by job stress.

H23g: The relationship between task identity and compliance is mediated by job stress.

H23h: The relationship between feedback and compliance is mediated by job stress.

H23i: The relationship between job security and compliance is mediated by job stress.

**H24: The relationship between job demands and resources and volunteering for additional duties is mediated by job stress.**

H24a: The relationship between quantitative demands and volunteering for additional duties is mediated by job stress.

H24b: The relationship between physical demands and volunteering for additional duties is mediated by job stress.

H24c: The relationship between emotional demands and volunteering for additional duties is mediated by job stress.

H24d: The relationship between shift work and volunteering for additional duties is mediated by job stress.

H24e: The relationship between skill variety and volunteering for additional duties is mediated by job stress.

H24f: The relationship between task significance and volunteering for additional duties is mediated by job stress.

H24g: The relationship between task identity and volunteering for additional duties is mediated by job stress.

H24h: The relationship between feedback and volunteering for additional duties is mediated by job stress.

H24i: The relationship between job security and volunteering for additional duties is mediated by job stress.

**H25: The relationship between job stress and nurses' task performance is moderated by organizational support.**

H25a: The relationship between job stress and provision of information is moderated by organizational support.

H25b: The relationship between job stress and coordination of care is moderated by organizational support.

H25c: The relationship between job stress and provision of support is moderated by organizational support.

H25d: The relationship between job stress and technical care is moderated by organizational support.

**H26: The relationship between job stress and nurses' contextual performance is moderated by organizational support.**

H26a: The relationship between job stress and interpersonal support is moderated by organizational support.

H26b: The relationship between job stress and job-task support is moderated by organizational support.

H26c: The relationship between job stress and compliance is moderated by organizational support.

H26d: The relationship between job stress and volunteering for additional duties is moderated by organizational support.

## **5.7 DESCRIPTIVE ANALYSIS**

The general statistical description of variables used in this study was examined by using descriptive analysis. Statistical values of means, standard deviation, minimum, and maximum were calculated for the independent variables, the mediating variable, the moderating variable, and the dependent variable. The results of these statistical values are

shown in Table 5.8. As mentioned in Chapter 4 the variables were measured on a five-point scale.

Table 5.8  
*Mean, Standard Deviation, Minimum, and Maximum of Job Demands Resources, Job Stress, Organizational Support and Nurses' (Task & Contextual) Performance (N = 632)*

<b>Variables</b>	<b>Mean</b>	<b>SD</b>	<b>Minimum</b>	<b>Maximum</b>
Quantitative demands (QD) <sup>a</sup>	2.09	.69	1.00	4.00
Physical demands (PD) <sup>b</sup>	2.13	.63	1.00	3.75
Emotional demands (ED) <sup>c</sup>	1.93	.56	1.00	3.25
Shift work (SW) <sup>d</sup>	1.27	.43	1.00	2.00
Skill variety (SV) <sup>e</sup>	3.46	.87	1.50	5.00
Task significance (TS) <sup>e</sup>	3.73	.84	2.00	5.00
Task identity (TI) <sup>e</sup>	3.74	.63	2.67	4.67
Feedback (FB) <sup>e</sup>	3.53	.86	1.33	5.00
Job security (JSec) <sup>e</sup>	2.64	1.28	1.00	5.00
Job stress (JS) <sup>f</sup>	2.35	1.29	1.00	5.00
Organizational support (OS) <sup>e</sup>	3.34	.75	1.50	5.00
Provision of information (PI) <sup>g</sup>	3.45	.79	1.57	5.00
Coordination of care (CC) <sup>g</sup>	3.82	.80	1.60	5.00
Provision of support (PS) <sup>g</sup>	3.60	.79	1.40	5.00
Technical care (TC) <sup>g</sup>	3.97	.78	1.80	5.00
Interpersonal support (IntSup) <sup>h</sup>	3.73	.82	1.50	5.00
Job-task support (JTSup) <sup>h</sup>	3.24	.78	1.33	5.00
Compliance (Com) <sup>h</sup>	3.72	.84	1.67	5.00
Volunteering for additional duties (VAD) <sup>h</sup>	3.62	.84	1.33	5.00

Note.

<sup>a</sup>1 = hardly ever, 2 = seldom, 3 = a few times, 4 = many times, 5 = always; <sup>b</sup>1 = 0-1 time a day, 2 = 2-4 times a day, 3 = 5-7 times a day, 4 = 8-10 times a day, 5 = > 10 times a day; <sup>c</sup>1 = never, 2 = seldom, 3 = sometimes, 4 = often, 5 = always; <sup>d</sup>1 = not at all, 2 = a few times, 3 = sometimes, 4 = quite a lot, 5 = a great deal;

<sup>e</sup>1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree;

<sup>f</sup>1 = none of the time, 2 = a little bit of time, 3 = some of the time, 4 = a lot of the time, 5 = all of the time;

<sup>g</sup>1 = Much below average, 2 = Somewhat below average, 3 = Average, 4 = Somewhat above average, 5 = Much above average;

<sup>h</sup>1 = not at all, 2 = minimally, 3 = somewhat, 4 = quite a bit, 5 = a great deal

The standard deviation describes the spread or variability of the sample distribution values from the mean, and is perhaps the most valuable index of dispersion (Hair *et al.*, 2010; Zikmund *et al.*, 2010). If the estimated standard deviation is large, the responses in a sample distribution of numbers do not fall very close to the mean of the distribution. If the estimated standard deviation is small, the distribution values are close

to mean (Hair *et al.*, 2010). In other words, if the estimated standard deviation is smaller than 1, it means the respondents were very consistent in their opinions, while if the estimated standard deviation is larger than 3, it means the respondents had a lot of variability in their opinions (Hair *et al.*, 2010).

Table 5.8 presents the summary of means of the independent variables, mediating variable, moderating variable and dependent variables. The mean for all variables was between 1.27 and 3.97. In general, close to half of the variables (47.37%) had moderate mean values between 2.34 and 3.67 (skill variety, feedback, job security, job stress, organizational support, provision of information, provision of support, job-task support and volunteering for additional duties). On the other hand, 31.58% of the variables had mean values of more than 3.67 (task significance, task identity, coordination of care, technical care, interpersonal support and compliance), and 21.05% had low mean values of less than 2.34 (quantitative demands, physical demands, emotional demands, and shift work).

Technical care had the highest mean of 3.97 with a standard deviation of .78, and minimum and maximum scores of 1.80 and 5.00, respectively, while shift work scored the lowest mean of 1.27 with a standard deviation of .43, and minimum and maximum scores of 1.00 and 2.00, respectively.

With regards to job demands and resources variables, the mean value for task identity of 3.74 was relatively higher than the other job demands and resources variables namely quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security. This means that the nurses perceived highly that their job involved completing the task from the beginning to

the end. In addition, the mean of technical care of 3.97 was relatively higher than the other nurses' performance variables namely provision of information, coordination of care, provision of support, technical care, interpersonal support and job-task support. This suggests that the nurses perceived that their job involved high technical care which includes assisting patients with activities of daily living, and providing treatments and medication.

Standard deviations for all variables were less than 1.00, indicating that the variations on the participants' opinions were small, except for job security and job stress. The standard deviation for job security of 1.28 was relatively higher than the other job demands and resources variables, while the standard deviation of compliance and volunteering for additional duties of .84 was relatively higher than the other nurses' task and contextual performance variables.

## **5.8 INTERCORRELATIONS BETWEEN VARIABLES**

A correlation analysis was conducted to explain the relationships among all variables in the study. Pearson correlation was used to examine the correlation coefficient ( $r$ ) among the variables. Correlation analysis is a statistical method used to describe the strength and direction of the linear relationship between two variables (Pallant, 2007). Cohen (1988) provides a guideline to explain the strength and the degree of the correlation between two variables as presented in Table 5.9.

Table 5.9  
*Cohen's Guideline of Correlation Strength*

<b>R</b>	<b>Strength of relationship</b>
$r = +.10$ to $+ .29$	Low
$r = +.30$ to $+ .49$	Moderate
$r = +.50$ to $+ 1.$	High

The correlation analysis was conducted prior to hypothesis testing in order to determine the extent to which the job demands and resources variables, job stress, organizational support, nurses' task performance and nurses' contextual performance were related. The correlation analysis was also used to inspect for multicollinearity (Allison, 1999; Kennedy, 1985; Meyers *et al.*, 2006). When two or more independent variables are highly correlated, the determination of important predictors becomes confused. Multicollinearity increases the variance of regression coefficients and threatens the validity of the regression equation. As noted by Cooper and Schindler (2008), and Tsui, Ashford, Clair, and Xin (1995), even though there is no absolute criterion for the level of correlation that constitutes a serious multicollinearity problem, the general rule of thumb is that it should not exceed .75. Similarly, Kennedy (1985), Allison (1999), and Cooper and Schindler (2008) indicated that correlations of .8 or higher are problematic. Moreover, correlation coefficients between the variables must not be higher than .90. When the correlation coefficients are higher than .90, multicollinearity is said to exist and the variables should be removed from the analysis (Hair *et al.*, 2010).

Table 5.10 presents the summary of relationships between the independent variables, mediating variable, moderating variable and dependent variables. In general, the majority (89.47%) of the relationship between all variables was significant. High level of correlation represented 14.03% of the total number of correlations, moderate

levels of correlation were 38.60%, and low levels of correlation were 36.84%, while 10.53% were not significant. The result indicated no serious multicollinearity between independent variables or all study variables because the Pearson correlation indicators for all independent variables were less than .8. The highest correlation between all independent variables was  $r=.515$  ( $p<.01$ ) between task significance and skill variety. In addition, the highest correlation between all dependent variables was  $r=.626$  ( $p < .01$ ) between interpersonal support and provision of support.

Table 5.10 shows the relationships between the independent variables and dependent variables, and between the mediating and moderating variables and dependent variables. The highest correlation in the correlation matrix between the independent variables and dependent variables was  $r=.752$  ( $p<.01$ ) between task significance and interpersonal support. While the highest correlation between the mediating and moderating variables with the dependent variables was  $r=.529$  ( $p<.01$ ) between organizational support and interpersonal support. Despite the significance of this correlation, the coefficient was not large and would not cause a problem with collinearity (Allison, 1999; Cooper & Schindler, 2008; Kennedy, 1985).

In order to investigate the effects of various combinations of and interactions among variables, multivariate statistical analyses were used. This kind of analyses can be applied when testing a more complex theoretical model. Multiple regression techniques are widely used, versatile and helpful in sorting out confounding effects (Cooper & Schindler, 2008; Hair *et al.*, 2010). Hence, a multivariate analysis was carried out to test the hypotheses posited in this study.



Table 5.10

*Intercorrelations between Variables Job Demands Resources, Job Stress, Organizational Support and Nurses' Performance*

	QD	PD	ED	SW	SV	TS	TI	FB	JSec	JS	OS	PI	CC	PS	TC	IntSup	JTSup	Com	VAD
QD	1.000																		
PD	-.351**	1.000																	
ED	.058	-.071	1.000																
SW	.131**	.174**	.010	1.000															
SV	-.059	-.181**	-.095*	-.137**	1.000														
TS	.027	-.228**	-.031	-.239**	.515**	1.000													
TI	-.087*	-.161**	-.100*	-.136**	.392**	.405**	1.000												
FB	-.136**	-.144**	-.091*	-.126**	.306**	.355**	.131**	1.000											
JSec	.128**	.318**	.234**	.223**	-.375**	-.382**	-.263**	-.358**	1.000										
JS	.161**	.397**	.201**	.361**	-.466**	-.517**	-.360**	-.462**	.752**	1.000									
OS	-.072	-.117**	-.095*	-.206**	.353**	.435**	.261**	.269**	-.256**	-.341**	1.000								
PI	-.090*	-.185**	-.072	-.251**	.451**	.513**	.383**	.323**	-.182**	-.363**	.428**	1.000							
CC	-.126**	-.125**	-.124**	-.293**	.383**	.421**	.242**	.347**	-.174**	-.290**	.488**	.566**	1.000						
PS	-.090*	-.165**	-.141**	-.276**	.473**	.521**	.430**	.312**	-.266**	-.366**	.475**	.614**	.580**	1.000					
TC	-.116**	-.177**	-.083*	-.239**	.480**	.506**	.369**	.330**	-.295**	-.412**	.409**	.532**	.589**	.625**	1.000				
IntSup	-.132**	-.200**	-.169**	-.246**	.502**	.573**	.484**	.328**	-.299**	-.421**	.529**	.566**	.539**	.626**	.573**	1.000			
JTSup	-.072	-.101*	-.096*	-.140**	.378**	.465**	.412**	.179**	-.167**	-.269**	.401**	.460**	.285**	.500**	.392**	.571**	1.000		
Com	-.095*	-.176**	-.104**	-.190**	.332**	.341**	.305**	.250**	-.204**	-.356**	.383**	.370**	.402**	.389**	.371**	.530**	.442**	1.000	
VAD	-.146**	-.174**	-.110**	-.238**	.433**	.459**	.377**	.303**	-.239**	-.444**	.463**	.479**	.364**	.526**	.487**	.600**	.495**	.456**	1.000

Note.

QD = quantitative demands; PD = physical demands; ED = emotional demands; SW = shift work; SV = skill variety; TS = task significance; TI = task identity; FB = feedback; JSec = job security; JS = job stress; OS = organizational support; PI = provision of support; CC = coordination of care; PS = provision of support; TC = technical of care; IntSup = interpersonal support; JTSup = job-task support; Com = compliance; VAD = volunteering for additional duties.

\*\* . Correlation is significant at the .01 level.

\* . Correlation is significant at the .05 level.

## 5.9 RESULTS OF MAIN AND INTERACTING EFFECTS

This section is concerned with the hypotheses testing related to the main effects of job demands and resources on nurses' performance (task and contextual). A multiple regression analysis was conducted to understand the main effect of the job demands and resources variables on the nurses' performance (task and contextual). A hierarchical multiple regression was conducted to understand the mediating effects of job stress on the relationship between job demands and resources variables and nurses' performance (task and contextual). Finally another hierarchical multiple regression was conducted to understand the moderating effects of organizational support on the relationship between job stress and nurses' performance (task and contextual). In testing the hypotheses developed for this study, the choice of the level of significance was set at  $p < .05$  and  $p < .01$ , common in general management studies (Cooper & Schindler, 2008; Hair *et al.*, 2010).

To draw accurate conclusions about the regression analysis output and to be able to accurately apply this model to another population of interest, assumptions of normality, linearity, homoscedasticity, and independence of the residuals were examined first (Hair *et al.*, 2010). In addition, the assumption of multicollinearity was also examined. These assumptions apply to the independent variables, dependent variable, and to the relationships as a whole (Hair *et al.*, 2010). Linearity requires that the relationship between independent and dependent variables is linear. According to Hair *et al.* (2010), if the analysis of residual does not exhibit any nonlinear pattern to the residuals the overall equation is ensured to be linear and residual plots can be employed. Meanwhile homoscedasticity implies equal variances of the dependent variable at each observation of the independent variable and it similarly can be

examined through residual plots (Hair *et al.*, 2010). If the examination of residual shows increasing or decreasing residuals, the assumption of homoscedasticity is met. The assumption of normality is met when the residuals fall along the diagonal with no substantial or systematic departures and can be examined from the histogram of the standardized residuals and the Q-Q plots (Hair *et al.*, 2010). The assumption of independence implies that the samples are independent from one another. In this study, the independent assumption was met because the samples were randomly selected from the population. In addition, Durbin-Watson was used to test the independence of error terms (Norusis, 1995). The general rule of thumb is, if the Durbin-Watson value is between 1.5 and 2.5, the assumption of independence of the error terms is not violated (Norusis, 1995).

Collinearity exists when the ability of an additional independent variable is related not only to its correlation to the dependent variable, but also to the correlation(s) of the additional independent variable to the independent variable(s) already in the regression equation (Hair *et al.*, 2010). Variance inflation factor (VIF) and tolerance statistics are the two statistical methods that can be used to assess collinearity/multicollinearity. It is generally believed that any variance inflation factor (VIF) value that exceeds 10 and tolerance value below than .10 indicates a potential problem of multicollinearity (Hair *et al.*, 2010; Myers, 1990).

In this study, evaluation on assumptions of linearity, homoscedasticity, normality, independence of the error terms, and multicollinearity revealed no significant violation of assumption. Table 5.11 shows that all of the variables' skewness and Kurtosis statistics were between the normal distribution ( $\pm 1.96, \pm 2.58$ ) of the standard deviations (Hair *et al.*, 2010).

Table 5.11

*Statistic Values of Skewness and Kurtosis (Descriptive Statistics) (n=632)*

<b>Variables</b>	<b>Skewness</b>	<b>Kurtosis</b>
Quantitative demands (QD)	.84	-.33
Physical demands (PD)	.31	-.95
Emotional demands (ED)	.87	-.20
Shift work (SW)	1.01	-.86
Skill variety (SV)	-.49	-.27
Task significance (TS)	-.66	-.35
Task identity (TI)	-.28	-.89
Feedback (FB)	-.66	-.02
Job security (JSec)	.51	-1.43
Job stress (JS)	1.06	-.70
Organizational support (OS)	-.27	-.66
Provision of information (PI)	-.05	-.65
Coordination of care (CC)	-.42	-.46
Provision of support (PS)	.08	-.72
Technical care (TC)	-.48	-.67
Interpersonal support (IntSup)	-.23	-.68
Job-task support (JTSup)	.16	-.34
Compliance (Com)	-.35	-.65
Volunteering for additional duties (VAD)	-.28	-.74

No exhibit of any nonlinear pattern to the residuals, thus ensuring that the overall equation is linear. In details, the result of linearity test for the relationship between the independent variables (job demands and resources) and the dependent variable (eight dimensions of nurses' performance) through scatter plot diagrams shows no evidence of nonlinear pattern to the residuals. No pattern of increasing or decreasing residuals, which indicates homoscedasticity in the multivariate case. Because the values fall along the diagonal with no substantial or systematic departures, the residuals were considered to represent a normal distribution. The Durbin-Watson values of 1.84, 1.87, 1.98, 1.86, 1.75, 1.84, 1.85, and 1.76 met the general rule of thumb, suggesting that the assumptions of independence of the error terms were not violated. Finally the variance inflation factor (VIF) value did not exceed 10 and tolerance value was not lower than .10, thus exhibiting no apparent collinearity problem. Table 5.12 provides the results of the multicollinearity test values for job demands and resources variables.

Table 5.12  
*Tolerance Value and the Variance Inflation Factor (VIF) Test for Job Demands Resources (n = 632)*

Independent variables	Collinearity statistics	
	Tolerance	VIF
Quantitative demands (QD)	.76	1.32
Physical demands (PD)	.69	1.45
Emotional demands (ED)	.91	1.10
Shift work (SW)	.89	1.13
Skill variety (SV)	.66	1.53
Task significance (TS)	.60	1.68
Task identity (TI)	.76	1.31
Feedback (FB)	.79	1.27
Job security (JSec)	.64	1.56

### 5.9.1 Level of Job Performance (Task and Contextual) among Hospital Nurses

The first research question dealt with job performance level among hospital nurses' in public hospitals in Saudi Arabia. This requires an analysis by mean test to determine the level nurses' performance. As shown in Table 5.13, the job performance level among hospital nurses' in public hospitals in Saudi Arabia as perceived by the nurses' hospital was rated to be "moderate" (mean= 3.62).

Table 5.13  
*Mean Values of Nurses' Performance (Task & Contextual) (n = 632)*

Variables	Mean
Provision of information (PI) <sup>a</sup>	3.45
Coordination of care (CC) <sup>a</sup>	3.82
Provision of support (PS) <sup>a</sup>	3.60
Technical care (TC) <sup>a</sup>	3.97
Overall task performance <sup>a</sup>	3.67
Interpersonal support (IntSup) <sup>b</sup>	3.73
Job-task support (JTSup) <sup>b</sup>	3.24
Compliance (Com) <sup>b</sup>	3.72
Volunteering for additional duties (VAD) <sup>b</sup>	3.62
Overall contextual performance <sup>b</sup>	3.55
Overall performance overall	3.62

Note.

<sup>a</sup>1 = Much below average, 2 = Somewhat below average, 3 = Average, 4 = Somewhat above average, 5 = Much above average;

<sup>b</sup>1 = not at All, 2 = minimally, 3 = somewhat, 4 = quite a bit, 5 = a great deal

### **5.9.2 Main Effect of Job Demands and Resources on Nurses' Performance (Task and Contextual)**

The second research question was about the extent of influence of job demands and resources on nurse's performance in public hospitals in Saudi Arabia. This requires an analysis to examine the relationship between the independent variables of job demands and resources, namely quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback and job security, and the dependent variables namely nurses' task and contextual performance (i.e. provision of information, coordination of care, provision of support, technical care, interpersonal support, job-task support, compliance and volunteering for additional duties).

A standard multiple regression analysis was conducted. The study used an "enter" method to perform the regression analysis. The multiple correlation ( $R$ ), squared multiple correlation ( $R^2$ ) and adjusted squared multiple correlation ( $adjR^2$ ) indicate how well the combination of the independent variables predict the dependent variable.

#### **5.9.2.1 Main Effect of Job Demands and Resources on Nurses' Task Performance (Provision of Information)**

To understand the relationship between job demands and resources and nurses' task performance (provision of information) a multiple regression analysis was conducted. The results, as demonstrated in Table 5.14, showed that the regression equation with all the predictors was significant ( $R = .624$ ,  $R^2 = .390$ ,  $adjR^2 = .381$ ,  $F(622, 9) = 44.17$ ,  $p < .001$ ). In other words, the multiple correlation coefficient between the predictors and the dependent variable was .624; all these predictors (job demands and

resources) accounted for 39.0% of the variation in the nurses' task performance (provision of information). The generalizability of this model in another population was .381. The value of  $R^2$  dropped to only .009 (about .9%) in the  $adjR^2$  which indicates that the cross validity of this model was fine. The significant F-test revealed that the relationship between the dependent variable (provision of information) and the independent variables (job demands and resources) was linear and the model significantly predicted the dependent variable.

The F-test [F (622, 9) = 44.17,  $p < .001$ ] indicated an overall significant prediction of the independent variables on the dependent variables. Table 5.14 shows the individual contributor of each predictor as presented by the standardized regression weight for each predictor within a regression equation (Green & Salkind, 2008).

Table 5.14  
*Multiple Regression Analysis: Job Demands Resources and Nurses' Task Performance (Provision of Information PI) (n = 632)*

<b>Independent variables</b>	<b>Standardized beta</b>
Quantitative demands (QD)	-.096**
Physical demands (PD)	-.109**
Emotional demands (ED)	-.060
Shift work (SW)	-.120**
Skill variety (SV)	.210**
Task significance (TS)	.309**
Task identity (TI)	.160**
Feedback (FB)	.149**
Job security (JSec)	.198**
<i>F</i> value	44.17
$R^2$	.390
Adjusted $R^2$	.381
Durbin Watson	1.84

Note.

Dependent variable = Provision of information (PI)

\*  $p < 0.05$ , \*\*  $p < 0.01$

Among the nine predictors, task significance (Beta= .309,  $t = 7.628$ , Sig. = .000) had the highest and significant standardized beta coefficient, which indicates

that task significance was the most important variable in predicting the nurses' task performance (provision of information). The other important predictor in descending order was skill variety (Beta= .210,  $t = 5.435$ , Sig.= .000), job security (Beta= .198,  $t = 5.061$ , Sig.= .000), task identity (Beta= .160,  $t = 4.467$ , Sig. = .000), feedback (Beta= .149,  $t = 4.229$ , Sig.= .000), shift work (Beta= -.120,  $t = -3.606$ , Sig.= .000), physical demands (Beta= -.109,  $t = -2.877$ , Sig.= .004), quantitative demands (Beta= -.096,  $t = -2.657$ , Sig.= .008), and emotional demands (Beta= -.060,  $t = -1.839$ , Sig.=.066). Eight predictor variables impacted on the dependent variable in the direction hypothesized. Thus, better nurses' task performance (provision of information) can be obtained when nurses' work involved low quantitative demands, physical demands, and shift work, and when they had to exercise high skill variety, task significance, task identity, feedback, and experienced job security. Therefore, hypotheses H1a, H1b, H1d, H2a, H2b, H2c, H2d and H2e were supported, while hypotheses H1c was rejected.

#### **5.9.2.2 Main Effect of Job Demands and Resources on Nurses' Task Performance (Coordination of Care)**

To understand the relationship between job demands and resources and nurses' task performance (coordination of care), a multiple regression analysis was conducted. The results, as indicated in Table 5.15, showed that the regression equation with all the predictors was significant ( $R = .562$ ,  $R^2 = .316$ ,  $\text{adj}R^2 = .306$ ,  $F (31.86)$ ,  $p < .001$ ). In other words, the multiple correlation coefficient between the predictors and the dependent variable was .562; all these predictors (job demands and resources) accounted for 31.6% of the variation in the nurses' task performance (coordination of care). The generalizability of this model in another population was .306. The value of  $R^2$  dropped to only .010 (about 1%) in the  $\text{adj}R^2$  which indicates that the cross validity



of this model was fine. The significant F-test revealed that the relationship between the dependent variable (coordination of care) and the independent variables (job demands and resources) was linear and the model significantly predicted the dependent variable.

The F-test [F (9, 622) = 31.86, p < .001] indicated an overall significant prediction in the independent variables to the dependent variables. Table 5.15 shows the individual contributor of each predictor as presented by the standardized regression weight for each predictor within a regression equation (Green & Salkind, 2008).

Table 5.15  
*Multiple Regression Analysis: Job Demands Resources and Nurses' Task Performance (Coordination of Care CC) (n = 632)*

<b>Independent variables</b>	<b>Standardized beta</b>
Quantitative demands (QD)	-.106**
Physical demands (PD)	-.069
Emotional demands (ED)	-.115**
Shift work (SW)	-.191**
Skill variety (SV)	.195**
Task Significance (TS)	.243**
Task identity (TI)	.030
Feedback (FB)	.201**
Job security (JSec)	.177**
<i>F</i> value	31.86
<i>R</i> <sup>2</sup>	.316
Adjusted <i>R</i> <sup>2</sup>	.306
Durbin Watson	1.87

Note.

Dependent variable = Coordination of care (CC)

\* p < 0.05, \*\* p < 0.01

Among the nine predictors, task significance (Beta= .243, t= 5.652, Sig. = .000) had the highest and significant standardized beta coefficient, which indicates that task significance was the most important variable in predicting the nurses' task performance (coordination of care). The other important predictor in descending order was feedback (Beta= .201, t= 5.371, Sig.= .000), skill variety (Beta= .195, t= 4.765,

Sig.= .000), shift work (Beta= -.191, t= -5.427, Sig. = .000), job security (Beta= .177, t= 4.268, Sig.= .000), emotional demands (Beta= -.115, t= -3.303, Sig.= .001), quantitative demands (Beta= -.106, t= -2.789, Sig. = .005), physical demands (Beta= -.069, t= -1.731, Sig.= .084), and task identity (Beta = .030, t= .790, Sig.=.430). Seven predictor variables impacted on the dependent variable in the direction hypothesized. Thus, better nurses' task performance (coordination of care) can be obtained when nurses had low quantitative demands, emotional demands, and shift work; and had high skill variety, task significance, feedback and job security. Therefore, hypotheses H3a, H3c, H3d, H4a, H4b, H4d and H4e were supported, while hypotheses H3b and H4c rejected.

### **5.9.2.3 Main Effect of Job Demands and Resources on Nurses' Task Performance (Provision of Support)**

To understand the relationship between job demands and resources and nurses' task performance (provision of support), a multiple regression analysis was conducted. The results showed that the regression equation with all the predictors was significant ( $R = .639$ ,  $R^2 = .409$ ,  $\text{adj}R^2 = .400$ ,  $F (47.78)$ ,  $p < .001$ ). In other words, the multiple correlation coefficient between the predictors and the dependent variable was .639; all these predictors (job demands and resources) accounted for 40.9% of the variation in the nurses' task performance (provision of support). The generalizability of this model in another population was .400. The value of  $R^2$  dropped to only .009 (about .9%) in the  $\text{adj}R^2$  which indicates that the cross validity of this model was fine. The significant F-test revealed that the relationship between the dependent variable (provision of support) and the independent variables (job demands and resources) was linear and the model significantly predicted the dependent variable.

The F-test [ $F(9, 622) = 47.78, p < .001$ ] indicated an overall significant prediction in independent variables to the dependent variables. Table 5.16 shows the individual contributor of each predictor as presented by the standardized regression weight for each predictor within a regression equation (Green & Salkind, 2008).

Table 5.16  
*Multiple Regression Analysis: Job Demands Resources and Nurses' Task Performance (Provision of Support PS) (n = 632)*

<b>Independent Variables</b>	<b>Standardized beta</b>
Quantitative demands (QD)	-.055
Physical demands (PD)	-.044
Emotional demands (ED)	-.101**
Shift work (SW)	-.143**
Skill variety (SV)	.208**
Task significance (TS)	.280**
Task identity (TI)	.202**
Feedback (FB)	.113**
Job security (JSec)	.089*
<i>F</i> value	47.78
<i>R</i> <sup>2</sup>	.409
Adjusted <i>R</i> <sup>2</sup>	.400
Durbin Watson	1.98

Note.

Dependent variable = Provision of support (PS)

\*  $p < 0.05$ , \*\*  $p < 0.01$

Among the nine predictors, task significance (Beta= .280,  $t = 7.008$ , Sig. = .000) had the highest and significant standardized beta coefficient, which indicates that task significance was the most important variable in predicting the nurses' task performance (provision of support). The other important predictor in descending order was skill variety (Beta= .208,  $t = 5.473$ , Sig.= .000), task identity (Beta= .202,  $t = 5.730$ , Sig.= .000), shift work (Beta= -.143,  $t = -4.374$ , Sig. = .000), feedback (Beta= .113,  $t = 3.250$ , Sig.= .001), emotional demands (Beta= -.101,  $t = -3.127$ , Sig.= .002), job security (Beta= .089,  $t = 2.310$ , Sig. = .021), quantitative demands (Beta= -.055,  $t = -1.539$ , Sig.= .124), and physical demands (Beta = -.044,  $t = -1.185$ , Sig.=.237). Seven predictor variables impacted on the dependent variable in the direction hypothesized.

Thus, better nurses' task performance (provision of support) can be obtained when nurses had low emotional demands and shift work, and high skill variety, task significance, task identity, feedback, and job security. Therefore, hypotheses H5c, H5d, H6a, H6b, H6c, H6d and H6e are supported, while hypotheses H5a and H5b rejected.

#### **5.9.2.4 Main Effect of Job Demands and Resources on Nurses' Task Performance (Technical Care)**

To understand the relationship between job demands and resources and nurses' task performance (technical care), a multiple regression analysis was conducted. The results showed that the regression equation with all the predictors was significant ( $R = .611$ ,  $R^2 = .373$ ,  $adjR^2 = .364$ ,  $F (41.09)$ ,  $p < .001$ ). In other words, the multiple correlation coefficient between the predictors and the dependent variable was .611; all these predictors (job demands and resources) accounted for 37.3% of the variation in the nurses' task performance (technical care). The generalizability of this model in another population was .364. The value of  $R^2$  dropped to only .009 (about .9%) in the  $adjR^2$  which indicates that the cross validity of this model was fine. The significant F-test revealed that the relationship between the dependent variable (technical care) and the independent variables (job demands and resources) was linear and the model significantly predicted the dependent variable.

The F-test [ $F (9, 622) = 41.09$ ,  $p < .001$ ] indicates an overall significant prediction in independent variables to the dependent variables. Table 5.17 shows the individual contributor of each predictor as presented by the standardized regression weight for each predictor within a regression equation (Green & Salkind, 2008).

Table 5.17  
*Multiple Regression Analysis: Job Demands and Resources and Nurses' Task Performance (Technical Care TC) (n = 632)*

<b>Independent variables</b>	<b>Standardized beta</b>
Quantitative demands (QD)	-.095**
Physical demands (PD)	-.066
Emotional demands (ED)	-.035
Shift work (SW)	-.094**
Skill variety (SV)	.234**
Task significance (TS)	.268**
Task identity (TI)	.127**
Feedback (FB)	.122**
Job security (JSec)	.034
<i>F</i> value	41.09
<i>R</i> <sup>2</sup>	.373
Adjusted <i>R</i> <sup>2</sup>	.364
Durbin Watson	1.86

Note.

Dependent variable = Technical care (TC)

\*  $p < 0.05$ , \*\*  $p < 0.01$

Among the nine predictors, task significance (Beta= .268,  $t = 6.512$ , Sig. = .000) had the highest and significant standardized beta coefficient, which indicates that task significance was the most important variable in predicting the nurses' task performance (technical care). The other important predictor in descending order was skill variety (Beta= .234,  $t = 5.962$ , Sig.= .000), task identity (Beta= .127,  $t = 3.498$ , Sig.= .001), feedback (Beta= .122,  $t = 3.404$ , Sig.= .001), quantitative demands (Beta= -.095,  $t = -2.596$ , Sig. = .010), shift work (Beta= -.094,  $t = -2.786$ , Sig.= .006), physical demands (Beta= -.066,  $t = -1.720$ , Sig.= .086), emotional demands (Beta= -.035,  $t = -1.061$ , Sig. = .289), and job security (Beta = .034,  $t = .857$ , Sig.=.392). Seven predictor variables impacted on the dependent variable in the direction hypothesized. Thus, better nurses' task performance (technical care) can be obtained when nurses had low quantitative demands and shift work, and higher skill variety, task significance, task identity and feedback. Therefore, hypotheses H7a, H7c, H8a, H8b, H8c and H8d are supported, while hypotheses H7b, H7d and H8e rejected.

### 5.9.2.5 Main Effect of Job Demands and Resources on Nurses' Contextual Performance (Interpersonal Support)

To understand the relationship between job demands and resources and nurses' contextual performance (interpersonal support), a multiple regression analysis was conducted. The results showed that the regression equation with all the predictors was significant ( $R = .697$ ,  $R^2 = .485$ ,  $\text{adj}R^2 = .478$ ,  $F(65.16)$ ,  $p < .001$ ). In other words, the multiple correlation coefficient between the predictors and the dependent variable was .697; all these predictors (job demands and resources) accounted for 48.5% of the variation in the nurses' contextual performance (interpersonal support). The generalizability of this model in another population was .478. The value of  $R^2$  dropped to only .007 (about .7%) in the  $\text{adj}R^2$  which indicates that the cross validity of this model was fine. The significant F-test revealed that the relationship between the dependent variable (interpersonal support) and the independent variables (job demands and resources) was linear and the model significantly predicted the dependent variable.

Table 5.18  
Multiple Regression Analysis: Job Demands Resources and Nurses' Contextual Performance (Interpersonal Support)( $N = 632$ )

Independent variables	Standardized beta
Quantitative demands (QD)	-.127**
Physical demands (PD)	-.107**
Emotional demands (ED)	-.130**
Shift work (SW)	-.081**
Skill variety (SV)	.193**
Task significance (TS)	.337**
Task identity (TI)	.232**
Feedback (FB)	.099**
Job security (JSec)	.097**
<i>F</i> value	65.16
$R^2$	.485
Adjusted $R^2$	.478
Durbin Watson	1.75

Note.

Dependent variable = Interpersonal support (IntSup)

\*  $p < 0.05$ , \*\*  $p < 0.01$

The F-test [ $F(9, 622) = 65.16, p < .001$ ] indicated an overall significant prediction in independent variables to the dependent variables. Table 5.18 shows the individual contributor of each predictor is presented by the standardized regression weight for each predictor within a regression equation (Green & Salkind, 2008).

Among the nine predictors, task significance (Beta= .337,  $t = 9.044$ , Sig. = .000) had the highest and significant standardized beta coefficient, which indicates that task significance was the most important variable in predicting the nurses' contextual performance (interpersonal support). The other important predictor in descending order was task identity (Beta= .232,  $t = 7.049$ , Sig.= .000), skill variety (Beta= .193,  $t = 5.437$ , Sig.= .000), emotional demands (Beta= -.130,  $t = -4.303$ , Sig.= .000), quantitative demands (Beta= -.127,  $t = -3.855$ , Sig. = .000), physical demands (Beta= -.107,  $t = -3.087$ , Sig.= .002), feedback (Beta= .099,  $t = 3.054$ , Sig.= .002), job security (Beta= .097,  $t = 2.701$ , Sig. = .007), and shift work (Beta = -.081,  $t = -2.636$ , Sig.=.009). Nine predictor variables impacted on the dependent variable in the direction hypothesized. Thus, better nurses' contextual performance (interpersonal support) can be obtained when nurses had jobs that had low quantitative demands, physical demands, emotional demands and shift work, and high skill variety, task significance, task identity, feedback and job security. Therefore, hypotheses H9a, H9b, H9c, H9d, H10a, H10b, H10c, H10d and H10e were supported.

#### **5.9.2.6 Main Effect of Job Demands and Resources on Nurses' Contextual Performance (Job-Task Support)**

To understand the relationship between job demands and resources and nurses' contextual performance (job-task support), a multiple regression analysis was conducted. The results showed that the regression equation with all the predictors was

significant ( $R = .549$ ,  $R^2 = .301$ ,  $\text{adj}R^2 = .291$ ,  $F (29.79)$ ,  $p < .001$ ). In other words, the multiple correlation coefficient between the predictors and the dependent variable was .549; all these predictors (job demands and resources) accounted for 30.1% of the variation in the nurses' contextual performance (job-task support). The generalizability of this model in another population was .291. The value of  $R^2$  dropped to only .010 (about 1%) in the  $\text{adj}R^2$  which indicates that the cross validity of this model was fine. The significant F-test revealed that the relationship between the dependent variable (job-task support) and the independent variables (job demands and resources) was linear and the model significantly predicted the dependent variable.

The F-test [ $F (9, 622) = 29.79$ ,  $p < .001$ ] indicated an overall significant prediction in independent variables to the dependent variables. Table 5.19 shows the individual contributor of each predictor as presented by the standardized regression weight for each predictor within a regression equation (Green & Salkind, 2008).

Table 5.19  
*Multiple Regression Analysis: Job Demands Resources and Nurses' Contextual Performance (Job-Task Support)(n = 632)*

<b>Independent variables</b>	<b>Standardized beta</b>
Quantitative demands (QD)	-.066
Physical demands (PD)	-.023
Emotional demands (ED)	-.073*
Shift work (SW)	-.022
Skill variety (SV)	.139**
Task significance (TS)	.329**
Task identity (TI)	.233**
Feedback (FB)	.008
Job security (JSec)	.113**
<i>F</i> value	29.79
$R^2$	.301
Adjusted $R^2$	.291
Durbin Watson	1.85

Note.

Dependent variable = Job-task support

\*  $p < 0.05$ , \*\*  $p < 0.01$



Among the nine predictors, task significance (Beta= .329,  $t = 7.573$ , Sig. = .000) had the highest and significant standardized beta coefficient, which indicates that task significance was the most important variable in predicting the nurses' contextual performance (job-task support). The other important predictor in descending order was task identity (Beta= .233,  $t = 6.077$ , Sig.= .000), skill variety (Beta= .139,  $t = 3.360$ , Sig.= .001), job security (Beta= .113,  $t = 2.705$ , Sig.= .007), emotional demands (Beta= -.073,  $t = -2.081$ , Sig. = .038), quantitative demands (Beta=-.066,  $t = -1.717$ , Sig.= .086), physical demands (Beta= -.023,  $t = -.568$ , Sig.= .570), shift work (Beta= -.022,  $t = -.621$ , Sig. = .535), and feedback (Beta = .008,  $t = .220$ , Sig.=.826). Five predictor variables impacted on the dependent variable in the direction hypothesized. Thus, better nurses' contextual performance (job-task support) can be obtained when nurses' job involved low emotional demands, and had high skill variety, task significance, task identity, and job security. Therefore, hypotheses H11c, H12a, H12b, H12c and H12e were supported, while hypothesis H11a, H11b, H11d and H12d rejected.

#### **5.9.2.7 Main Effect of Job Demands and Resources on Nurses' Contextual Performance (Compliance)**

To understand the relationship between job demands and resources and nurses' contextual performance (compliance), a multiple regression analysis was conducted. The relationship results showed that the regression equation with all the predictors was significant ( $R = .460$ ,  $R^2 = .211$ ,  $adjR^2 = .200$ ,  $F (18.53)$ ,  $p < .001$ ). In other words, the multiple correlation coefficient between the predictors and the dependent variable was .460; all these predictors (job demands and resources) accounted for 21.1% of the variation in the nurses' contextual performance (compliance). The

generalizability of this model in another population was .200. The value of  $R^2$  dropped to only .011 (about 1.1%) in the  $\text{adj}R^2$  which indicates that the cross validity of this model was fine. The significant F-test revealed that the relationship between the dependent variable (compliance) and the independent variables (job demands and resources) was linear and the model significantly predicted the dependent variable.

The F-test [F (9, 622) = 18.53,  $p < .001$ ] indicated an overall significant prediction in independent variables to the dependent variables. Table 5.20 shows the individual contributor of each predictor as presented by the standardized regression weight for each predictor within a regression equation (Green & Salkind, 2008).

Table 5.20  
*Multiple Regression Analysis: Job Demands Resources and Nurses' Contextual Performance (Compliance)(n = 632)*

<b>Independent variables</b>	<b>Standardized beta</b>
Quantitative demands (QD)	-.102*
Physical demands (PD)	-.128**
Emotional demands (ED)	-.081*
Shift work (SW)	-.082*
Skill variety (SV)	.145**
Task significance (TS)	.149**
Task identity (TI)	.145**
Feedback (FB)	.110**
Job security (JSec)	.076
<i>F</i> value	18.53
$R^2$	.211
Adjusted $R^2$	.200
Durbin Watson	1.85

Note.

Dependent variable = Compliance (Com)

\*  $p < 0.05$ , \*\*  $p < 0.01$

Among the nine predictors, task significance (Beta= .149,  $t = 3.230$ , Sig. = .001) had the highest and significant standardized beta coefficient, which indicates that task significance was the most important variable in predicting the nurses' contextual performance (compliance). The other important predictor in descending order was task identity (Beta= .145,  $t = 3.557$ , Sig.= .000), skill variety (Beta= .145,  $t =$

3.302, Sig.= .001), physical demands (Beta=-.128, t= -2.993, Sig.= .003), feedback (Beta= .110, t= 2.751, Sig. = .006), quantitative demands (Beta= -.102, t= -2.488, Sig.= .013), shift work (Beta= -.082, t= -2.157, Sig.= .031), emotional demands (Beta= -.081, t= -2.166, Sig. = .031), and job security (Beta = .076, t= 1.712, Sig.=.087). Nine predictor variables impacted on the dependent variable in the direction hypothesized. Thus, better nurses' contextual performance (compliance) can be obtained when nurses' job involved low quantitative demands, physical demands, emotional demands and shift work, and had high skill variety, task significance, task identity, and feedback. Therefore, hypotheses H13a, H13b, H13c, H13d, H14a, H14b, H14c and H14d were supported, while hypothesis H14e rejected.

#### **5.9.2.8 Main Effect of Job Demands and Resources on Nurses' Contextual Performance (Volunteering for Additional Duties)**

To understand the relationship between job demands and resources and nurses' contextual performance, a multiple regression analysis was conducted. The results showed that the regression equation with all the predictors was significant ( $R = .585$ ,  $R^2 = .342$ ,  $\text{adj}R^2 = .332$ ,  $F(35.88)$ ,  $p < .001$ ). In other words, the multiple correlation coefficient between the predictors and the dependent variable was .585; all these predictors (job demands and resources) accounted for 34.2% of the variation in the nurses' contextual performance (volunteering for additional duties). The generalizability of this model in another population was .332. The value of  $R^2$  dropped to only .010 (about 1%) in the  $\text{adj}R^2$  which indicates that the cross validity of this model was fine. The significant F-test revealed that the relationship between the dependent variable (volunteering for additional duties) and the independent variables (job demands and resources) was linear and the model significantly predicted the

dependent variable.

The F-test [ $F(9, 622) = 35.88, p < .001$ ] indicated an overall significant prediction in independent variables to the dependent variables. Table 5.21 shows the individual contributor of each predictor as presented by the standardized regression weight for each predictor within a regression equation (Green & Salkind, 2008).

Table 5.21  
*Multiple Regression Analysis: Job Demands Resources and Nurses' Contextual Performance (Volunteering for Additional Duties)(n = 632)*

<b>Independent variables</b>	<b>Standardized beta</b>
Quantitative demands (QD)	-.147**
Physical demands (PD)	-.114**
Emotional demands (ED)	-.081*
Shift work (SW)	-.101**
Skill variety (SV)	.199**
Task significance (TS)	.242**
Task identity (TI)	.162**
Feedback (FB)	.118**
Job security (JSec)	.110**
<i>F</i> value	35.88
<i>R</i> <sup>2</sup>	.342
Adjusted <i>R</i> <sup>2</sup>	.332
Durbin Watson	1.76

Note.

Dependent variable = Volunteering for additional duties (VAD)

\*  $p < 0.05$ , \*\*  $p < 0.01$

Among the nine predictors, task significance (Beta= .242,  $t = 5.752$ , Sig. = .000) had the highest and significant standardized beta coefficient, which indicates that task significance was the most important variable in predicting the nurses' contextual performance (volunteering for additional duties). The other important predictor in descending order was skill variety (Beta= .199,  $t = 4.947$ , Sig.= .000), task identity (Beta= .162,  $t = 4.341$ , Sig.= .000), quantitative demands (Beta= -.147,  $t = -3.919$ , Sig.= .000), feedback (Beta= .118,  $t = 3.210$ , Sig. = .001), physical demands (Beta= -.114,  $t = -2.901$ , Sig.= .004), job security (Beta= .110,  $t = 2.697$ , Sig.= .007), shift work (Beta= -.101,  $t = -2.929$ , Sig. = .004), and emotional demands (Beta = -

.081,  $t = -2.377$ ,  $\text{Sig.} = .018$ ). Nine predictor variables impacted on the dependent variable in the direction hypothesized. Thus, better nurses' contextual performance (volunteering for additional duties) can be obtained when nurses are had jobs that were low in quantitative demands, physical demands, emotional demands and shift work, and high in skill variety, task significance, task identity, feedback, and job security. Therefore, hypotheses H15a, H15b, H15c, H15d, H16a, H16b, H16c, H16d and H16e were supported.

Table 5.22 summarizes the results of the hypotheses tested of the effect of job demands and resources on nurses' performance.

Table 5.22  
*Summary of Results of Hypotheses Testing on the Effect of Job Demands and Resources on Nurse's Performance (Task and Contextual)*

Hypothesis	Statement	Supported/ Rejected
<b>H1:</b>	<b>Job demands are negatively related to hospital nurses' task performance (provision of information).</b>	<b>Partially Supported</b>
H1a	Quantitative demands are negatively related provision of information.	Supported
H1b	Physical demands are negatively related to provision of information.	Supported
H1c	Emotional demands are negatively related to provision of information.	Rejected
H1d	Shift work is negatively related to provision of information.	Supported
<b>H2:</b>	<b>Job resources are positively related to hospital nurses' task performance (provision of information).</b>	<b>Supported</b>
H2a	Skill variety is positively related provision of information.	Supported
H2b	Task significance is positively related provision of information.	Supported
H2c	Task identity is positively related provision of information.	Supported
H2d	Feedback is positively related provision of information.	Supported
H2e	Job security is positively related provision of information.	Supported
<b>H3:</b>	<b>Job demands are negatively related to hospital nurses' task performance (coordination of care).</b>	<b>Partially Supported</b>
H3a	Quantitative demands are negatively related coordination of care.	Supported
H3b	Physical demands are negatively related to coordination of care.	Rejected
H3c	Emotional demands are negatively related to coordination of care.	Supported
H3d	Shift work is negatively related to coordination of care.	Supported
<b>H4:</b>	<b>Job resources are positively related to hospital nurses' task performance (coordination of care).</b>	<b>Partially Supported</b>
H4a	Skill variety is positively related coordination of care.	Supported
H4b	Task significance is positively related coordination of care.	Supported
H4c	Task identity is positively related coordination of care.	Rejected
H4d	Feedback is positively related coordination of care.	Supported
H4e	Job security is positively related coordination of care.	Supported
<b>H5:</b>	<b>Job demands are negatively related to hospital nurses' task performance (provision of support).</b>	<b>Partially Supported</b>

(Continued)

Table 5.22 (Continued)

Hypothesis	Statement	Supported/ Rejected
H5a	Quantitative demands are negatively related provision of support.	Rejected
H5b	Physical demands are negatively related to provision of support.	Rejected
H5c	Emotional demands are negatively related to provision of support.	Supported
H5d	Shift work is negatively related to provision of support.	Supported
<b>H6:</b>	<b>Job resources are positively related to hospital nurses' task performance (provision of support).</b>	<b>Supported</b>
H6a	Skill variety is positively related provision of support.	Supported
H6b	Task significance is positively related provision of support.	Supported
H6c	Task identity is positively related provision of support.	Supported
H6d	Feedback is positively related provision of support.	Supported
H6e	Job security is positively related provision of support.	Supported
<b>H7:</b>	<b>Job demands are negatively related to hospital nurses' task performance (technical care).</b>	<b>Partially Supported</b>
H7a	Quantitative demands are negatively related technical care.	Supported
H7b	Physical demands are negatively related to technical care.	Rejected
H7c	Emotional demands are negatively related to technical care.	Rejected
H7d	Shift work is negatively related to technical care.	Supported
<b>H8:</b>	<b>Job resources are positively related to hospital nurses' task performance (technical care).</b>	<b>Partially Supported</b>
H8a	Skill variety is positively related technical care.	Supported
H8b	Task significance is positively related technical care.	Supported
H8c	Task identity is positively related technical care.	Supported
H8d	Feedback is positively related technical care.	Supported
H8e	Job security is positively related technical care.	Rejected
<b>H9:</b>	<b>Job demands are negatively related to hospital nurses' contextual performance (interpersonal support).</b>	<b>Supported</b>
H9a	Quantitative demands are negatively related interpersonal support.	Supported
H9b	Physical demands are negatively related to interpersonal support.	Supported
H9c	Emotional demands are negatively related to interpersonal support.	Supported
H9d	Shift work is negatively related to interpersonal support.	Supported
<b>H10:</b>	<b>Job resources are positively related to hospital nurses' contextual performance (interpersonal support).</b>	<b>Supported</b>
H10a	Skill variety is positively related interpersonal support.	Supported
H10b	Task significance is positively related interpersonal support.	Supported
H10c	Task identity is positively related interpersonal support.	Supported
H10d	Feedback is positively related interpersonal support.	Supported
H10e	Job security is positively related interpersonal support.	Supported
<b>H11:</b>	<b>Job demands are negatively related to hospital nurses' contextual performance (job-task support).</b>	<b>Partially Supported</b>
H11a	Quantitative demands are negatively related job-task support.	Rejected
H11b	Physical demands are negatively related to job-task support.	Supported
H11c	Emotional demands are negatively related to job-task support.	Rejected
H11d	Shift work is negatively related to job-task support.	Rejected
<b>H12:</b>	<b>Job resources are positively related to hospital nurses' contextual performance (job-task support).</b>	<b>Partially Supported</b>
H12a	Skill variety is positively related job-task support.	Supported
H12b	Task significance is positively related job-task support.	Supported
H12c	Task identity is positively related job-task support.	Supported
H12d	Feedback is positively related job-task support.	Rejected
H12e	Job security is positively related job-task support.	Supported
<b>H13:</b>	<b>Job demands are negatively related to hospital nurses' contextual performance (compliance).</b>	<b>Supported</b>
H13a	Quantitative demands are negatively related compliance.	Supported
H13b	Physical demands are negatively related to compliance.	Supported

(Continued)

Table 5.22 (Continued)

Hypothesis	Statement	Supported/ Rejected
H13c	Emotional demands are negatively related to compliance.	Supported
H13d	Shift work is negatively related to compliance.	Supported
<b>H14:</b>	<b>Job resources are positively related to hospital nurses' contextual performance (compliance).</b>	<b>Partially Supported</b>
H14a	Skill variety is positively related compliance.	Supported
H14b	Task significance is positively related compliance.	Supported
H14c	Task identity is positively related compliance.	Supported
H14d	Feedback is positively related compliance.	Supported
H14e	Job security is positively related compliance.	Rejected
<b>H15:</b>	<b>Job demands are negatively related to hospital nurses' contextual performance (volunteering for additional duties).</b>	<b>Supported</b>
H15a	Quantitative demands are negatively related volunteering for additional duties.	Supported
H15b	Physical demands are negatively related to volunteering for additional duties.	Supported
H15c	Emotional demands are negatively related to volunteering for additional duties.	Supported
H15d	Shift work is negatively related to volunteering for additional duties.	Supported
<b>H16:</b>	<b>Job resources are positively related to hospital nurses' contextual performance (volunteering for additional duties).</b>	<b>Supported</b>
H16a	Skill variety is positively related volunteering for additional duties.	Supported
H16b	Task significance is positively related volunteering for additional duties.	Supported
H16c	Task identity is positively related volunteering for additional duties.	Supported
H16d	Feedback is positively related volunteering for additional duties.	Supported
H16e	Job security is positively related volunteering for additional duties.	Supported

### 5.9.3 Interacting Effects of Job Stress with Job Demands and Resources on Nurses' Performance

The third question to be answered was "does job stress among hospital nurses mediate the relationship between job demands and resources and their performance in public hospitals?". Specifically, this question sought to examine the mediating effect of nurses' job stress on the relationship between the independent variables of job demands and resources (i.e. quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security) and nurses' task and contextual performance (i.e. provision of information, coordination of care, provision of support, technical care, interpersonal support, job-task support, compliance, and volunteering for additional duties). To investigate the

mediating effects, eight hypotheses 17, 18, 19, 20, 21, 22, 23, and 24 were formulated.

Table 5.23  
*Baron and Kenny's Approach to Testing Mediation*

Steps	Result	Interpretation
Equation1:	$\beta_1$ must be significant	IV must influence DV significantly
Equation2:	$\beta_2$ must be significant	IV must influence IVV significantly
Equation3:	$\beta_3$ must be significant	IVV must influence DV significantly
Equation4:	If $\beta_4$ insignificant, Y fully mediated	If $\beta_4$ significant, Y partially mediated.

The hypotheses of mediation were examined using hierarchical regression analysis using Baron and Kenny's (1986) approach. The mediating model to be tested is shown in Figure 5.1.

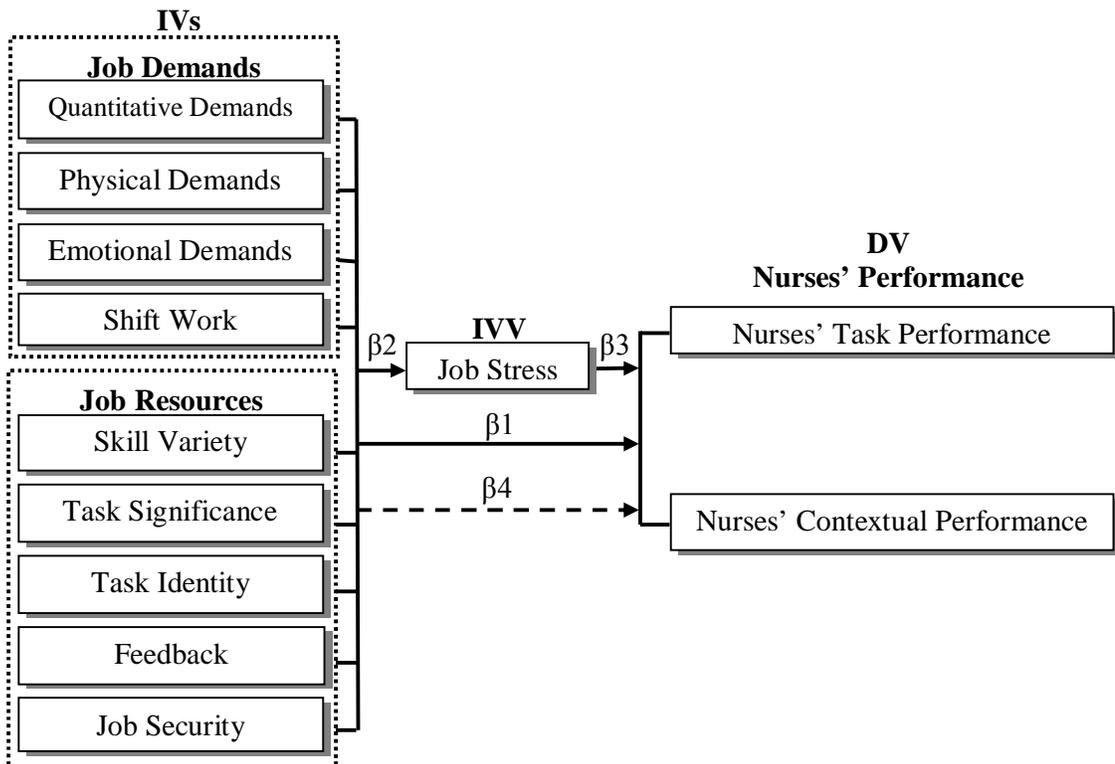


Figure 5.1  
*Mediation Model of Baron and Kenny (1986)*



According to Baron and Kenny (1986), for job stress to be considered mediating the relationship between job demands and resources and nurse's job performance, the following steps, as shown in Table 5.23, have to be fulfilled where IV = independent variable; DV = dependent variable; and IVV = intervening variable.

According to Baron and Kenny (1986), mediation analysis of job stress towards nurses' performance requires the following four important steps (1) in the first model a significant relationship between the independent variables, namely, job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback and job security) and dependent variables, namely, nurses' task and contextual performance (provision of information, coordination of care, provision of support, technical care, interpersonal support, job-task support, compliance and volunteering for additional duties) is required; (2) in the second model a significant relationship between the independent variables, namely, job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback and job security) and job stress is required; (3) in the third model a significant relationship between job demands and resources and job stress with nurses' performance is required. A full mediation occurs when the significant relationship between the independent variables and the dependent variables is reduced and is not significant after the mediating variable enters the equation. But partial mediation takes place when the significant relationship is reduced but still significant.

The Baron and Kenny's significant criteria were met because the correlation analysis between the targeted variables revealed that there were significant relationships between the variables. Therefore, the hierarchical regression analysis with Baron and Kenny's approach could be run.

### 5.9.3.1 Interacting Effects of Job Stress with Job Demands and Resources on Nurses' Task Performance

*H17: The relationship between job demands and resources and provision of information is mediated by job stress.*

To examine the hypothesized statement, hierarchical regression was performed. Table 5.24 demonstrates the results of the hierarchical regression analysis using job stress as a mediator in the relationship between job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security) and nurses' task performance (provision of information).

Table 5.24  
*Hierarchical Regression Analysis: Job Demands Resources, Job Stress and Nurses' Task Performance (Provision of Information) (n = 632)*

Independent variables	Standardized beta			Results
	Model 1	Model 2	Model 3	
Quantitative demands (QD)	-.096**	.120**	-.090*	No mediation
Physical demands (PD)	-.109**	.190**	-.099*	No mediation
Emotional demands (ED)	-.060	.063**	-.057	No mediation
Shift work (SW)	-.120**	.134**	-.114**	No mediation
Skill variety (SV)	.210**	-.079**	.206**	No mediation
Task significance (TS)	.309**	-.143**	.302**	No mediation
Task identity (TI)	.160**	-.061*	.157**	No mediation
Feedback (FB)	.149**	-.140**	.143**	No mediation
Job security (JSec)	.198**	.482**	.221**	No mediation
Job stress (JS)			-.048	
<i>F</i> value	44.17	173.68	39.80	
<i>R</i> <sup>2</sup>	.390	.715	.391	
Adjusted <i>R</i> <sup>2</sup>	.381	.711	.381	

Note.

Dependent variable = Provision of information

\*  $p < 0.05$ , \*\*  $p < 0.01$

As portrayed in Table 5.24, in the first model, job demands and resources significantly contributed to nurses' task performance (provision of information) ( $R^2 = .390$ ,  $F = 44.17$ ,  $p < .01$ ). Model one shows that job demands were negatively

related to nurses' task performance (provision of information), while job resources were positively related to nurses' task performance (provision of information).

In model two, job stress was added to the equation. It was found to significantly affect nurses' task performance (provision of information), with  $R^2 = .132$  significantly dropped ( $F = 95.49$ ,  $p < .01$ ). Model three shows that job demands and resources were still significant ( $R^2 = .391$ ,  $F = 39.80$ ,  $p < .01$ ), but job stress (mediating variable) was not significant. Therefore, job stress did not mediate the relationship between job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security) and nurses' task performance (provision of information). In other words, hypotheses H17a, H17b, H17c, H17d, H17e, H17f, H17g, H17h and H17i were rejected.

*H18: The relationship between job demands and resources and coordination of care is mediated by job stress.*

Table 5.25 indicates that in the first model, job demands and resources significantly contributed to nurses' task performance (coordination of care) ( $R^2 = .316$ ,  $F = 31.86$ ,  $p < .01$ ). Model one shows that job demands were negatively related to nurses' task performance (coordination of care), while job resources were positively related to nurses' task performance (coordination of care). In model two, job stress was added to the equation. It was found that job stress significantly affected nurses' task performance (coordination of care) ( $R^2 = .084$ ,  $F = 57.77$ ,  $p < .01$ ). Model three shows that job demands and resources were significant ( $R^2 = .320$ ,  $F = 29.17$ ,  $p < .01$ ), but job stress was not. Therefore, job stress did not mediate the relationship between

job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security) and nurses' task performance (coordination of care). In other words, hypotheses H18a, H18b, H18c, H18d, H18e, H18f, H18g, H18h and H18i were rejected.

Table 5.25  
*Hierarchical Regression Analysis: Job Demands Resources, Job Stress and Nurses' Task Performance (Coordination of Care) (n = 632)*

Independent variables	Standardized beta			Results
	Model 1	Model 2	Model 3	
Quantitative demands (QD)	-.106**	.120**	-.121**	No mediation
Physical demands (PD)	-.069	.190**	-.092*	No mediation
Emotional demands (ED)	-.115**	.063**	-.122**	No mediation
Shift work (SW)	-.191**	.134**	-.207**	No mediation
Skill variety (SV)	.195**	-.079**	.205**	No mediation
Task significance (TS)	.243**	-.143**	.260**	No mediation
Task identity (TI)	.030	-.061*	.037	No mediation
Feedback (FB)	.201**	-.140**	.218**	No mediation
Job security (JSec)	.177**	.482**	.120*	No mediation
Job stress (JS)			.119	
<i>F</i> value	31.86	173.68	29.17	
<i>R</i> <sup>2</sup>	.316	.715	.320	
Adjusted <i>R</i> <sup>2</sup>	.306	.711	.309	

Note.

Dependent variable = Coordination of care

\*  $p < 0.05$ , \*\*  $p < 0.01$

*H19: The relationship between job demands and resources and provision of support is mediated by job stress.*

As portrayed in Table 5.26, the results indicate that, in the first model, job demands and resources significantly contributed to nurses' task performance (provision of support) ( $R^2=.409$ ,  $F = 47.78$ ,  $p < .01$ ). Model one shows that job demands were negatively related to nurses' task performance (provision of support), while job resources were positively related to nurses' task performance (provision of support). In model two, job stress was added to the equation, and it was found that job stress

significantly affected nurses' task performance (provision of support) ( $R^2 = .134$ ,  $F = 97.71$ ,  $p < .01$ ). Model three shows that job demands and resources were significant ( $R^2 = .412$ ,  $F = 43.55$ ,  $p < .01$ ), but job stress was not. Therefore, job stress did not mediate the relationship between job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security) and nurses' task performance (provision of support). In other words, hypotheses H19a, H19b, H19c, H19d, H19e, H19f, H19g, H19h and H19i were rejected.

Table 5.26  
*Hierarchical Regression Analysis: Job Demands Resources, Job Stress and Nurses' Task Performance (Provision of Support) (n = 632)*

Independent variables	Standardized beta			Results
	Model 1	Model 2	Model 3	
Quantitative demands (QD)	-.055	.120**	-.068	No mediation
Physical demands (PD)	-.044	.190**	-.065	No mediation
Emotional demands (ED)	-.101**	.063**	-.108**	No mediation
Shift work (SW)	-.143**	.134**	-.158**	No mediation
Skill variety (SV)	.208**	-.079**	.217**	No mediation
Task significance (TS)	.280**	-.143**	.296**	No mediation
Task identity (TI)	.202**	-.061*	.209**	No mediation
Feedback (FB)	.113**	-.140**	.128**	No mediation
Job security (JSec)	.089*	.482**	.036	No mediation
Job stress (JS)			.111	
<i>F</i> value	47.78	173.68	43.55	
$R^2$	.409	.715	.412	
Adjusted $R^2$	.400	.711	.403	

Note.

Dependent variable = Provision of support

\*  $p < 0.05$ , \*\*  $p < 0.01$

*H20: The relationship between job demands and resources and technical of care is mediated by job stress.*

As shown in Table 5.27, the results indicate that, in the first model, job demands and resources significantly contributed to nurses' task performance (technical care) ( $R^2 = .373$ ,  $F = 41.09$ ,  $p < .01$ ). Model one shows that job demands were negatively

related to nurses' task performance (technical care), while job resources were positively related to nurses' task performance (technical care). In model two, job stress was added to the equation. It was found to significantly affect nurses' task performance (technical care) ( $R^2 = .170$ ,  $F = 128.75$ ,  $p < .01$ ). Model three shows that job demands and resources were significant ( $R^2 = .373$ ,  $F = 36.94$ ,  $p < .01$ ), but job stress was not. Therefore, job stress did not mediate the relationship between job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security) and nurses' task performance (technical care). In other words, hypotheses H20a, H20b, H20c, H20d, H20e, H20f, H20g, H20h and H20i were rejected.

Table 5.27  
*Hierarchical Regression Analysis: Job Demands Resources, Job Stress and Nurses' Task Performance (Technical Care) (n = 632)*

Independent variables	Standardized beta			Results
	Model 1	Model 2	Model 3	
Quantitative demands (QD)	-.095**	.120**	-.092*	No mediation
Physical demands (PD)	-.066	.190**	-.062	No mediation
Emotional demands (ED)	-.035	.063**	-.034	No mediation
Shift work (SW)	-.094**	.134**	-.091**	No mediation
Skill variety (SV)	.234**	-.079**	.232**	No mediation
Task significance (TS)	.268**	-.143**	.265**	No mediation
Task identity (TI)	.127**	-.061*	.126**	No mediation
Feedback (FB)	.122**	-.140**	.119**	No mediation
Job security (JSec)	.034	.482**	.044	No mediation
Job stress (JS)			-.021	
<i>F</i> value	41.09	173.68	36.94	
$R^2$	.373	.715	.373	
Adjusted $R^2$	.364	.711	.363	

Note.

Dependent variable = Technical care

\*  $p < 0.05$ , \*\*  $p < 0.01$

### 5.9.3.2 Interacting Effects of Job Stress with Job Demands and Resources on Nurses' Contextual Performance

*H21: The relationship between job demands and resources and interpersonal support is mediated by job stress.*

Table 5.28  
*Hierarchical Regression Analysis: Job Demands Resources, Job Stress and Nurses' Contextual Performance (Interpersonal Support)(n = 632)*

Independent variables	Standardized beta			Results
	Model 1	Model 2	Model 3	
Quantitative demands (QD)	-.127**	.120**	-.135**	No mediation
Physical demands (PD)	-.107**	.190**	-.119**	No mediation
Emotional demands (ED)	-.130**	.063**	-.134**	No mediation
Shift work (SW)	-.081**	.134**	-.089**	No mediation
Skill variety (SV)	.193**	-.079**	.198**	No mediation
Task significance (TS)	.337**	-.143**	.346**	No mediation
Task identity (TI)	.232**	-.061*	.236**	No mediation
Feedback (FB)	.099**	-.140**	.108**	No mediation
Job security (JSec)	.097**	.482**	.067	No mediation
Job stress (JS)			.062	
<i>F</i> value	65.16	173.68	58.80	
<i>R</i> <sup>2</sup>	.485	.715	.486	
Adjusted <i>R</i> <sup>2</sup>	.478	.711	.478	

Note.

Dependent variable = Interpersonal support

\* p < 0.05, \*\* p < 0.01

As portrayed in Table 5.28, the results indicate that, in the first model, job demands and resources significantly contributed to nurses' contextual performance (interpersonal support) ( $R^2=.485$ ,  $F = 65.16$ ,  $p<.01$ ). Model one shows that job demands were negatively related to nurses' contextual performance (interpersonal support), while job resources were positively related to nurses' contextual performance (interpersonal support).

In model two, job stress was added to the equation. Job stress was found to significantly affect nurses' contextual performance (interpersonal support) ( $R^2= .177$ ,  $F= 135.58$ ,  $p<.01$ ). Model three shows that job demands and resources were significant ( $R^2=.486$ ,  $F = 58.80$ ,  $p < .01$ ), but job stress was not. Therefore, job stress did not mediate the relationship between job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security) and nurses' contextual performance (interpersonal support). In short, hypotheses H21a, H21b, H21c, H21d, H21e, H21f, H21g, H21h and H21i were rejected.

H22: The relationship between job demands and resources and job-task support is mediated by job stress.

Table 5.29  
*Hierarchical Regression Analysis: Job Demands Resources, Job Stress and Nurses' Contextual Performance (Job-Task Support)(n = 632)*

Independent variables	Standardized beta			Results
	Model 1	Model 2	Model 3	
Quantitative demands (QD)	-.066	.120**	-.071	No mediation
Physical demands (PD)	-.023	.190**	-.030	No mediation
Emotional demands (ED)	-.073*	.063**	-.075*	No mediation
Shift work (SW)	-.022	.134**	-.027	No mediation
Skill variety (SV)	.139**	-.079**	.142**	No mediation
Task significance (TS)	.329**	-.143**	.334**	No mediation
Task identity (TI)	.233**	-.061*	.235**	No mediation
Feedback (FB)	.008	-.140**	.013	No mediation
Job security (JSec)	.113**	.482**	.096	No mediation
Job stress (JS)			.037	
<i>F</i> value	29.79	173.68	26.81	
<i>R</i> <sup>2</sup>	.301	.715	.302	
Adjusted <i>R</i> <sup>2</sup>	.291	.711	.290	

Note.

Dependent variable = Job-task support

\*  $p < 0.05$ , \*\*  $p < 0.01$

Table 5.29 shows that, in the first model, job demands and resources significantly contributed to nurses' contextual performance (job-task support) ( $R^2=.301$ ,  $F = 29.79$ ,  $p<.01$ ). Model one shows that job demands were negatively related to nurses' contextual performance (job-task support), while job resources were positively related to nurses' contextual performance (job-task support). In model two, job stress was added to the equation and was found to significantly affect nurses' contextual performance (job-task support) ( $R^2= .072$ ,  $F= 49.19$ ,  $p<.01$ ). Model three shows that job demands and resources were significant ( $R^2= .302$ ,  $F = 26.81$ ,  $p < .01$ ), but job stress was not significant. Therefore, job stress did not mediate the relationship between job demands and resources (quantitative demands, physical demands, emotional demands, shift work, skill variety, task significance, task identity, feedback, and job security) and nurses' contextual performance (job-task support). In other



words, hypotheses H22a, H22b, H22c, H22d, H22e, H22f, H22g, H22h and H22i were rejected.

*H23: The relationship between job demands and resources and compliance is mediated by job stress*

Table 5.30 shows that, in the first model, job demands and resources significantly contributed to nurses' contextual performance (compliance) ( $R^2=.211$ ,  $F = 18.53$ ,  $p<.01$ ). Model one shows that job demands were negatively related to nurses' contextual performance (compliance), while job resources were positively related to nurses' contextual performance (compliance). In model two, job stress was added to the equation. It was found to significantly affect nurses' contextual performance (compliance) ( $R^2= .127$ ,  $F= 91.45$ ,  $p<.01$ ). Model three shows that job demands and resources, and job stress were significant ( $R^2= .221$ ,  $F = 17.63$ ,  $p < .01$ ).

Table 5.30  
*Hierarchical Regression Analysis: Job Demands Resources, Job Stress and Nurses' Contextual Performance (Compliance)(n = 632)*

Independent Variables	Standardized beta			Results
	Model 1	Model 2	Model 3	
Quantitative demands (QD)	-.102*	.120**	-.080	Full mediation
Physical demands (PD)	-.128**	.190**	-.093*	Partial mediation
Emotional demands (ED)	-.081*	.063**	-.069	Full mediation
Shift work (SW)	-.082*	.134**	-.057	Full mediation
Skill variety (SV)	.145**	-.079**	.131**	Partial mediation
Task significance (TS)	.149**	-.143**	.122**	Partial mediation
Task identity (TI)	.145**	-.061*	.134**	Partial mediation
Feedback (FB)	.110**	-.140**	.085*	Partial mediation
Job security (JSec)	.076	.482**	.165**	No mediation
Job stress (JS)			-.185**	
<i>F</i> value	18.53	173.68	17.63	
$R^2$	.211	.715	.221	
Adjusted $R^2$	.200	.711	.209	

Note.

Dependent variable = Compliance

\*  $p < 0.05$ , \*\*  $p < 0.01$

Based on the results, it can be said that job stress fully mediated the relationship between job demands and resources (quantitative demands, emotional demands, and shift work) and nurses' contextual performance (compliance), partially mediated the relationship job demands and resources (physical demands, skill variety, task significance, task identity, and feedback) and nurses' contextual performance (compliance), but did not mediate the relationship job demands and resources (job security) and nurses' contextual performance (compliance). In other words, hypotheses H23a, H23b, H23c, H23d, H23e, H23f, H23g and H23h were supported, while H23i rejected.

*H24: The relationship between job demands and resources and volunteering for additional duties is mediated by job stress.*

Table 5.31  
*Hierarchical Regression Analysis: Job Demands Resources, Job Stress and Nurses' Contextual Performance (Volunteering for Additional Duties) (n = 632)*

Independent variables	Standardized beta			Results
	Model 1	Model 2	Model 3	
Quantitative demands (QD)	-.147**	.120**	-.115**	Partial mediation
Physical demands (PD)	-.114**	.190**	-.064	Full mediation
Emotional demands (ED)	-.081*	.063**	-.064	Full mediation
Shift work (SW)	-.101**	.134**	-.066	Full mediation
Skill variety (SV)	.199**	-.079**	.178**	Partial mediation
Task significance (TS)	.242**	-.143**	.205**	Partial mediation
Task identity (TI)	.162**	-.061*	.145**	Partial mediation
Feedback (FB)	.118**	-.140**	.081*	Partial mediation
Job security (JSec)	.110**	.482**	.236**	No mediation
Job stress (JS)			-.263**	
<i>F</i> value	35.88	173.68	35.14	
<i>R</i> <sup>2</sup>	.342	.715	.361	
Adjusted <i>R</i> <sup>2</sup>	.332	.711	.351	

Note.

Dependent variable = Volunteering for additional duties

\* p < 0.05, \*\* p < 0.01

Table 5.31 shows that, in the first model, job demands and resources significantly contributed to nurses' contextual performance (volunteering for additional duties)

( $R^2=.342$ ,  $F = 35.88$ ,  $p<.01$ ). Model one shows that job demands were negatively related to nurses' contextual performance (volunteering for additional duties), while job resources were positively related to nurses' contextual performance (volunteering for additional duties).

In model two, job stress was added to the equation. It was found to significantly affect nurses' contextual performance (volunteering for additional duties) ( $R^2= .197$ ,  $F= 154.87$ ,  $p<.01$ ). Model three shows that job demands and resources, and job stress were significant ( $R^2 = .361$ ,  $F = 35.14$ ,  $p < .01$ ). Therefore, job stress fully mediated the relationship between job demands and resources (physical demands, emotional demands and shift work) and nurses' contextual performance (volunteering for additional duties), partially mediated the relationship job demands and resources (quantitative demands, skill variety, task significance, task identity and feedback) and nurses' contextual performance (volunteering for additional duties), but did not mediate the relationship job demands and resources (job security) and nurses' contextual performance (volunteering for additional duties). In other words, hypotheses H24a, H24b, H24c, H24d, H24e, H24f, H24g and H24h were supported, while H24i rejected.

Table 5.32 summarizes the results of the hypotheses testing on the effect of job stress in mediating between job demands and resources, and nurses' performance.

Table 5.32  
*Summary of Results of Hypotheses Testing on the Mediation Effect of Job Stress on the Relationship between Job Demands and Resources and Nurse's Performance*

Hypothesis	Statement	Supported/ Rejected
H17:	<b>The relationship between job demands and resources and provision of information is mediated by job stress.</b>	<b>Not Supported</b>
H17a:	The relationship between quantitative demands and provision of information is mediated by job stress.	Rejected

(Continued)

Table 5.32 (Continued)

Hypothesis	Statement	Supported/ Rejected
H17b:	The relationship between physical demands and provision of information is mediated by job stress.	Rejected
H17c:	The relationship between emotional demands and provision of information is mediated by job stress.	Rejected
H17d:	The relationship between shift work and provision of information is mediated by job stress.	Rejected
H17e:	The relationship between skill variety and provision of information is mediated by job stress.	Rejected
H17f:	The relationship between task significance and provision of information is mediated by job stress.	Rejected
H17g:	The relationship between task identity and provision of information is mediated by job stress.	Rejected
H17h:	The relationship between feedback and provision of information is mediated by job stress.	Rejected
H17i:	The relationship between job security and provision of information is mediated by job stress.	Rejected
<b>H18:</b>	<b>The relationship between job demands and resources and coordination of care is mediated by job stress.</b>	<b>Not Supported</b>
H18a:	The relationship between quantitative demands and coordination of care is mediated by job stress.	Rejected
H18b:	The relationship between physical demands and coordination of care is mediated by job stress.	Rejected
H18c:	The relationship between emotional demands and coordination of care is mediated by job stress.	Rejected
H18d:	The relationship between shift work and coordination of care is mediated by job stress.	Rejected
H18e:	The relationship between skill variety and coordination of care is mediated by job stress.	Rejected
H18f:	The relationship between task significance and coordination of care is mediated by job stress.	Rejected
H18g:	The relationship between task identity and coordination of care is mediated by job stress.	Rejected
H18h:	The relationship between feedback and coordination of care is mediated by job stress.	Rejected
H18i:	The relationship between job security and coordination of care is mediated by job stress.	Rejected
<b>H19:</b>	<b>The relationship between job demands and resources and provision of support is mediated by job stress.</b>	<b>Not Supported</b>
H19a:	The relationship between quantitative demands and provision of support is mediated by job stress.	Rejected
H19b:	The relationship between physical demands and provision of support is mediated by job stress.	Rejected
H19c:	The relationship between emotional demands and provision of support is mediated by job stress.	Rejected
H19d:	The relationship between shift work and provision of support is mediated by job stress.	Rejected
H19e:	The relationship between skill variety and provision of support is mediated by job stress.	Rejected
H19f:	The relationship between task significance and provision of support is mediated by job stress.	Rejected
H19g:	The relationship between task identity and provision of support is mediated by job stress.	Rejected
H19h:	The relationship between feedback and provision of support is mediated by job stress.	Rejected
H19i:	The relationship between job security and provision of support is mediated by job stress.	Rejected

(Continued)

Table 5.32 (Continued)

Hypothesis	Statement	Supported/ Rejected
<b>H20:</b>	<b>The relationship between job demands and resources and technical care is mediated by job stress.</b>	<b>Not Supported</b>
H20a:	The relationship between quantitative demands and technical care is mediated by job stress.	Rejected
H20b:	The relationship between physical demands and technical care is mediated by job stress.	Rejected
H20c:	The relationship between emotional demands and technical care is mediated by job stress.	Rejected
H20d:	The relationship between shift work and technical care is mediated by job stress.	Rejected
H20e:	The relationship between skill variety and technical care is mediated by job stress.	Rejected
H20f:	The relationship between task significance and technical care is mediated by job stress.	Rejected
H20g:	The relationship between task identity and technical care is mediated by job stress.	Rejected
H20h:	The relationship between feedback and technical care is mediated by job stress.	Rejected
H20i:	The relationship between job security and technical care is mediated by job stress.	Rejected
<b>H21:</b>	<b>The relationship between job demands and resources and interpersonal support is mediated by job stress.</b>	<b>Not Supported</b>
H21a:	The relationship between quantitative demands and interpersonal support is mediated by job stress.	Rejected
H21b:	The relationship between physical demands and interpersonal support is mediated by job stress.	Rejected
H21c:	The relationship between emotional demands and interpersonal support is mediated by job stress.	Rejected
H21d:	The relationship between shift work and interpersonal support is mediated by job stress.	Rejected
H21e:	The relationship between skill variety and interpersonal support is mediated by job stress.	Rejected
H21f:	The relationship between task significance and interpersonal support is mediated by job stress.	Rejected
H21g:	The relationship between task identity and interpersonal support is mediated by job stress.	Rejected
H21h:	The relationship between feedback and interpersonal support is mediated by job stress.	Rejected
H21i:	The relationship between job security and interpersonal support is mediated by job stress.	Rejected
<b>H22:</b>	<b>The relationship between job demands and resources and job-task support is mediated by job stress.</b>	<b>Not Supported</b>
H22a:	The relationship between quantitative demands and job-task support is mediated by job stress.	Rejected
H22b:	The relationship between physical demands and job-task support is mediated by job stress.	Rejected
H22c:	The relationship between emotional demands and job-task support is mediated by job stress.	Rejected
H22d:	The relationship between shift work and job-task support is mediated by job stress.	Rejected
H22e:	The relationship between skill variety and job-task support is mediated by job stress.	Rejected
H22f:	The relationship between task significance and job-task support is mediated by job stress.	Rejected
H22g:	The relationship between task identity and job-task support is mediated by job stress.	Rejected

(Continued)

Table 5.32 (Continued)

Hypothesis	Statement	Supported/ Rejected
H22h:	The relationship between feedback and job-task support is mediated by job stress.	Rejected
H22i:	The relationship between job security and job-task support is mediated by job stress.	Rejected
<b>H23:</b>	<b>The relationship between job demands and resources and compliance is mediated by job stress.</b>	<b>Partially Supported</b>
H23a:	The relationship between quantitative demands and compliance is mediated by job stress.	Supported
H23b:	The relationship between physical demands and compliance is mediated by job stress.	Supported
H23c:	The relationship between emotional demands and compliance is mediated by job stress.	Supported
H23d:	The relationship between shift work and compliance is mediated by job stress.	Supported
H23e:	The relationship between skill variety and compliance is mediated by job stress.	Supported
H23f:	The relationship between task significance and compliance is mediated by job stress.	Supported
H23g:	The relationship between task identity and compliance is mediated by job stress.	Supported
H23h:	The relationship between feedback and compliance is mediated by job stress.	Supported
H23i:	The relationship between job security and compliance is mediated by job stress.	Rejected
<b>H24:</b>	<b>The relationship between job demands and resources and volunteering for additional duties is mediated by job stress.</b>	<b>Partially Supported</b>
H24a:	The relationship between quantitative demands and volunteering for additional duties is mediated by job stress.	Supported
H24b:	The relationship between physical demands and volunteering for additional duties is mediated by job stress.	Supported
H24c:	The relationship between emotional demands and volunteering for additional duties is mediated by job stress.	Supported
H24d:	The relationship between shift work and volunteering for additional duties is mediated by job stress.	Supported
H24e:	The relationship between skill variety and volunteering for additional duties is mediated by job stress.	Supported
H24f:	The relationship between task significance and volunteering for additional duties is mediated by job stress.	Supported
H24g:	The relationship between task identity and volunteering for additional duties is mediated by job stress.	Supported
H24h:	The relationship between feedback and volunteering for additional duties is mediated by job stress.	Supported
H24i:	The relationship between job security and volunteering for additional duties is mediated by job stress.	Rejected

#### 5.9.4 Interacting Effects of Organizational Support with Job Stress on Nurses' Performance

This section presents the results of research question four, which states, “does organizational support among hospital nurses moderate the relationship between job

stress and their performance in public hospitals in Saudi Arabia?”. This question sought to examine the moderating effect of organizational support on the relationship between job stress and nurses’ task and contextual performance, namely, provision of information, coordination of care, provision of support, technical care, interpersonal support, job-task support, compliance, and volunteering for additional duties. In order to investigate the moderating effects, two main hypotheses i.e. H25 and H26 were formulated.

To test the extent of which organizational support moderates the relationship between job stress variable and nurses’ performance (task and contextual), a hierarchical multiple regression was carried out. The job stress variable was first entered into step 1, followed by the moderator (organizational support) in step 2, and the interactions terms in step 3 of the regression model. The model tested is shown in Figure 5.2.

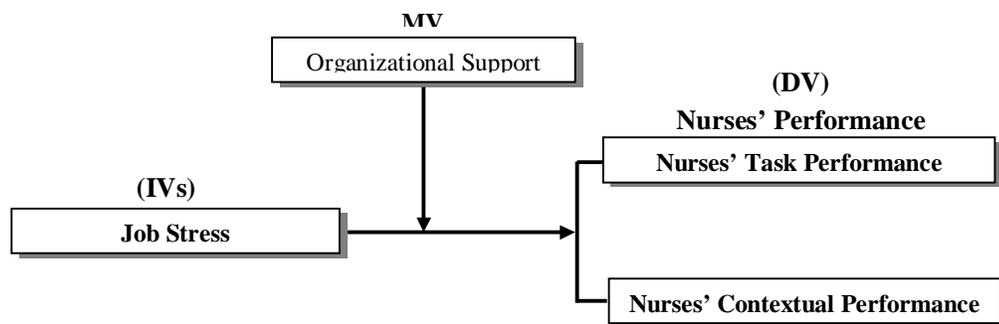


Figure 5.2  
*Moderating Model*

#### 5.9.4.1 Interacting Effects of Organizational Support with Job Stress on Nurses’ Task Performance

*H25: Organizational support moderates the relationship between job stress and nurses’ task performance.*

Table 5.33 shows the result of the hypothesis testing on the moderating effect of organizational support on the relationship between job stress and provision of information by nurses.

Table 5.33  
*Organizational Support as a Moderator in the Relationship between Job Stress Variable and Nurses' Task Performance (Provision of Information) (n = 632)*

Models	Standardized beta		
	Step1	Step2	Step3
<b>Model variable</b>			
Job stress	-.363**	-.246**	-.680**
<b>Moderating variable</b>			
Organizational support		.344**	.165*
<b>Interaction terms</b>			
Job stress * Organizational support			.419*
$R^2$	.132	.236	.243
Adjusted $R^2$	.130	.234	.240
$R^2$ change	.132	.104	.007
Sig. $F$ change	.000	.000	.014
Durbin Watson	1.707	1.707	1.707

\*  $p < 0.05$ , \*\*  $p < 0.01$

The job stress variable entered in step 1 accounted for approximately 13.2% of the variance in nurses' task performance (provision of information). Job stress had significant main effects on nurses' task performance (provision of information) (Beta= -.364,  $t = -9.77$ , Sig. = .000). The relationship for job stress was negative. The moderator variable entered at step 2 accounted for approximately 23.6% of the variance in nurses' task performance (provision of information). Organizational support was significantly related to nurses' task performance (provision of information). At step 3, when the interaction terms were entered, an increase in  $R^2$  by another .7% was observed. The interactions between organizational support and job stress were significant (Beta= .419,  $t = 2.474$ , Sig. = .014), suggesting that



organizational support acted as a quasi moderator on the relationship between job stress and nurses' task performance (provision of information).

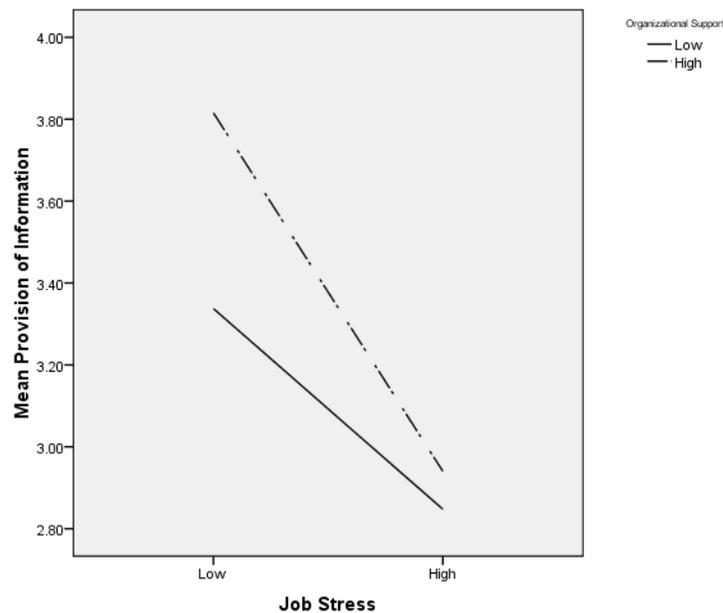


Figure 5.3  
*Plot of Interaction between Job Stress and Organizational Support on Nurses' Task Performance (Provision of Information)*

Figure 5.3 illustrates that the relationship between job stress and nurses' task performance (provision of information) was strongest in the case of high organizational support and weakest in the case of low organizational support. Nurses of different levels of organizational support did not differ much in their task performance (provision of information) under conditions of high job stress, but large differences were noted under conditions of low job stress. In other words, when nurses experienced low job stress, high levels of organizational support received would make them perform better in providing information in comparison to nurses received low level of organizational support.

Table 5.34 shows the result of the hierarchical multiple regression analysis of the extent of which organizational support moderates the relationship between job stress variable and nurses' task performance (coordination of care).

Table 5.34  
*Organizational Support as a Moderator in the Relationship between Job Stress Variable and Nurses' Task Performance (Coordination of Care) (n = 632)*

Model	Standardized beta		
	Step 1	Step 2	Step 3
<b>Model variable</b>			
Job stress	-.290**	-.140**	-.624**
<b>Moderating variable</b>			
Organizational support		.440**	.240**
<b>Interaction terms</b>			
Job stress * Organizational support			.467**
$R^2$	.084	.255	.264
Adjusted $R^2$	.083	.253	.261
$R^2$ change	.084	.171	.009
Sig. $F$ change	.000	.000	.005
Durbin Watson	1.757	1.757	1.757

\*  $p < 0.05$ , \*\*  $p < 0.01$

The job stress variable entered at step 1 accounted for approximately 8.4% of the variance in nurses' task performance (coordination of care). Job stress (Beta= -.290,  $t = -7.60$ , Sig. = .000) had significant main effects on nurses' task performance (coordination of care). The relationship for job stress was negative. The moderator variable entered at step 2 accounted for approximately 25.5% of the variance in nurses' task performance (coordination of care). Organizational support was significantly related to nurses' task performance (coordination of care). At step 3, when the interaction terms were entered, an increase in  $R^2$  by another .9% was observed. The interactions between organizational support and job stress were significant (Beta= .467,  $t = 2.80$ , Sig. = .005), indicating that organizational support acted as a quasi moderator on the relationship between job stress and nurses' task performance (coordination of care).

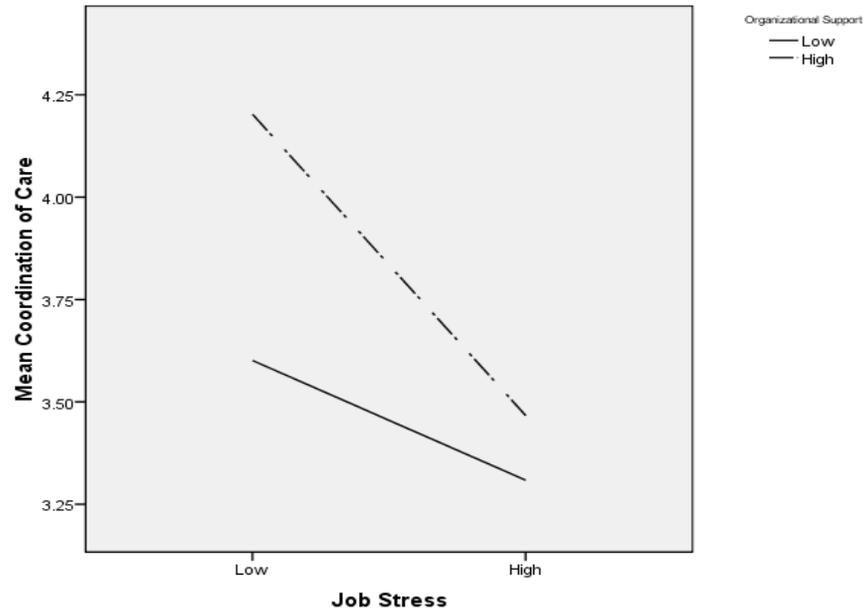


Figure 5.4  
*Plot of Interaction between Job Stress and Organizational Support on Nurses' Task Performance (Coordination of Care)*

Figure 5.4 shows that the relationship between job stress and nurses' task performance (coordination of care) was strongest in the case of high organizational support and weakest in the case of low organizational support. Nurses of different levels of organizational support did not differ much in their task performance (coordination of care) under conditions of high job stress, but large differences were noted under conditions of low job stress. In other words, under conditions of low job stress, nurses reporting high levels of organizational support reported significantly better coordination of care than those reporting low levels of organizational support.

Table 5.35 shows the result of the hierarchical multiple regression analysis of the extent of which organizational support moderates the relationship between job stress variable and nurses' task performance (provision of support).

Table 5.35  
*Organizational Support as a Moderator in the Relationship between Job Stress Variable and Nurses' Task Performance (Provision of Support) (n = 632)*

Model	Standardized beta		
	Step 1	Step 2	Step 3
<b>Model variable</b>			
Job stress	-.366**	-.231**	-.690**
<b>Moderating variable</b>			
Organizational support		.396**	.207**
<b>Interaction terms</b>			
Job stress * Organizational support			.442**
$R^2$	.134	.273	.281
Adjusted $R^2$	.133	.271	.278
$R^2$ change	.134	.139	.008
Sig. $F$ change	.000	.000	.008
Durbin Watson	1.789	1.789	1.789

\*  $p < 0.05$ , \*\*  $p < 0.01$

The job stress variable entered at step 1 accounted for approximately 13.4% of the variance in nurses' task performance (provision of support). Job stress (Beta= -.366,  $t = -9.89$ , Sig. = .000) had significant main effects on nurses' task performance (provision of support). The relationship for job stress was negative. The moderator variable entered at step 2 accounted for approximately 27.3% of the variance in nurses' task performance (provision of support). Organizational support was significantly related to nurses' task performance (provision of support). At step 3, when the interaction terms were entered, an increase in  $R^2$  by another .8% was observed. The interactions between organizational support and job stress were significant (Beta= .442,  $t = 2.68$ , Sig. = .008). This means that organizational support acted as a quasi moderator on the relationship between job stress and nurses' task performance (provision of support).

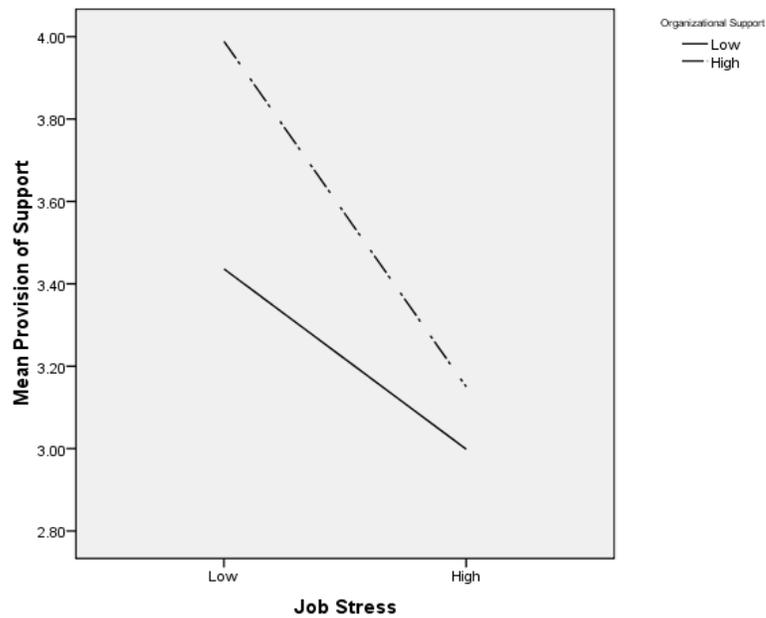


Figure 5.5  
*Plot of Interaction between Job Stress and Organizational Support on Nurses' Task Performance (Provision of Support)*

Figure 5.5 shows that the relationship between job stress and nurses' task performance (provision of support) was strongest in the case of high organizational support and weakest in the case of low organizational support. Nurses of different levels of organizational support did not differ much in their task performance of provision of support under conditions of high job stress, but large differences were noted under conditions of low job stress. In other words, under conditions of low job stress, nurses reporting high levels of organizational support provided significantly better support than those reporting low levels of organizational support.

Table 5.36 shows the result of the hierarchical multiple regression analysis of the extent of which organizational support moderates the relationship between job stress variable and nurses' task performance (technical care).

Table 5.36  
*Organizational Support as a Moderator in the Relationship between Job Stress Variable and Nurses' Task Performance (Technical Care) (n = 632)*

Model	Standardized beta		
	Step 1	Step 2	Step 3
<b>Model variable</b>			
Job stress	-.412**	-.308**	-.660**
<b>Moderating variable</b>			
Organizational support		.304**	.159*
<b>Interaction terms</b>			
Job stress * Organizational support			.339*
$R^2$	.170	.251	.256
Adjusted $R^2$	.168	.249	.253
$R^2$ change	.170	.082	.005
Sig. $F$ change	.000	.000	.044
Durbin Watson	1.716	1.716	1.716

\*  $p < 0.05$ , \*\*  $p < 0.01$

The job stress variable entered at step 1 accounted for approximately 17.0% of the variance in nurses' task performance (technical care). Job stress (Beta=-.412,  $t = -11.35$ , Sig.=.000) had significant main effects on nurses' task performance (technical care). The relationship for job stress was negative. The moderator variable entered at step 2 accounted for approximately 25.1% of the variance in nurses' task performance (technical care). Organizational support was significantly related to nurses' task performance (technical care). At step 3, when the interaction terms were entered, an increase in  $R^2$  by another .5% was observed. The interactions between organizational support and job stress were significant (Beta= .339,  $t = 2.02$ , Sig. =.044). This indicates that organizational support acted as a quasi moderator on the relationship between job stress and nurses' task performance (technical care).

Figure 5.6 shows that the relationship between job stress and nurses' task performance (technical care) was strongest in the case of high organizational support and weakest in the case of low organizational support. Nurses of different levels of organizational support did not differ much in their task performance (technical care) under conditions of high job stress, but large differences were noted under conditions

of low job stress. In other words, under conditions of low job stress, nurses reporting high levels of organizational support provided significantly better technical care than nurses under low levels of organizational support.

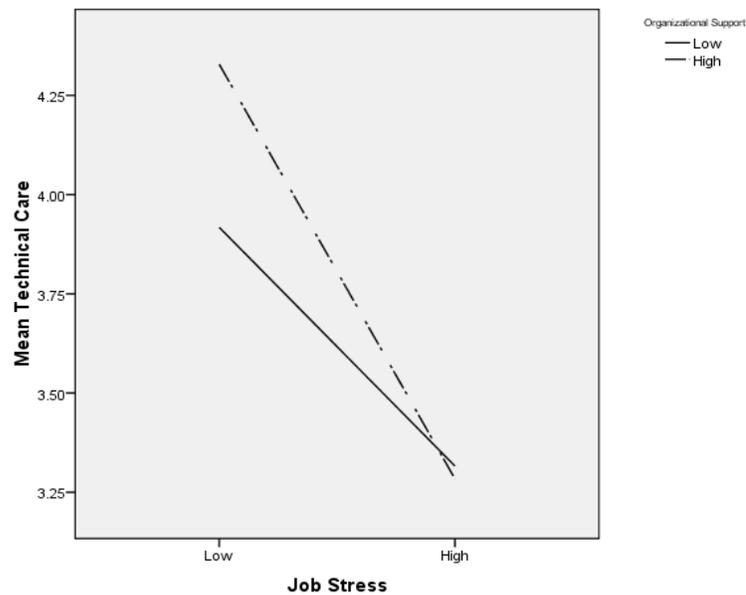


Figure 5.6  
*Plot of Interaction between Job Stress and Organizational Support on Nurses' Task Performance (Technical Care)*

In general, as organizational support was found to act as a quasi moderator on the relationship between job stress and different facets of task performance, it can be said that H25 is supported.

#### **5.9.4.2 Interacting Effects of Organizational Support with Job Stress on Nurses' Contextual Performance**

*H26: Organizational support moderates the relationship between job stress and nurses' contextual performance.*

Table 5.37

*Organizational Support as a Moderator in the Relationship between Job Stress Variable and Nurses' Contextual Performance (Interpersonal Support) (N = 632)*

Model	Standardized beta		
	Step 1	Step 2	Step 3
<b>Model variable</b>			
Job stress	-.421**	-.272**	-.794**
<b>Moderating variable</b>			
Organizational support		.437**	.222**
<b>Interaction terms</b>			
Job stress * Organizational support			.503**
$R^2$	.177	.346	.356
Adjusted $R^2$	.176	.344	.353
$R^2$ change	.177	.169	.011
Sig. $F$ change	.000	.000	.001
Durbin Watson	1.624	1.624	1.624

\*  $p < 0.05$ , \*\*  $p < 0.01$

Table 5.37 shows the result of the hierarchical multiple regression analysis of the extent of which organizational support moderates the relationship between job stress variable and nurses' contextual performance (i.e. interpersonal support). The job stress variable entered at step 1 accounted for approximately 17.7% of the variance in nurses' contextual performance (interpersonal support). Job stress (Beta= -.421,  $t = -11.64$ , Sig. = .000) had significant main effects on nurses' contextual performance (interpersonal support). The relationship for job stress was negative. The moderator variable entered at step 2 accounted for approximately 34.4% of the variance in nurses' contextual performance (interpersonal support). Organizational support was significantly related to nurses' contextual performance (interpersonal support). At step 3, when the interaction terms were entered, an increase in  $R^2$  by another 1% was observed. The interactions between organizational support and job stress were significant (Beta= .503,  $t = 3.22$ , Sig. = .001), which means that organizational support acted as a quasi moderator on the relationship between job stress and nurses' contextual performance.



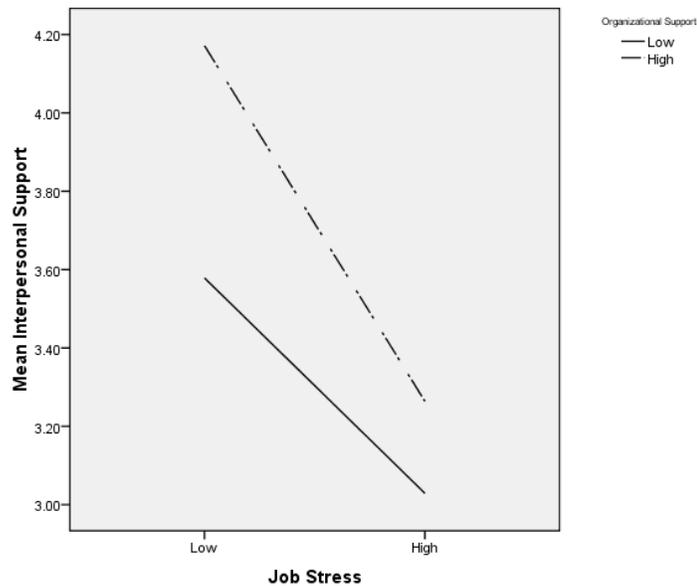


Figure 5.7  
*Plot of Interaction between Job Stress and Organizational Support on Nurses' Contextual Performance (Interpersonal Support)*

Figure 5.7 shows that the relationship between job stress and nurses' contextual performance (interpersonal support) was strongest in the case of high organizational support and weakest in the case of low organizational support. Nurses of different levels of organizational support did not differ much when providing interpersonal support under conditions of high job stress, but large differences were noted under conditions of low job stress. In other words, under conditions of low job stress, nurses reporting high levels of organizational support reported significantly better provision of interpersonal support than those reporting low levels of organizational support.

Table 5.38 shows the result of the hierarchical multiple regression analysis of the extent of which organizational support moderates the relationship between job stress variable and nurses' contextual performance (job-task support). The job stress variable entered at step 1 accounted for approximately 7.2% of the variance in nurses'

contextual performance (job-task support). Job stress (Beta= -.269, t= -7.01, Sig.= .000) had significant main effects on nurses' contextual performance (job-task support). The relationship for job stress was negative. The moderator variable entered at step 2 accounted for approximately 18.1% of the variance in nurses' contextual performance (job-task support). Organizational support was significantly related to nurses' contextual performance (job-task support). At step 3, when the interaction terms were entered, an increase in  $R^2$  by another .1% was observed. However, the interactions between organizational support and job stress were not significant (Beta= .172, t= .98, Sig. =.328). Therefore, organizational support did not moderate the relationship between job stress and nurses' contextual performance (job-task support).

Table 5.38  
*Organizational Support as a Moderator in the Relationship between Job Stress Variable and Nurses' Contextual Performance (Job-Task Support) (n = 632)*

Model	Standardized beta		
	Step 1	Step 2	Step 3
<b>Model variable</b>			
Job stress	-.269**	-.150**	-.329
<b>Moderating variable</b>			
Organizational support		.350**	.276**
<b>Interaction terms</b>			
Job stress * Organizational support			.172
$R^2$	.072	.181	.182
Adjusted $R^2$	.071	.178	.178
$R^2$ change	.072	.108	.001
Sig. $F$ change	.000	.000	.328
Durbin Watson	1.835	1.835	1.835

\*  $p < 0.05$ , \*\*  $p < 0.01$

Table 5.39 shows the result of the hierarchical multiple regression analysis of the extent of which organizational support moderates the relationship between job stress variable and nurses' contextual performance (compliance). The job stress variable entered at step 1 accounted for approximately 12.7% of the variance in nurses' contextual performance (compliance). Job stress (Beta= -.356, t= -9.56, Sig. =

.000) had significant main effects on nurses' contextual performance (compliance). The relationship for job stress was negative. The moderator variable entered at step 2 accounted for approximately 20.4% of the variance in nurses' contextual performance (compliance). Organizational support was significantly related to nurses' contextual performance (compliance). At step 3, when the interaction terms were entered, an increase in  $R^2$  by another .5% was observed. However, the interactions between organizational support and job stress were not significant (Beta= .330,  $t= 1.91$ , Sig. =.057). Therefore, organizational support did not moderate the relationship between job stress and nurses' contextual performance (compliance).

Table 5.39  
*Organizational Support as a Moderator in the Relationship between Job Stress Variable and Nurses' Contextual Performance (Compliance) (n = 632)*

Model	Standardized beta		
	Step 1	Step 2	Step 3
<b>Model variable</b>			
Job stress	-.356**	-.255**	-.598**
<b>Moderating variable</b>			
Organizational support		.296**	.155
<b>Interaction terms</b>			
Job stress * Organizational support			.330
$R^2$	.127	.204	.209
Adjusted $R^2$	.125	.202	.205
$R^2$ change	.127	.077	.005
Sig. $F$ change	.000	.000	.057
Durbin Watson	1.775	1.775	1.775

\*  $p < 0.05$ , \*\*  $p < 0.01$

Table 5.40 shows the result of the hierarchical multiple regression analysis of the extent of which organizational support moderates the relationship between job stress variable and nurses' contextual performance (volunteering for additional duties). The job stress variable entered at step 1 accounted for approximately 19.7% of the variance in nurses' contextual performance (volunteering for additional duties). Job stress (Beta= -.444,  $t= -12.45$ , Sig. = .000) had significant main effects on nurses'

contextual performance (volunteering for additional duties). The relationship for job stress was negative. The moderator variable entered at step 2 accounted for approximately 30.7% of the variance in nurses' contextual performance (volunteering for additional duties). Organizational support was significantly related to nurses' contextual performance (volunteering for additional duties). At step 3, when the interaction terms were entered, an increase in  $R^2$  by another .8% was observed. The interactions between organizational support and job stress were significant (Beta=.445,  $t= 2.76$ , Sig. =.006), suggesting that organizational support acted as a quasi moderator on the relationship between job stress and nurses' contextual performance (volunteering for additional duties).

Table 5.40  
*Organizational Support as a Moderator in the Relationship between Job Stress Variable and Nurses' Contextual Performance (Volunteering for Additional Duties) (N = 632)*

Model	Standardized beta		
	Step 1	Step 2	Step 3
<b>Model variable</b>			
Job stress	-.444**	-.324**	-.786**
<b>Moderating variable</b>			
Organizational support		.352**	.162*
<b>Interaction terms</b>			
Job stress * Organizational support			.445**
$R^2$	.197	.307	.315
Adjusted $R^2$	.196	.305	.312
$R^2$ change	.197	.110	.008
Sig. $F$ change	.000	.000	.006
Durbin Watson	1,589	1,589	1,589

\*  $p < 0.05$ , \*\*  $p < 0.01$

Figure 5.8 shows that the relationship between job stress and nurses' contextual performance (volunteering for additional duties) was strongest in the case of high organizational support and weakest in the case of low organizational support. Nurses of different levels of organizational support did not differ much in their contextual performance (volunteering for additional duties) under conditions of high

job stress, but large differences were noted under conditions of low job stress. In other words, under conditions of low job stress, nurses reporting high levels of organizational support reported volunteered more significantly for additional duties than those reporting low levels of organizational support.

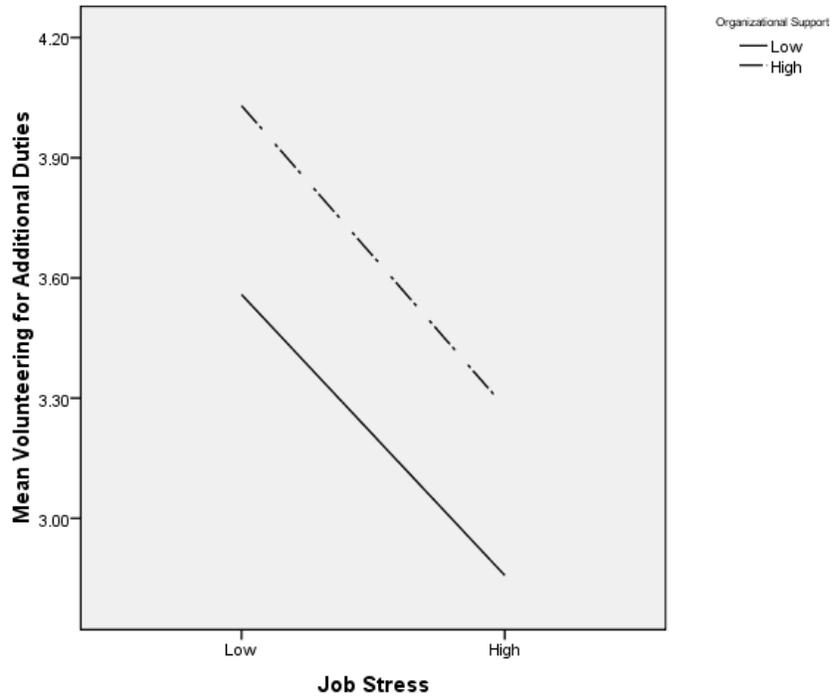


Figure 5.8  
*Plot of Interaction between Job Stress and Organizational Support on Nurses' Contextual Performance (Volunteering for Additional Duties)*

In general, as organizational support was found to act as a quasi moderator on the relationship between job stress and two different facets of contextual performance (i.e. interpersonal support and volunteering for additional duties) but did not act as a moderator on the remaining facets of contextual performance (i.e. job-task support, and compliance), it can be said that H26 is partially supported.

## 5.10 SUMMARY

This chapter has presented findings based on the response rate of 43.80%, which was very similar to previous studies on nurses' performance particular in the context of Saudi hospitals. Factor analysis was conducted in order to test the construct validity of for all interval scale variables. The analysis revealed that nurses' performance was multi-dimensional of eight factors, which upon inspection could be categorized as task and contextual performance. Job stress and organizational support were found to be unidimensional. Job demands and job resources measures were also validated and produced multiple dimensions as theoretically construed. Based on reliability analysis, all measures were internally consistent.

Apart from descriptive statistics to describe the main variables, this chapter is concerned with presenting the results of the hypotheses testing. The present study found that job demands and resources variables explained significantly 38.1% of the variance in nurses' performance, with task significance emerged as the strongest predictor of both task and contextual performance. Hierarchical multiple regression was conducted to examine the effect of job stress as mediating the relationship between job demands and resources and nurses' performance, and the effect of organizational support as moderating on the relationship between job stress and nurses' performance. With regards to mediation, job stress was generally found to mediate between job demands and resources constructs with two facets of contextual performance but not with task performance. With regards to moderation, it was revealed that organizational support generally significantly moderated between job stress and task performance but acted as a partial moderator between job stress and contextual performance.

The next chapter discusses the main findings in detail by relating them to the underpinning theories and existing literatures.

## **CHAPTER SIX**

### **DISCUSSION, IMPLICATIONS AND CONCLUSION**

#### **6.1 INTRODUCTION**

In the last chapter, the results of the present study have been presented. Out of 26 research hypotheses formulated for this study, eight were accepted, six rejected, and 12 partially supported. In this chapter attempts will be made to discuss the results found in the context of nurses' performance. Towards this end, this chapter will be organized as follows: once the discussions on the research questions and hypotheses are made, implications of the research to theory and practice combined with suggestions for future research will be offered. Next, the present research limitations will be highlighted, followed by the conclusion of the present study.

#### **6.2 DISCUSSION**

The main purpose of the present study was to examine the determinants of job performance among nurses in public hospitals in the Kingdom of Saudi. Specifically, the study examined the direct relationship of job demands (i.e. physical demands, emotional demands, quantitative demands, and shift work) and job resources (i.e. skill variety, task significance, task identity, feedback, and job security) on nurses' job performance. Towards this end, a number of research hypotheses were formulated. In general, the present study has provided empirical support for the determinants of nurses' job performance.



What follows are discussions on each of the research hypotheses. Specifically, the first part discusses the direct effects of job demands and resources on nurses' job performance (task and contextual); the second part elaborates the mediating effect of job stress on the relationship between job demands and resources and nurses' job performance; and the third part elucidates the moderating effect of organizational support on the relationship between job stress and nurses' job performance. But first, the present study sought to discuss the level of nurses' performance in Saudi Arabia, as specified by the first research objective.

### **6.2.1 Level of Job Performance of Nurses**

The present study found that nurses in public hospitals in the Kingdom of Saudi Arabia demonstrated moderate level of job performance (mean = 3.62). The level of nurses' performance in the present study is somewhat similar to that reported in previous research on Saudi hospital nursing sector. For instance, Al-Ahmadi (2009) examined self-rated performance levels among nurses working in Ministry of Health hospitals in Saudi Arabia. He identified a moderate level of job performance at 3.52 out of 5-point scale. Moreover, Greenslade and Jimmieson (2007) in their study to distinguish between task and contextual performance for nurses found the level of nurses' performance was moderate at 3.50.

The moderate level of nurses' performance in the present study suggests that areas of improvement need to be explored. Better job performance is imperative especially in the healthcare sector as it involves public lives and interest. Indeed, as mentioned in the first chapter, nurses' performance in the Kingdom of Saudi Arabia is a cause for concern as issues have been raised on the poor job performance of nurses. One of

the ways that need to be taken into account in improving the level of job performance of nurses in the Kingdom is by considering the factors that affect it. The empirical evidence found by the present study could provide insight for health policy makers, managers and practitioners on how to deal with it. A discussion on this issue is offered in the following sections.

The present study further revealed that nurses' job performance was a multi-dimensional construct, validating Greenslade and Jimmieson's (2007) instrument that job performance of nurses are theoretically categorized into two: task and contextual. In fact, the two-dimensional construct of job performance further validates the assertion of Borman and Motowidlo (1993) that performance is a multi-faceted concept, consisting of task and contextual performance. According to Borman and Motowidlo, task performance determines the proficiency of performing activities which help organizational growth while contextual performance involves activities that supports the organization's social and psychological environment. As evidenced in the present study, in the context of nursing, task performance included activities such as provision of information, coordination of care, provision of support, and technical care, while nurses were said to perform contextual activities when they provide interpersonal support, job-task support, comply with the rules and regulations, and volunteer for additional duties, as proposed by Greenslade and Jimmieson.

The empirical support for the validity of Greenslade and Jimmieson's (2007) instrument suggests that future studies attempting to examine job performance may want to consider using a scale that is job specific to reflect the activities relevant to the particular job. Indeed, their scale was developed as a result of their observation on the limitations of the existing measures that were not able to reflect comprehensively task-specific behaviors that nurses perform within their jobs.

### 6.2.2 Job Demands and Resources, and Nurses' Job Performance

The present study hypothesized that job demands and resources affect nurse's performance in public hospitals in Saudi Arabia. Job demands in the present study refer to "those physical, psychological, social, or organizational aspects of the job that require sustained physical or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological or psychological costs" (Demerouti *et al.*, 2001). In the present study, job demands were operationalized by four dimensions of quantitative demands, physical demands, emotional demands, and shift work. Job resources, in the present study, was defined as "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" (Demerouti *et al.*, 2001). Here, skill variety, task significance, task identity, feedback, and job security were employed to measure job resources.

The results presented in the previous chapter in general provide empirical support for the hypotheses that both job demands and job resources contribute to nurses' job performance. This means that nurses who perceived that their job was demanding would perform poorer while those who perceived that their jobs were resourceful would perform better. The findings in general provide empirical support to job characteristics model of Hackman and Oldham (1980) in that as jobs are perceived to be rewarding and challenging, individuals tend to be more productive. In a similar vein, job demands-resource (JD-R) model posits that poor job performance will occur when a job is too demanding that they become overload (Bakker & Demerouti, 2007; Demerouti *et al.*, 2001).

The following discusses in detail how job demands and resources influence job performance.

#### **6.2.2.1 Job Demands and Job Performance**

Based on the findings presented in the previous chapter, quantitative demands, physical demands, and shift work were found to significantly and negatively affect nurses' task job performance such as provision of information, and contextual performance such as volunteering for additional duties. This means that the higher the job demands, the poorer the task and contextual performance of nurses. For example, when nurses perceived that they lacked time to complete their work tasks or that their workload was not evenly distributed, they would not be able to provide appropriate information about healthcare to patients or their families, or provide the necessary support or volunteer with additional duties outside working hours.

The negative relationship between job demands and job (task and contextual) performance of nurses is expected because according to job demands-resources model, when demands are high (e.g. quantitative demands and physical demands) it may not be easy for employees to allocate their attention and energy efficiently because they have to engage in greater activation and/or effort and this, in turn, negatively affects their performance (Bakker *et al.*, 2004). Furthermore, Peters *et al.* (2009) found that nurses working in nursing and care homes reported job demands to negatively affected their job performance.

In particular, the present study revealed that quantitative demands, referred to “work overload or work pressure or too much work to do in too little time” (Peeters *et al.*, 2005), were found too significantly and negatively influence nurses' job

performance. In general the result appears consistent with previous studies. For instance, quantitative demands were negatively related to job performance (Jamal, 2011), organizational citizenship behavior towards individual (OCBI) (Panatik *et al.*, 2009), task enjoyment and organizational commitment (Bakker *et al.*, 2010), satisfaction (Akkermans *et al.*, 2009; Dwyer & Ganster, 1991; Mache *et al.*, 2009; Panatik *et al.*, 2009), work engagement (Coetzer & Rothmann, 2007), work ability index (WAI) (Ghaddar *et al.*, 2011), well-being (as measured in terms of emotional exhaustion, dedication, professional accomplishment and learning) (Tarisa & Schreurs, 2009), and nurses' general health (van der Heijden *et al.*, 2008).

Another facet of job demands found that negatively affected job performance was physical demands, which was defined here as "the extent to which the job requires strenuous movements like bending, physical strength, lifting, or carrying objects" (Demerouti & Geurts, 2004). In general, the findings reported here are in line with those in earlier studies. Most studies in hospitals context identified physical job demands as patient-related tasks such as lifting and transferring by nurses and nursing assistants (e.g. Brown & Thomas, 2003; Collins & Owen, 1996; Engkvist *et al.*, 1998; Engkvist *et al.*, 2000; Evanoff *et al.*, 1999; Evanoff *et al.*, 2003; Feldstein *et al.*, 1993; Geiger-Brown *et al.*, 2004; Janowitz *et al.*, 2006; Ostry *et al.*, 2003; Trinkoff *et al.*, 2003; Yassi *et al.*, 2000; Yassi *et al.*, 2001; Yassi *et al.*, 1995).

Nursing is physically demanding, and nurses have higher rates of musculoskeletal disorders than most other occupational groups (Trinkoff *et al.*, 2003). Moreover, low back pain (LBP) is a frequent health complaint among health care personnel (Nabe-Nielsen *et al.*, 2008). It is generally found that LBP is more frequent among nursing personnel compared to many other occupational groups (Nabe-Nielsen *et al.*, 2008; Punnett & Wegman, 2004; Xu *et al.*, 1997). In addition, according to

Pope *et al.* (1998), the high prevalence of musculoskeletal disorders in physically demanding occupations is a well documented feature of both cross-sectional surveys and cohort studies.

Physical job demands had significantly negatively relationship with positive outcomes. Previous studies found that the increased physical demands are negatively related to job satisfaction (Humphrey *et al.*, 2007; Nahrgang *et al.*, 2011), compliance (Nahrgang *et al.*, 2011), nurses' health (van der Heijden *et al.*, 2008), employee well-being (Tuomi *et al.*, 2004). On the other hand, low perceived physical demands decreased negative outcomes such as organizational downsizing (Kivimaki *et al.*, 2000) and injury rates.

Another facet of job demands that received general empirical support in affecting job performance is emotional demands. Here, emotional demands referred to “what the extent to which employees are confronted in their job with things or persons that touch them personally” (Demerouti & Geurts, 2004). The result of the present study indicated that emotional demands were found to significantly and negatively influence nurses' job performance. In general the result appears to be consistent with earlier literatures, which reported a negative relationship between emotional job demands and positive outcomes such as enjoyment and commitment (Bakker *et al.*, 2010), work ability index (WAI) (Ghaddar *et al.*, 2011), well-being (Tarisa & Schreurs, 2009), nurses' health (van der Heijden *et al.*, 2008). On the other hand, emotional demands increased negative outcomes such as emotional exhaustion (Akkermans *et al.*, 2009).

Shift work was another facet of job demands examined in the present study. Here, shift work referred to “frequency of working shifts longer than 8 hours, and frequency of working double shifts” (Burke, 2003). In the present study, shift work

was found to significantly and negatively influence nurses' job performance. In general the result appears to be in line with earlier works that found that shift work showed a negative relationship with employee health and performance (e.g. Camerino *et al.*, 2010; Tustin, 2010). Furthermore, it was demonstrated that shift work had a negative relationship with performance but a positive relationship with work-related accidents (Hart *et al.*, 2003; Ohayon *et al.*, 2002). Moreover, long working hours also have negative implications for work performance and home life (Cartwright, 2000). Johnson *et al.* (2008) compared job performance to shift schedules. They revealed that the risk of making mistakes increased significantly when nurses worked for more than 12 hours a day, overtime, or more than 40 hours a week.

Many scholars indicated that fatigue increases, or alertness and performance decreases, over the course of the night shift (e.g. Czeisler *et al.*, 2009; Folkard, 2008; Folkard *et al.*, 1995; Tucker *et al.*, 1999). Furthermore, psychomotor performance and subjective-effects ratings were altered during the night shift compared with the day shift: in night shift psychomotor performance and some ratings were decreased (e.g. "Content"), whereas other ratings were increased (e.g. "Sleepy") (Hart *et al.*, 2003).

In general, the results of the present study found that all variables of job demands (quantitative demands, physical demands, emotional demands, and shift work) were significantly and negatively related with nurses' job performance. These findings are consistent with previous researches especially in JD-R literatures.

#### **6.2.2.2 Job Resources and Job Performance**

As mentioned above, job resources were found to positively influence nurses' job performance, as expected. In particular, it was revealed that skill variety, task

significance, task identity, feedback, and job security were demonstrated to significantly and positively influence different facets of nurses' job performance. For example, task significance was found to be related to both task and contextual performance. Nurses who perceived that what they were doing were significant in affecting other people's lives were more likely to deliver technical care, interpersonal support, and volunteer for additional duties.

According to JD-R model, job resources are able to enhance job performance of an individual because they tend to be motivating. In fact, it was found that job resources were related to work engagement (Hakanen *et al.*, 2006; Llorens *et al.*, 2006; Schaufeli & Bakker, 2004; Schaufeli *et al.*, 2009a), job satisfaction (Brenninkmeijer *et al.*, 2010); affective commitment (Brenninkmeijer *et al.*, 2010), task enjoyment and commitment (Bakker *et al.*, 2010), work engagement (Bakker & Demerouti, 2007; Brenninkmeijer *et al.*, 2010; Coetzer & Rothmann, 2007; Crawford *et al.*, 2010; Demerouti *et al.*, 2001; Hansez & Chmiel, 2010; Nahrgang *et al.*, 2011), perceived management commitment to safety (Hansez & Chmiel, 2010), organizational commitment (Llorens *et al.*, 2006; Mathieu & Zajac, 1990).

Job characteristics (i.e. skill variety, task identity, task significance, and job feedback) contribute positively to experienced meaningfulness, experienced responsibility, and knowledge of results. Stronger experiences of these “critical psychological states”, in turn, lead to more positive attitudinal (e.g. increased job satisfaction) and behavioral (e.g. better performance) responses to work (Bakker *et al.*, 2010; Fried & Ferris, 1987; Humphrey *et al.*, 2007). Job characteristics variables (feedback, task identity, task significance, and skill variety) were presumed to be desirable for employees and, logically, should result in overall higher job performance (Dwyer & Fox, 2006).



In the present study, skill variety is the first of the job resources variables studied. Here, skill variety referred to the degree to which a job requires an employee to use a variety of different skills to complete the work (Hackman & Oldham, 1980). The present study found that skill variety significantly positively influenced nurses' job performance. In general the result appears to be consistent with earlier researches. For instance, skill variety related positively to employee satisfaction, and performance and influence (Badran & Kafafy, 2008; Brass, 1985; Cheney, 1984; Orpen, 1985; Rousseau, 1977; Van den Berg & Feij, 2003).

In the present study, task significance is the second job resources variable studied. Here, task significance referred to the extent to which a job influences the lives or work of others, whether inside or outside the organization (Hackman & Oldham, 1975). The present study revealed that task significance significantly and positively influenced nurses' job performance. In general the result appears to be consistent with previous study (e.g. Brass, 1985; Demerouti, 2006).

The next facet of job resources is task identity, referred to as the degree to which a job involves a whole piece of work, the results of which can be easily identified (Sims Jr. *et al.*, 1976). It was found that task identity significantly and positively influenced nurses' job performance. In general the result appears consistent with earlier researches. For example, perceived job characteristics (task identity) and both job satisfaction and job performance were significantly higher among managers high in need for achievement and need for independence than among those low in these needs (Orpen, 1985). Task identity was also found to significantly positively with two objective performance measures: call duration and waiting time (Dwyer & Fox, 2006).

Feedback was the fourth of the job resources variables studied. It referred to the extent to which the job provides direct and clear information about the effectiveness of task performance (Hackman & Oldham, 1976) which is thought of as to improve knowledge of the results of the job done (Hackman & Oldham, 1980). The result in the current study indicated that performance feedback significantly and positively influenced nurses' job performance. In general the result appears consistent with previous literatures (e.g. Bakker & Bal, 2010; Chakrabarty *et al.*, 2008; Crawford *et al.*, 2010; Demerouti, 2006). Positive feedback seems to enhance work engagement levels, whereas negative feedback diminishes it (Coetzer & Rothmann, 2007).

In the present study, job security referred to the ability to maintain the desired continuity and stability in threatened job situation (Greenhalgh & Rosenblatt, 1984). In the current research, job security was found to significantly positively influence nurses' job performance. In general the result appears consistent with earlier studies. For instance, job security had a positive effect on performance (Frenkel & Lee, 2010; Kraimer *et al.*, 2005; Rehman, 2010 as cited in Rehman, 2011; Yousef, 1998), product/service performance (Akhtar *et al.*, 2008), higher levels of job satisfaction (Noble, 2008), benefit perceptions (Kraimer *et al.*, 2005), employee organizational commitment (Gong & Chang, 2008; Yousef, 1998), trust in organization (Wong *et al.*, 2002), while job security was negatively related with the intention to quit (Arnold & Feldman, 1982; Ashford *et al.*, 1989), and turnover intention (Wong *et al.*, 2002).

Staufenbiel and Konig (2010) conducted a study on 136 German non-managerial employees to investigate the effects of job insecurity on four organizationally important outcomes: in-role performance, organizational citizenship behaviour, turnover intention, and absenteeism. The results indicated that the

insecurity caused lower in-role performance, extra-role performance (OCB), and absenteeism as well as higher turnover intention. In their meta-analytic study, Cheng and Chan (2008) observed that job insecurity was negatively related to job satisfaction, organizational commitment, psychological health, physical health, work performance, trust, and job involvement but was positively related to turnover intention.

In sum, the results in the current research generally found that all the variables of job resources (skill variety, task significance, task identity, feedback, and job security) were statistically significant and positive in affecting nurses' job performance. These findings are consistent with the JD-R literatures.

### **6.2.3 Interacting Effects**

#### **6.2.3.1 Interacting Effects of Job Stress with Job Demands and Resources on Nurses' Job Performance**

The present study hypothesized that job stress mediates the relationship between job demands and resources and nurses' job performance. The hypothesis was developed because limited studies have considered job stress as a potential psychological process, which results from job demands and resources, and consequently how it influences performances. Furthermore, job stress was considered because a nursing job is a stressful one and it was expected that the characteristics of the job (both the demands and the resources) done would have a bearing on the nurse's psychological process, and hence performance at work. However, despite this theoretical possibility, few studies had considered the differential effects on job stress in a single study.

Whilst job demands could heighten job stress, job resources, on the other hand, should reduce it. As such, job performance should follow accordingly.

As shown in the previous chapter, the results to the research hypotheses developed were mixed. Specifically speaking, out of 72 hypotheses, only 16 hypotheses received empirical support. Job stress was found as a full mediator between quantitative demands, emotional demands, and shift work, and nurses' contextual job performance (compliance), and between physical demands, emotional demands, and shift work, and nurses' contextual job performance (volunteering for additional duties). But job stress were found to partially mediate between physical demands, skill variety, task significance, task identity, and feedback, and contextual nurses' job performance (compliance), and between quantitative demands, skill variety, task significance, task identity and feedback and contextual nurses' job performance (volunteering for additional duties). In other words, the result indicates that job stress was statistically significant in mediating the relationship between eight dimensions of job demands and resources and two dimensions of nurses' contextual job performance (compliance and volunteering for additional duties).

The finding obtained in the present study appears to be consistent with other researchers who found job stress to be having a mediating effect (e.g. Chang, 2000; Chang *et al.*, 2004; Schwarzer & Hallum, 2008; Zeytinoglu *et al.*, 2007). Indeed, research among nurses has shown positive relationships between stress-reactions and poor performance feedback (Eisenstat & Felner 1984). Schwarzer and Hallum (2008) conducted a study to examine the relationships between self-efficacy, job stress, and burnout, focusing on mediation job stress on the relationship between self-efficacy and burnout on 1,203 teachers in study I and 458 teachers in study 2. The results indicated that the mediation was found cross-sectionally, in particular among German

teachers. In addition, Zeytinoglu *et al.* (2007) examined stress as an individual worker health and wellness outcome and as a mediator of work intensification on job satisfaction. The results showed that stress mediated the effect of work intensification partially and of the control variables. Further, the effect of workload on satisfaction of financial rewards was mediated by stress but only partially.

In job demands and resources-job stress relationship, at the heart of the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007; Bakker *et al.*, 2003; Demerouti *et al.*, 2001) lies the assumption that every occupation may have its own specific risk factors associated with job stress. Job demands are usually associated with causing job stress in employees (Fernandez-Lopez *et al.*, 2006). For instance, high levels of quantitative and emotional work demands were positively correlated with high levels of stress (Mintz-Binder & Sanders, 2012). Parry-Jones *et al.* (1998) indicated that increased workload of nurses were the main sources of stress. In addition, both role overload and shift work significantly increased job stress (Tourigny *et al.*, 2010). Rotating shift work was found to positively correlate with job stress. Shift work disruption was positively correlated with job stress (Jamal & Baba, 1992; Tourigny *et al.*, 2010).

In job stress-job performance relationship, a negative linear relationship between job stress and job performance was conceived by those who viewed job stress as basically dysfunctional for the organization and its workers, it decreases both the quality and quantity of job performance (Gupta & Beehr, 1979; Jamal, 2011; Kahn *et al.*, 1964; Siu, 2003; Westman & Eden, 1996; Wu, 2011). These researchers contended that chronic job stress is naturally and extremely bad to most workers, as it creates a noxious situation in the work environment. In this situation, individuals are

most likely to allocate much of their resources in coping with the stressors, which in turn undesirably affecting their performance.

The present study in particular showed that job stress appeared to mediate job demands and contextual performance but not task performance. The higher the job demands are, the more likely nurses will be stressful, and as a result, they reduce their effort in displaying extra-role behavior such as complying with the rules, and volunteering for additional duties. Nonetheless, despite being stressful, they are likely to proceed with their tasks because healthcare delivery services are too significant to be ignored as healthcare is a matter of life and death of the public.

On the result on the mediating effect of job stress on the relationship between job resources and nurse's job performance, it was found that job resources appeared to reduce job stress and hence affect job performance accordingly. However, unexpectedly, job stress was found to reduce contextual performance dimensions but not reduce task performance. Some possible explanations can be offered for such finding. Firstly, it is important for nurses to focus on their tasks at hand work despite being stressful as they deal with life and death issues. But contextual activities are beyond their actual tasks and when they feel stressful they may neglect the extra activities. Griffin, Neal and Neale (2000) stated that when task demands increase due to the task becomes more complex the opportunity for engaging in contextual activities may reduce, because employees are expected to allocate a rising proportion of accessible resources to task performance.

Secondly, the make-up of the participants in the present study may also help explain the findings. The foreign nurses who made up the majority of the participants in the study may not always have the opportunity to engage in contextual activities in their department or hospital due to cultural differences with management, co-worker,

patients, or patient families. For instance, the inability to speak the Arabic language may prevent the foreign nurses from providing extra healthcare services (Aldossary *et al.*, 2008). Therefore, under this situation of stress, foreign nurses may tend to focus on their core job and do not engage in contextual activities. In Saudi Arabia, public life in society is the exclusive domain of Saudi men (Rice, 2004). Women in Saudi Arabia do not have the same opportunities as men due to unique social norms (Ahmad, 2011), and there exists a broadly practiced segregation of the genders in many public workplaces (Baker, Al-Gahtani, & Hubona, 2007). There is a sharp separation of work between men and women, and gender division exists at all social gatherings (Rice, 2004). In the context of nursing, the employment of female nurses of Saudi nationals, who were the majority of the participants in the study in particular, gives them additional stress at work. Under this condition, contextual activities may be abandoned in favor of concentrating on the core components of their job. The lesser work experience of the participants could also help explain the findings. While these explanations are probable, more studies need to be carried out in the future to ascertain their validity.

### **6.2.3.2 Interacting Effects of Organizational Support with Job Stress on Nurses' Job Performance**

Following the fourth research question, it was generally hypothesized that organizational support moderates the relationship between job stress and nurses' job performance. Perceived organizational support was defined as the global beliefs that employees develop concerning the extent to which the organization values their contributions and cares about their well-being (Eisenberger *et al.*, 1986). The result presented in the previous chapter provides some support for the hypotheses developed.

Specifically, the result indicated that organizational support was statistically significant in moderating the relationship between job stress and six dimensions of nurses' job performance i.e. provision of information, coordination of care, provision of support, technical care, interpersonal support, and volunteering for additional duties. The results revealed that organizational support received in terms of help or assistance when needed mitigated the effect of job stress on job performance. Nurses who reported to receive high organizational support were able to perform their in-role and extra-role activities despite being stressed at their job.

The finding obtained in the present study appears to be consistent with other researcher who found organizational support to be having a moderating effect (e.g., Erdogan & Enders, 2007; Hochwarter *et al.*, 2006; Lynch *et al.*, 1999; Webster & Adams, 2010; Witt & Carlson, 2006). For instance, Erdogan and Enders (2007) conducted a study on 210 subordinates and 38 supervisors of a grocery store chain to examine the effect of perceived organizational support (POS) in moderating the relationships between leader–member exchange (LMX) and job performance. The results indicated that the leader–member exchange (LMX) was related to performance only when supervisors had high POS.

The above findings are consistent with the notion that perceived organizational support (POS) reinforces employees' beliefs that the organization recognizes and rewards enhanced performance or expected behaviours. This means that employees who are affectively committed tend to engage in in-role and extra-role behaviours (Rhoades & Eisenberger, 2002; Wang, 2009; Wayne *et al.*, 1997). The perceptions of the employees concerning the extent to which the organization is willing to meet their needs and the way in which the organization regards them is reflected in the behaviour and the performance of the employees (Hekman *et al.*, 2009). Moreover,



employees with high levels of perceived organizational support (POS) are absent less often and are more conscientious about carrying out their work responsibilities than those with low levels of perceived organizational support (POS) (Eisenberger *et al.*, 1986; Eisenberger *et al.*, 1990).

Nurses on the front line of contact with patients are vital to hospital operations as they are the 24-hour health care delivery providers (Ida *et al.*, 2009). Not only are nurses required to supply 'life-saving' treatment, they also provide information, reassurance and emotional support (Le Blanc *et al.* 2001; van der Heijden, Demerouti, Bakker, & Hasselhorn, 2008). Because nurses play a significant task by being there in sharp situations, both physical and emotional comfort given by the organization and co-workers, help them cope with such situation (Blomqvist & Ziegert, 2011; Gavois *et al.*, 2006).

In Saudi Arabia, nurses are the largest human resource element in healthcare organizations, and thus they have a huge impact on the quality of care and patient outcomes (Al-Ahmadi, 2009). In the context of healthcare system complexity, nurses require organizational support to keep them constantly motivated, morally sensitive and in a caring stance in the delivery of patient care (Fairchild, 2010; Moody & Pesut, 2006; Redman & Fry, 2000). Since, nursing is a stressful profession (Dewe, 1987; Emilia & Hassim, 2007), organization support may have protected nurses from the harmful effects of stress by bolstering their self-esteem and communicating that the organization cares about their wellbeing (George *et al.*, 1993). Organization support such as promotion and recognition for nurses, continuous education, and skill training are important aspects to push nurses to successfully extend their role in the emergency resuscitation care of their patients (Lee & Low, 2010). A sufficient organizational support allows nurses to pay out extra time with their patients (Hinno *et al.*, 2009).

There is rising indication that when registered nurses perceive more support, they are likely to be more happy with their job and plan to stay with their present hospital (Hinno *et al.*, 2009).

In the expatriation context, since the majority of nurses working in Saudi Arabia hospitals are foreigner nurses (MOH, 2010), organizational support is more paramount especially in expatriate adjustment (Guzzo, Noonan, & Elron, 1994; Kraimer *et al.*, 2001; Lazarova *et al.*, 2010; Shaffer, Harrison, & Gilley, 1999), as they are separated from family, friends and relatives (Black, Mendenhall, & Oddou, 1991). Considering organizational support in different domains is thus particularly relevant to employees expatriated (Guzzo *et al.*, 1994) due to the adjustments they must build in diverse areas of life (Takeuchi, Wang, Marinova, & Yao, 2009).

The findings of the present study generally have validated conservation of resources theory and social exchange theory. Conservation of resources theory posits that when an individual is confronted with the loss of resources the individual will act in a way to minimize the loss, or to produce gain in an order of magnitude similar or greater to the loss (Wennerberg, 2011). The theory believes that the promotion of wellbeing and prevention of stress are subjected to the availability and successful management of resources (Beutell, 2010; Brotheridge & Lee, 2005; Hobfoll, 2001). The theory indicates that when resources are gained they can be used to compensate for previous resource losses (Hobfoll, 2001). In the context of the findings of the present study, job stress is a form of a loss of resources, and when employees are in this situation, getting support from the organization is one way for them to regain the losses they have experienced or compensate for the resources that have been lost in order for them to function.

Related to social exchange theory, Muse and Stamper (2007) noted that social exchange theory of POS has been used in explaining positive impacts on behaviors including in-role performance (e.g. Eisenberger *et al.*, 2001; Settoon *et al.*, 1996), and extra-role performance (e.g. Shore & Wayne, 1993). In addition, social exchange theory explains that high levels of POS may be negatively associated with role stress because organizations that care about their employees' well-being are more likely to reduce unnecessary work complications and distractions for their workers, such as conflicting job requirements (Jawahar *et al.*, 2007; Stamper & Johlke, 2003).

In sum, it appears that organizational support is a significant consideration in the hospital nursing context. Organizational support system among hospital nurses acts as catalyst to foster overall and increase nurses' job performance, and reduce job stress and other negative outcomes. Due to its importance, nursing management must make special effort to enhance organizational support for hospital nurses.

### **6.3 IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS**

This section highlights some implications of the findings to both to theory and practice. In addition, this section will discuss the limitations of study and present several suggestions for future research.

#### **6.3.1 Implications of the Study**

It is worth mentioning that theories are formed from within the practice and influence the improvement of new practices, which in turn are used as the bases for the generation of new theory and new practices. To understand the context of Saudi

nursing, the researcher applied conservation of resources theory (COR), and job demands and resources (JD-R) model with particular reference to the role of job stress and organizational support. The researcher found that job demands and resources (JD-R) model based on conservation of resources theory (COR) is a useful model in investigating job performance of hospitals nurses.

### **6.3.1.1 Theoretical Implications**

Findings from the main and interacting effects of the present study have extended beyond findings from other previous studies and thus have contributed new information to the body of knowledge in nurses' job performance research.

Based on conservation of resources theory (COR), job demands and resources model (JDR) model was developed to explain the factors that influence nurses' job performance. The present study expanded the original model by including more job resources variables such as organizational support, job security, skill variety, task significance and task identity, and by considering an important psychological process of job stress. The findings generally indicated the validity of the JD-R model in explaining nurse's job performance. The validity of the job demands and resources (JDR) and its constructs in the health context especially in the area of nursing sector in Saudi Arabia reflects the model's wide applicability, as shown earlier in different contexts (e.g., Bakker *et al.*, 2004; Bakker & Demerouti, 2007; Demerouti & Bakker, 2011; Demerouti *et al.*, 2001; Nielsen, Mearns, Matthiesen, & Eid, 2011; Schaufeli & Bakker, 2004; Schaufeli *et al.*, 2009a).

This research has extended, elaborated and validated the job demands and resources (JD-R) model applicability to determine, predict and understand the factors

affecting nurses' job performance in public hospitals in the Kingdom of Saudi Arabia. The findings showed that different job facets (i.e. job demands and resources) affected job stress differently and hence job performance accordingly, which provide empirical support for the proposition by Demerouti *et al.* (2001), who stated that testing job demands and resources (JD-R) model with additional factors divided into two groups, job demands and job resources, that are differentially related to specific outcomes would provide richer understanding of the nurses' job performance. Hence, the examined factors contributed significantly to provide in-depth understanding of how these factors influenced nurses' job performance, and more importantly in a single study. However, given the mixed results shown on the mediating effect of job stress on specific facets of job performance, more studies need to be carried out to validate further the findings revealed.

The researcher proposed that the job resources variables will improve the power of conservation of resources theory (COR), and that is why organizational support was included in the job demands and resources (JD-R) model. Furthermore, organizational support was found to be one of the major variables that explained job performance, and this job resource has not been examined before specifically in the nursing sector in Saudi Arabia. However, the role of organizational support in influencing the relationships between job stress and the nurses' job performance has been partially confirmed. Hence, future research is needed to investigate further the moderating role of organizational support in buffering the negative effects of job demands on nurse's job performance.

### **6.3.1.2 Practical Implications**

Based on the research findings, several practical implications can be offered. The study showed that nurses' job performance was affected by the job demands variables (i.e. quantitative demands, physical demands, emotional demands, and shift work), job resources variables (i.e. skill variety, task significance, task identity, feedback, and job security), job stress, and organizational support. The following explains how nurses and nursing sector could benefit from the findings.

In this study, conservation of resources theory (COR), and the JD-R model were considered suitable to explain nurses' job performance. In addition, this theoretical knowledge will develop the nursing sector of Saudi Arabia and the nursing education in universities of Saudi Arabia. In particular, this study was designed to address the nurses' job performance of Saudi Arabia by proposing a new nursing guideline that can help the Ministry of Health in Saudi Arabia to prepare appropriate policies and nursing strategies. For instance, the Ministry of Health may want to examine the job features of the nurses so that they could be less stressful at work and hence perform better job and deliver better services to the public. Because the public healthcare is important in the wake of the Saudi government call for future human capital development for the country, good and quality services from the healthcare providers are imperative. In this section of the social welfare, nurses' quality delivery of healthcare services is one of the good measures on how far the human capital development can be achieved, as envisioned by the Saudi government. In other words, to make sure that nurses are able to deliver excellent healthcare services in the Kingdom of Saudi Arabia, preparing and executing long-term strategies on the development of nurses are needed.

At the execution level, the findings of the study also shed some light into the role of management in ensuring that nurses can deliver their performance as expected. For example, the hospital management needs to design a training program suitable for nurses to help them cope with stressful situations at work. Previous studies have suggested that such training programs are a critical determinant of job performance, particularly under conditions of high workload and high stress in which hospitals nurses and other health workers generally must operate (e.g. Arora *et al.*, 2009; Godbey & Courage, 1994; Goodridge, Johnston, & Thomson, 1997). To enhance job performance, the hospital managers should also need to consider looking at designing nurses' jobs in such a manner that their jobs are perceived as challenging and motivating. While eliminating stress entirely is impossible, reducing it to an acceptable and reasonable level can be done. Not only the hospital managers need to take measures on identifying the negative sources that make nurses stressful at work, but they also need to identify the positive sources that can reduce such job stress. In other words, in the course of enhancing job performance 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 so that a comprehensive strategy can be designed and developed.

In addition, providing the necessary support for nurses is an important consideration for the hospital management to facilitate them in the course of performing their job. For instance, nurse administrators and managers should consider interventions that will help reduce the level of job stress and enhance nurses' job performance in the workplace, for example, scheduling (flexible scheduling, part-time, self-scheduling flexible hours and weekends off), staffing, feedback, and the use of new technology and training issues (AbuAlRub, 2003). In sum, the present study is

able to shed some insight into the important role of hospital administrators and managers on the need to provide facilitating conditions for nurses to enable them to work as expected.

### **6.3.2 Limitations of Study**

Whereas the present study has provided some insight into the importance of job demands and job resources, job stress and organizational support in nurses' job performance, several weaknesses or limitations of this research, both conceptual and methodological, are notable that need to be acknowledged as follows:

1. Due to the small sample size, the predictive power of the JD-R model could be limited in the current study. But despite this limitation, the JD-R model has shown to be able to explain nurses' job performance statistically significantly. To validate further the model, a bigger sample size may be required in the future.
2. This study used a cross-sectional design to examine the presumed causal relationships between the variables in the JD-R model. As the study was cross-sectional in nature, definite causality could not be ascertained. Nonetheless, some degree of causality could be determined as the variables were identified in a clear order based on the theories used. Hence, the causal findings that job demands and resources influence job stress, which consequently affects job performance, should not be entirely discounted. But, as a cross-sectional study could not help discern the changes in the psychological process, behaviours and attitudes of the nurses as a result of changes in their job, longitudinal studies may be carried out in the future.



3. Because some of the hypotheses unexpectedly failed to receive empirical support, common method bias (due to self-reported measures) might have played a role (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Rodriguez-Munoz, Sanz-Vergel, Demerouti, & Bakker, 2012), although recent studies showed that this influence may not be as high as expected (Spector, 2006). In the future, researchers should consider including more objective outcomes to enhance the explanatory power of job demands and job resources.
4. The response rate was 43.80%. Therefore, the present findings are tentative until replicated in studies with a higher response rate. Even though the study does not have any data on nurses who did not return the questionnaires, generally speaking, a response rate of 43.80% is not unusual.
5. Another weakness is that we could incorporate only a few job demands and resources in our questionnaire. Future studies may consider other job characteristics to test the full potential of the JD-R model in predicting job stress and performance, and other mediating (e.g., job satisfaction) and moderating variables (e.g., nationality or personality).
6. This study tried to examine the causes of decrease or increase in job performance from hospitals nurses' perspective only. It did not consider other aspects such as weaknesses in the strategy and policies of the Ministry of Health in Saudi Arabia, weaknesses in human resources that may affect the quality of services provided by nurses in public hospitals in Saudi Ministry of Health, which could impact on perceptions of nurses.

Despite the limitations above, the findings of the study are still valid to understand nurses' behaviour in Saudi Arabia, and consequently provide some insight

for the benefit of practitioners and managers on how to address issues related to enhancing job performance of nurses in the Kingdom.

### **6.3.3 Recommendations for Future Research**

Based on the obtained findings, discussion and research implications, the following recommendations are formulated for academic researchers, Ministry of Health management and administrations, nurses' management and administrations and nursing staff to undertake in order to achieve a high level of nurses' job performance.

Additional studies can be carried out to further examine some important areas:

1. In this research, the demographic variables were examined with descriptive analysis. Therefore, future research could possibly investigate the effects of these variables as moderators or antecedents to other factors and specifically to its related variables. For instance, because the nursing sector in Saudi Ministry of Health consists of more than 50% of non-Saudi nurses, where the nurses come from affect the way they perceive their job and consequently how they behave at work. Moreover, cultural diversity is a reality for most health organizations in Saudi Arabia as in many countries (Al-Ahmadi, 2009; Yousef, 2000). Therefore, the effect of nationality as moderator between job stress and nurses' job performance is needed in the future.
2. In order to further validate the acceptability of the conceptual model and the applicability of conservation of resources (COR) theory, future researchers may wish to empirically test the constructs in other contexts, such as in private hospitals or other healthcare organizations.

3. In order to obtain a better representation for the entire population of those who deliver healthcare services, future studies may want to consider other hospital members such as physicians, pharmacists and allied health personnel, in order to identify and determine the important factors that could affect their job performance. As different jobs are perceived differently by the job incumbents, some comparisons can be made to further understand job performance.
4. The reported *R*-square yielded other additional variables that might be needed particularly from the job demands and resources (JD-R) since the job demands and resources factor was the most contributing variable on the interpersonal support (nurses' contextual job performance) factors. Therefore, future research could investigate and test the influence of more additional job demands and resources (JD-R) variables on nurses' performance.
5. The present research used only quantitative methods in collecting the data. Thus, it would be useful if future investigation could use qualitative techniques of data collection like in-depth interview, observation, and projective method or triangulation methods which can help the researcher to understand and discern the experiences of nurses in the course of accomplishment of job performance.
6. The research examined the proposed factors in light of the job demands and resources (JD-R) model as a theoretical basis. Future research could examine these factors with other acceptance theories or models. It could confirm and validate the significance of these variables in relation to other main indicators of acceptance in these models and theories.

## 6.4 CONCLUSION

This research has investigated the factors influencing nurses' job performance among the Ministry of Health hospitals in Saudi Arabia using job demands and resources model based on conservation of resources theory (COR), social exchange theory, and negative linear theory that may help nurses' managers to realize nurses' performance behavior. The findings showed that the nurses' job performance can be modeled by the job demands and resources (JD-R) model original constructs in addition to other significant variables derived from other related theories. The present research model was tested and validated with 632 hospitals nurses in one region in Saudi Arabia. The study on the factors affecting the hospitals nurses in Saudi Arabian Ministry of Health was deemed necessary in order to increase the nurses' job performance.

The study found the level of nurses' job performance among hospitals nurses in Saudi Arabia to be moderate. Also the study found direct significant relationships among the tested job demands and resources variables with nurses' job performance. Moreover, the study found partial support for the role of job stress as a mediator in a relationship between job demands and resources (JD-R) and nurses' job performance. Job stress mediated the relationship between job demands and resources variables (except job security) and two dimensions of job contextual performance (compliance and volunteering for additional duties).

In addition, the study found partial support for the role of organizational support as a moderator in a relationship between job stress and nurses' job performance. Organizational support moderated the relationship between job stress and all four dimensions of nurses' job task performance (i.e. provision of information, coordination, provision of support and technical of care), and organizational support

moderated the relationship between job stress and two dimensions of nurses' job contextual performance (i.e. interpersonal support and volunteering for additional duties).

In sum, despite the mixed results, in general, the present study managed to find support for the JD-R model and conservation of resources theory in that job demands and resources are able to produce a psychological reaction, which subsequently affect job performance. In this study, the psychological reaction was stress, which was considered an important and reasonable reaction to the stimuli in the work environment. The study also confirmed, albeit partially, the significance of organizational support in mitigating the effect of stress on job performance of nurses at work. The findings in general have important implications to practice in particular on the need to address the effect of stress brought about by the characteristics in the job.

## REFERENCES

- Aasa, U., Barnekow-Bergkvist, M., Aengquist, K. A., & Brulin, C. (2005). Relationships between work-related factors and disorders in the neck-shoulder and low-back region among female and male ambulance personnel. *Journal of Occupational Health, 47*(6), 481-489.
- Aboul-Enein, F. H. (2002). Personal contemporary observations of nursing care in Saudi Arabia. *International Journal of Nursing Practice, 8*(4), 228-230.
- Abu Ammah, A. M. (2002). Look to the nursing from outside. *Health Forum, 30*, 36-39.
- Abu Znadeh, S. (2004). Situation of Saudi nursing. *Health Forum, 52*, 42-43.
- Abu Znadeh, S. (2007). Nursing staff and patient safety. *Health Forum, 79*, 32-33.
- AbuAlRub, R. F. (2003). *The relationship between job stress, job performance and social support among hospital nurses*. Doctoral thesis. The University of Iowa, Iowa.
- AbuAlRub, R. F. (2004). Job stress, job performance, and social support among hospital nurses. *Journal of Nursing Scholarship, 36*(1), 73-78.
- AbuAlrub, R. F., & Al-Zaru, I. M. (2008). Job stress, recognition, job performance and intention to stay at work among Jordanian hospital nurses. *Journal of Nursing Management, 16*(3), 227-236.
- Adams, J., Folkard, S., & Young, M. (1986). Coping strategies used by nurses on night duty. *Ergonomics, 29*(2), 185-196.
- Adebayo, S. O., & Ezeanya, I. D. (2010). Effect of job autonomy, task identity and profession on burnout among health workers in Jos, Nigeria. *European Journal of social sciences, 14*(2), 116-122.

- Adebayo, S. O., & Ezeanya, I. D. (2011). Task identity and job autonomy as correlates of burnout among nurses in Jos, Nigeria. *International Review of Social Sciences and Humanities*, 2(1), 7-13.
- Adriaenssens, L., Prins, P. D., & Vloeberghs, D. (2006). Work experience, work stress and HRM at the university. *International Review of Management Studies*, 17(3), 344-363.
- Agho, A. O., Price, J. L., & Mueller, C. W. (1992). Discriminant validity of measures of job satisfaction, positive affectivity and negative affectivity. *Journal of Occupational and Organizational Psychology*, 65(3), 185-195.
- Ahmad, S. Z. (2011). Evidence of the characteristics of women entrepreneurs in the Kingdom of Saudi Arabia: An empirical investigation. *International Journal of Gender and Entrepreneurship*, 3(2), 123-143.
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J. A., Busse, R., Clarke, H., et al. (2001). Nurses' reports on hospital care in five countries. *Health Affairs*, 20(3), 43-53.
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association*, 288(16), 1987-1993.
- Aiken, L. H., Sloane, D. M., Cimiotti, J. P., Clarke, S. P., Flynn, L., Seago, J. A., et al. (2010). Implications of the California nurse staffing mandate for other states. *Health Services Research*, 45(4), 904-921.
- Akerstedt, T. (1990). Psychological and psychophysiological effects of shift work. *Scandinavian Journal of Work, Environment & Health*, 16(suppl 1), 67-73.

- Akhtar, S., Ding, D. Z., & Ge, G. L. (2008). Strategic HRM practices and their impact on company performance in Chinese enterprises. *Human Resource Management, 47*(1), 15-32.
- Akkermans, J., Brenninkmeijer, V., Blonk, R. W. B., & Koppes, L. L. J. (2009). Fresh and healthy?: Well-being, health and performance of young employees with intermediate education. *Career Development International, 14*(7), 671-699.
- Al-Aameri, A. S. (2003). Source of job stress for nurses in public hospitals. *Saudi Medical Journal, 24*(11), 1183-1187.
- Al-Aameri, A. S., & Al-Fawzan, N. M. (1998). Nurses' strategies for coping with stress. *Saudi Medical Journal, 19*(4), 366-371.
- Al-Aameri, A. S., Rashid, M. F., & Al-Fawzaan, N. M. (2007). Saudi youth for the nursing profession in the face of rising unemployment in the Kingdom of Saudi Arabia: Causes and effects. *King Saud University Journal, 1*-124.
- Al-Ahmadi, H. (2009). Factors affecting performance of hospital nurses in Riyadh region, Saudi Arabia. *Quality Assurance, 22*(1), 40-54.
- Al-Amri, H. S. (2001). *Human resource management practices & performance indicators in hospitals*. Doctoral thesis. University of Birmingham, Birmingham.
- Albertsen, K., Rugulies, R., Garde, A. H., & Burr, H. (2010). The effect of the work environment and performance-based self-esteem on cognitive stress symptoms among Danish knowledge workers. *Scandinavian Journal of Public Health, 38*(3 suppl), 81-89.
- Aldossary, A., While, A., & Barriball, L. (2008). Health care and nursing in Saudi Arabia. *International Nursing Review, 55*(1), 125-128.
- Alexander, M. (2001). Six sigma: The breakthrough management strategy revolutionizing the world's top corporations. *Technometrics, 43*(3), 370-370.



- Al-Husseini, H. A. (2006). Impediments of efficiency and performance of Saudi nurse in Riyadh region in ministry of health: study analysis: A field study analysis. *Research Agency Assistance for the Preparation and Development Workforce, 1*, 1-200.
- Al-Hydar, A., & Hamdy, O. (1997). Factors affecting the choice of nursing profession among Saudi girls. *Institute of Public Administration: Riyadh (KSA)*, 31-36.
- Al-Kandari, F., & Thomas, D. (2009). Perceived adverse patient outcomes correlated to nurses' workload in medical and surgical wards of selected hospitals in Kuwait. *Journal of Clinical Nursing, 18*(4), 581-590.
- Al-Khoshim, M. (2010, 11 April, 2010). Health provides a national project for integrated health care and comprehensive. *Alriyadh Newspaper, 2-2*.
- Allen, R. D., Hitt, M. A., & Greer, C. R. (1982). Occupational stress and perceived organizational effectiveness in formal groups: An examination of stress level and stress type. *Personnel Psychology, 35*(2), 359-370.
- Allison, P. D. (1999). *Multiple regression: A primer*. Thousand Oaks, California: Pine Forge Press.
- Al-malki, M., Fitzgerald, G., & Clark, M. (2011). Health care system in Saudi Arabia: An overview. *Eastern Mediterranean Health Journal, 17*(10), 784-793.
- Al-Meer, A. (1995). Relationship of work stress to organizational commitment, job performance, job satisfaction and individual differences: A comparative study. *Journal of the Public Administration, 35*(2), 207-252.
- Al-Omar, B. A. (2003). Job dissatisfaction and nursing withdrawal from hospital in Saudi Arabia. *King Saud University, 15*(1), 1-24.
- Al-Osimy, M. (2008). *Nursing standards policies & procedures manual* (1st ed.). Riyadh: Ministry of Health.

- Al-Osimy, M. H. (2009). Report of the general administration of nursing about the status of nursing at the ministry of health. Retrieved 23 March, 2010, from <http://www.e-moh.com/vb/archive/index.php/t-47402.html>
- Al-Senedy, A. R. (1986). *The principle of the civil service and its implementation in Saudi Arabia* (2nd ed.). Riyadh, Saudi Arabia: Al-Madina Press.
- Alvaro, C., Lyons, R. F., Warner, G., Hobfoll, S. E., Martens, P. J., Labonte, R., et al. (2010). Conservation of resources theory and research use in health systems. *Implementation Science, 5*(1), 79-98.
- Al-Yousuf, M., Akerele, T. M., & Al-Mazrou, Y. Y. (2002). Organization of the Saudi health system. *Eastern Mediterranean Health Journal, 8*(4-5), 645-653.
- Al-Zahrani, S. (1991). *Survey on the status of Saudi nurses on the job at the ministry of health in Kingdom of Saudi Arabia*. General Administration of Institutes and Health Colleges, Ministry of Health.
- Andrews, M. C., & Kacmar, K. M. (2001). Confirmation and extension of the sources of feedback scale in service-based organizations. *Journal of Business Communication, 38*(2), 206-226.
- Armeli, S., Eisenberger, R., Fasolo, P., & Lynch, P. (1998). Perceived organizational support and police performance: The moderating influence of socioemotional needs. *Journal of Applied Psychology, 83*(2), 288-297.
- Arnold, H. J., & Feldman, D. C. (1982). A multivariate analysis of the determinants of job turnover. *Journal of Applied Psychology, 67*(3), 350-360.
- Arnold, J., Randall, R., Patterson, F., Silvester, J., Robertson, I., Cooper, C. L., et al. (2005). *Work psychology: Understanding human behaviour in the workplace* (5 ed.). England: Pearson Education Limited.

- Arora, S., Sevdalis, N., Nestel, D., Tierney, T., Woloshynowych, M., & Kneebone, R. (2009). Managing intraoperative stress: What do surgeons want from a crisis training program? *The American Journal of Surgery*, *197*(4), 537-543.
- Arsenault, A., & Dolan, S. (1983). The role of personality, occupation and organization in understanding the relationship between job stress, performance and absenteeism. *Journal of Occupational Psychology*, *56*(3), 227-240.
- Aryee, S., Chen, Z. X., & Budhwar, P. S. (2004). Exchange fairness and employee performance: An examination of the relationship between organizational politics and procedural justice. *Organizational Behavior and Human Decision Processes*, *94*(1), 1-14.
- Ashford, S. J., Lee, C., & Bobko, P. (1989). Content, causes, and consequences of job insecurity: A theory-based measure and substantive test. *Academy of Management Journal*, *32*(4), 803-829.
- Atiyyah, H. S. (1996). Expatriate acculturation in Arab Gulf countries. *Management Development*, *15*(5), 37-47.
- Ayyagari, R., Grover, V., & Purvis, R. (2011). Technostress: Technological antecedents and implications. *MIS Quarterly*, *35*(4), 831-858.
- Baba, V. V., & Jamal, M. (1991). Routinization of job context and job content as related to employees' quality of working life: A study of Canadian nurses. *Journal of Organizational Behavior*, *12*(5), 379-386.
- Baba, V. V., Jamal, M., & Tourigny, L. (1998). Work and mental health: A decade in Canadian research. *Canadian Psychology/Psychologie Canadienne*, *39*(1-2), 94-107.

- Babakus, E., Cravens, D. W., Johnston, M., & Moncrief, W. C. (1996). Examining the role of organizational variables in the salesperson job satisfaction model. *The Journal of Personal Selling and Sales Management*, 16(3), 33-46.
- Bacharach, S. B., Bamberger, P., & Conley, S. C. (1990). Work processes, role conflict, and role overload: The case of nurses and engineers in the public sector. *Work and Occupations*, 17(2), 199-228.
- Badran, M. A., & Kafafy, J. H. (2008). The effect of job redesign on job satisfaction, resilience, commitment and flexibility: The case of an Egyptian public sector bank. *International Journal of Business Research*, 8(3), 27-41.
- Bahormuz, R. M. (1991). *Efficient performance of the Saudi female nurse: A comparative analysis between her and the foreign nurses*. Master Thesis. King Abdalaziz University, Jeddah.
- Baker, E. W., Al-Gahtani, S. S., & Hubona, G. S. (2007). The effects of gender and age on new technology implementation in a developing country: Testing the theory of planned behavior (TPB). *Information Technology & People*, 20(4), 352-375.
- Bakker, A. B., & Bal, M. P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, 83(1), 189-206.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309-328.
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13(3), 209-223.

- Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology, 10*(2), 170-180.
- Bakker, A. B., Demerouti, E., Taris, T. W., Schaufeli, W. B., & Schreurs, P. J. G. (2003). A multigroup analysis of the job demands-resources model in four home care organizations. *International Journal of Stress Management, 10*(1), 16-38.
- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management, 43*(1), 83-104.
- Bakker, A. B., & Heuven, E. (2006). Emotional dissonance, burnout, and in-role performance among nurses and police officers. *International Journal of Stress Management, 13*(4), 423-440.
- Bakker, A. B., Killmer, C. H., Siegrist, J., & Schaufeli, W. B. (2000). Effort-reward imbalance and burnout among nurses. *Journal of Advanced Nursing, 31*(4), 884-891.
- Bakker, A. B., Van Emmerik, H., & Van Riet, P. (2008). How job demands, resources, and burnout predict objective performance: A constructive replication. *Anxiety, Stress, & Coping, 21*(3), 309-324.
- Bakker, A. B., van Veldhoven, M., & Xanthopoulou, D. (2010). Beyond the demand-control model: Thriving on high job demands and resources. *Journal of Personnel Psychology, 9*(1), 3-16.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

- Bartlett, J. E., Kotrlik, J. W., & Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, 19(1), 43-50.
- Barton, J. (1994). Choosing to work at night: A moderating influence on individual tolerance to shift work. *Journal of Applied Psychology*, 79(3), 449-454.
- Beardwell, I., & Holden, L. (1997). *Human resource management: A contemporary perspective*. London: Pitman Publishing.
- Becker, A. B., Warm, J. S., Dember, W. N., & Hancock, P. A. (1991). *Effects of feedback on perceived workload in vigilance performance*. Paper presented at the human factors society 35th annual meeting, Santa Monica: California.
- Becker, G. (1978). *The mad genius controversy: A study in the sociology of deviance*. Oxford, England: Sage.
- Beehr, T. A. (1995). *Psychological stress in the workplace*. London: Routledge.
- Beehr, T. A., Walsh, J. T., & Taber, T. D. (1976). Relationships of stress to individually and organizationally valued states: Higher order needs as a moderator. *Journal of Applied Psychology*, 61(1), 41-47.
- Behling, O., & McFillen, J. (1996). "A syncretical model charismatic/transformational leadership". *Group and Organisation Management*, 21(2), 120-160.
- Bell, J., Collins, J., Galinsky, T., & Waters, T. R. (2008). *Preventing back injuries in healthcare settings*. Message posted to NIOSH Science Blog, archived at [http://www.cdc.gov/niosh/blog/nsb092208\\_lifting.html](http://www.cdc.gov/niosh/blog/nsb092208_lifting.html).

- Bell, S. J., & Menguc, B. (2002). The employee-organization relationship, organizational citizenship behaviors, and superior service quality. *Journal of Retailing*, 78(2), 131-146.
- Bergman, M. E., Donovan, M. A., Drasgow, F., Overton, R. C., & Henning, J. B. (2008). Test of Motowidlo et al.'s (1997) theory of individual differences in task and contextual performance. *Human Performance*, 21(3), 227-253.
- Berliner, H. S., & Ginzberg, E. (2002). Why this hospital nursing shortage is different. *Journal of the American Medical Association*, 288(21), 2742-2744.
- Beutell, N. J. (2010). Work schedule, work schedule control and satisfaction in relation to work-family conflict, work-family synergy, and domain satisfaction. *Career Development International*, 15(5), 501-518.
- Bin Saeed, K. S. (1995). Factors which influence nurses' intention to leave the hospital, Riyadh city, Saudi Arabia. *Journal of King Saud University*, 7(2), 85-105.
- Bjerner, B., Holm, A., & Swensson, A. (1955). Diurnal variation in mental performance. *British Journal of Industrial Medicine*, 12(2), 103-110.
- Bjorner, J. B., & Pejtersen, J. H. (2010). Evaluating construct validity of the second version of the copenhagen psychosocial questionnaire through analysis of differential item functioning and differential item effect. *Scandinavian Journal of Public Health*, 38(3 suppl), 90-105.
- Black, J. S., Mendenhall, M., & Oddou, G. (1991). Toward a comprehensive model of international adjustment: An integration of multiple theoretical perspectives. *Academy of Management Review*, 16(2), 291-317.

- Blau, G. (1981). An empirical investigation of job stress, social support, service length, and job strain. *Organizational Behavior and Human Performance*, 27(2), 279-302.
- Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.
- Blegen, M. A. (1993). Nurses' job satisfaction: A meta-analysis of related variables. *Nursing Research*, 42(1), 36-41.
- Blomqvist, M., & Ziegert, K. (2011). Family in the waiting room: A Swedish study of nurses' conceptions of family participation in acute psychiatric inpatient settings. *International Journal of Mental Health Nursing*, 20(3), 185-194.
- Bohlander, G. W., Snell, S., & Sherman, A. (2001). *Managing human resources* (12th ed.). USA, Boston, Massachusetts: South-Western College Publishing.
- Bohle, P., & Tilley, A. J. (1989). The impact of night work on psychological well-being. *Ergonomics*, 32(9), 1089-1099.
- Bono, J. E., & Judge, T. A. (2003). Self-concordance at work: Toward understanding the motivational effects of transformational leaders. *Academy of Management Journal*, 46(5), 554-571.
- Borg, I., & Elizur, D. (1992). Job insecurity: Correlates, moderators and measurement. *International Journal of Manpower*, 13(2), 13-26.
- Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71-98). San Francisco: Jossey-Bass.
- Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. *Human Performance*, 10(2), 99-109.



- Borritz, M. (2006). *Burnout in human service work-causes and consequences*.  
Doctoral thesis. National Institute of Occupational Health, Denmark.
- Bosch, L. H. M., & De Lange, W. A. M. (1987). Shift work in health care.  
*Ergonomics*, 30(5), 773-791.
- Boumans, N. P. G., & Landeweerd, J. A. (1993). Leadership in the nursing unit:  
Relationships with nurses' well-being. *Journal of Advanced Nursing*, 18(5), 767-  
775.
- Bourbonnais, R., Comeau, M., & Vezina, M. (1999). Job strain and evolution of  
mental health among nurses. *Journal of Occupational Health Psychology*, 4(2),  
95-107.
- Bourbonnais, R., Comeau, M., Vezina, M., & Dion, G. (1998). Job strain,  
psychological distress, and burnout in nurses. *American Journal of Industrial  
Medicine*, 34(1), 20-28.
- Bowen, D. E., & Lawler, E. E. (1992). The empowerment of service workers: What,  
why, how, and when. *Sloan Management Review*, 33(3), 31-39.
- Bozionelos, N. (2009). Expatriation outside the boundaries of the multinational  
corporation: A study with expatriate nurses in Saudi Arabia. *Human Resource  
Management*, 48(1), 111-134.
- Bradley, E., Campbell, P., & Nolan, P. (2005). Nurse prescribers: Who are they and  
how do they perceive their role? *Journal of Advanced Nursing*, 51(5), 439-448.
- Bradley, J. R., & Cartwright, S. (2002). Social support, job stress, health, and job  
satisfaction among nurses in the United Kingdom. *International Journal of Stress  
Management*, 9(3), 163-182.

- Brass, D. J. (1985). Technology and the structuring of jobs: Employee satisfaction, performance, and influence. *Organizational Behavior and Human Decision Processes*, 35(2), 216-240.
- Breaugh, J. A. (1980). A comparative investigation of three measures of role ambiguity. *Journal of Applied Psychology*, 65(5), 584-589.
- Brenninkmeijer, V., Demerouti, E., le Blanc, P. M., & van Emmerik, I. J. H. (2010). Regulatory focus at work: The moderating role of regulatory focus in the job demands-resources model. *Career Development International*, 15(7), 708-728.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185-216.
- Brislin, R. W. (1980). Translation and content analysis of oral and written material. *Handbook of Cross-Cultural Psychology*, 2(2), 349-444.
- Brockner, J., Tyler, T. R., & Cooper-Schneider, R. (1992). The influence of prior commitment to an institution on reactions to perceived unfairness: The higher they are, the harder they fall. *Administrative Science Quarterly*, 37(2), 241-261.
- Brotheridge, C. M. (2001). A comparison of alternative models of coping: Identifying relationships among coworker support, workload, and emotional exhaustion in the workplace. *International Journal of Stress Management*, 8(1), 1-14.
- Brotheridge, C. M., & Lee, R. T. (2005). Impact of work-family interference on general well-being: A replication and extension. *International Journal of Stress Management*, 12(3), 203-221.
- Brown, N. D., & Thomas, N. I. (2003). Exploring variables among medical center employees with injuries: Developing interventions and strategies. *AAOHN Journal: Official Journal of the American Association of Occupational Health Nurses*, 51(11), 470-481.

- Brown, S., & Nagel, L. (2004). Preparing future teachers to respond to stress: Sources and solutions. *Action in Teacher Education, 26*(1), 34-42.
- Browne, R. C. (1949). The day and night performance of teleprinter switchboard operators. *Occupational Psychology, 23*, 121-126.
- Buapetch, A., Lagampan, S., Faucett, J., & Kalampakorn, S. (2008). The Thai version of effort-reward imbalance questionnaire (Thai ERIQ): A study of psychometric properties in garment workers. *Journal of Occupational Health, 50*(6), 480-491.
- Burke, R. J. (1998). Job insecurity in recent business school graduates: Antecedents and consequences. *International Journal of Stress Management, 5*(2), 113-119.
- Burke, R. J. (2003). Length of shift, work outcomes, and psychological well-being of nursing staff. *International Journal of Public Administration, 26*(14), 1637-1646.
- Burke, R. J., Ng, E. S. W., & Fiksenbaum, L. (2009). Virtues, work satisfactions and psychological wellbeing among nurses. *International Journal of Workplace Health Management, 2*(3), 202-219.
- Burke, R. J., & Richardsen, A. M. (1993). *Psychological burnout in organizations*. New York: Marcel Dekker.
- Burnard, P. (1991). *Coping with stress in the health professions: A practical guide*. London: Chapman & Hall.
- Butterworth, T., Carson, J., Jeacock, J., White, E., & Clements, A. (1999). Stress, coping, burnout and job satisfaction in British nurses: Findings from the clinical supervision evaluation project. *Stress Medicine, 15*(1), 27-33.
- Buunk, B. P., & Schaufeli, W. B. (1993). *Burnout: A perspective from social comparison theory*. Philadelphia, PA, US: Taylor & Francis.

- Byrne, Z. S., & Hochwarter, W. A. (2008). Perceived organizational support and performance: Relationships across levels of organizational cynicism. *Journal of Managerial Psychology*, 23(1), 54-72.
- Cai, C., & Zhou, Z. (2009). Structural empowerment, job satisfaction, and turnover intention of Chinese clinical nurses. *Nursing & Health Sciences*, 11(4), 397-403.
- Camerino, D., Sandri, M., Sartori, S., Conway, P. M., Campanini, P., & Costa, G. (2010). Shiftwork, work-family conflict among Italian nurses, and prevention efficacy. *Chronobiology International*, 27(5), 1105-1123.
- Campbell, J. J., Dunnette, M. D., Lawler, E. E., & Weick, K. E. (1970). *Managerial behavior, performance, and effectiveness*. New York: McGraw Hill.
- Campbell, J. P., & Campbell, R. J. (1988). *Productivity in organizations: New perspectives from industrial and organizational psychology*. San Francisco, CA, US: Jossey-Bass.
- Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. (1993). A theory of performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 35-70). San Francisco: Jossey-Bass.
- Campo, M. A., Weiser, S., & Koenig, K. L. (2009). Job strain in physical therapists. *Physical Therapy*, 89(9), 946-956.
- Caplan, R. D., & Jones, K. W. (1975). Effects of work load, role ambiguity, and type A personality on anxiety, depression, and heart rate. *Journal of Applied Psychology*, 60(6), 713-719.
- Carayon, P. (1992). A longitudinal study of job design and worker strain: Preliminary results. In J. C. Quick, L. R. Murphy & J. J. Hurrell (Eds.), *Stress & well-being at work: Assessments and interventions for occupational mental health* (pp. 19-32). Washington, DC, US: American Psychological Association.

- Carlson, D. S., & Perrewé, P. L. (1999). The role of social support in the stressor-strain relationship: An examination of work-family conflict. *Journal of Management*, 25(4), 513-540.
- Carriere, J., & Bremner, N. (2011). The effects of skill variety, task significance, task identity and autonomy on occupational burnout in a hospital setting and the mediating effect of work meaningfulness. Retrieved 1 October, 2012, from <http://www.ruor.uottawa.ca/en/handle/10393/19845>
- Carson, K. P., Cardy, R. L., & Dobbins, G. H. (1991). Performance appraisal as effective management or deadly management disease: Two initial empirical investigations. *Group & Organization Management*, 16(2), 143-159.
- Cartwright, S. (2000). Taking the pulse of executive health in the U.K. *Academy of Management Executive*, 14(2), 16-23.
- Cartwright, S., & Cooper, C. L. (1993). The psychological impact of merger and acquisition on the individual: A study of building society managers. *Human Relations*, 46(3), 327-347.
- Castanheira, F., & Chambel, M. J. (2010). Burnout in salespeople: A three-wave study to examine job characteristics' predictions and consequences for performance. *Economic and Industrial Democracy*, 31(4), 409-429.
- Chakrabarty, S., Oubre, D. T., & Brown, G. (2008). The impact of supervisory adaptive selling and supervisory feedback on salesperson performance. *Industrial Marketing Management*, 37(4), 447-454.
- Chambel, M. J., & Cural, L. (2005). Stress in academic life: Work characteristics as predictors of student well-being and performance. *Applied Psychology*, 54(1), 135-147.

- Chan, D., Schmitt, N., DeShon, R. P., Clause, C. S., & Delbridge, K. (1997). Reactions to cognitive ability tests: The relationships between race, test performance, face validity perceptions, and test-taking motivation. *Journal of Applied Psychology, 82*(2), 300-309.
- Chang, E. C. (2000). Perfectionism as a predictor of positive and negative psychological outcomes: Examining a mediation model in younger and older adults. *Journal of Counseling Psychology, 47*(1), 18-26.
- Chang, E. C., Watkins, A., & Banks, K. H. (2004). How adaptive and maladaptive perfectionism relate to positive and negative psychological functioning: Testing a stress-mediation model in black and white female college students. *Journal of Counseling Psychology, 51*(1), 93-102.
- Chen, C. C., & Chiu, S. F. (2009). The mediating role of job involvement in the relationship between job characteristics and organizational citizenship behavior. *The Journal of Social Psychology, 149*(4), 474-494.
- Chen, Z. X., Tsui, A. S., & Farh, J. L. (2002). Loyalty to supervisor vs. organizational commitment: Relationships to employee performance in China. *Journal of Occupational and Organizational Psychology, 75*(3), 339-356.
- Cheney, P. H. (1984). Effects of individual characteristics, organizational factors and task characteristics on computer programmer productivity and job satisfaction. *Information & Management, 7*(4), 209-214.
- Cheng, G. H. L., & Chan, D. K. S. (2008). Who suffers more from job insecurity? A meta-analytic review. *Applied Psychology, 57*(2), 272-303.
- Cheng-min, C., & Bor-wen, C. (2009). Relationship among personality traits, leadership behavior, and job stress in nurses in Yunlin, Taiwan. *China-USA Business Review, 8*(4), 51-57.

- Cherniss, C. (1980). *Staff burnout: Job stress in the human services*. United States: Sage Publications Beverly Hills, Inc.
- Cheung, M. F. Y., & Law, M. C. C. (2008). Relationships of organizational justice and organizational identification: The mediating effects of perceived organizational support in Hong Kong. *Asia Pacific Business Review*, 14(2), 213-231.
- Choobineh, A., Rajaeefard, A., & Neghab, M. (2006). Association between perceived demands and musculoskeletal disorders among hospital nurses of Shiraz university of medical sciences: A questionnaire survey. *International Journal of Occupational Safety and Ergonomics*, 12(4), 409-416.
- Chung, S. A., Wolf, T. K., & Shapiro, C. M. (2009). Sleep and health consequences of shift work in women. *Journal of Women's Health*, 18(7), 965-977.
- Clausen, T., Nielsen, K., Carneiro, I. G., & Borg, V. (2012). Job demands, job resources and long-term sickness absence in the Danish eldercare services: A prospective analysis of register-based outcomes. *Journal of Advanced Nursing*, 68(1), 127-136.
- Coakes, S. J., Steed, L., & Dzidic, P. (2006). SPSS version 13.0 for windows: Analysis without anguish. *John Wiley and Sons, Australia*.
- Coakes, S. J., Steed, L., & Ong, C. (2010). *Spss version 17.0 for windows: Analysis without anguish*: John Wiley & Sons Australia, Ltd.
- Coetzer, C. F., & Rothmann, S. (2007). Job demands, job resources and work engagement of employees in a manufacturing organisation. *Southern African Business Review*, 11(1), 17-32.

- Coffey, L. C., Skipper Jr, J. K., & Jung, F. D. (1988). Nurses and shift work: Effects on job performance and job-related stress. *Journal of Advanced Nursing, 13*(2), 245-254.
- Coffey, M. (1999). Stress and burnout in forensic community mental health nurses: An investigation of its causes and effects. *Journal of Psychiatric and Mental Health Nursing, 6*(6), 433-443.
- Coggan, C., Norton, R., Roberts, I., & Hope, V. (1994). Prevalence of back pain among nurses. *The New Zealand Medical Journal, 107*(983), 306-308.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2 ed.). Hillsdale, New Jersey: Lawrence Erlbaum Associates, Inc.
- Cohen, S. (1980). Aftereffects of stress on human performance and social behavior: A review of research and theory. *Psychological Bulletin, 88*(1), 82-108.
- Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes, 86*(2), 278-321.
- Coleman, V. I., & Borman, W. C. (2000). Investigating the underlying structure of the citizenship performance domain. *Human Resource Management Review, 10*(1), 25-44.
- Collins, J. W., & Owen, B. D. (1996). NIOSH research initiatives to prevent back injuries to nursing assistants, aides, and orderlies in nursing homes. *American Journal of Industrial Medicine, 29*(4), 421-424.
- Collins, K. M., & Killough, L. N. (1989). Managing stress in public accounting. *Journal of Accountancy, 167*(5), 92-98.
- Conger, J. A., & Kanungo, R. N. (1988). The empowerment process: Integrating theory and practice. *Academy of Management Review, 13*(3), 471-482.



- Cook, T. D., Campbell, D. T., & Day, A. (1979). *Quasi-experimentation: Design & analysis issues for field settings*. Boston: Houghton Mifflin.
- Cook, V. (2003). *Subjective wellbeing: An integration of depression, stress, and homeostasis theory*. Doctoral thesis. Deakin University, Melbourne, Australia.
- Coomber, B., & Barriball, K. L. (2007). Impact of job satisfaction components on intent to leave and turnover for hospital-based nurses: A review of the research literature. *International Journal of Nursing Studies*, 44(2), 297-314.
- Cooper, C. L., Dewe, P., & O'Driscoll, M. P. (2001). *Organizational stress: A review and critique of theory, research, and applications*. USA, California: Sage Publications, Inc.
- Cooper, C. L., & Marshall, J. (1976). Occupational sources of stress: A review of the literature relating to coronary heart disease and mental ill health. *Journal of Occupational Psychology*, 49(1), 11-28.
- Cooper, C. L., & Marshall, J. (1978). *Understanding executive stress*. London: Macmillan.
- Cooper, C. L., & Payne, R. (1988). *Causes, coping, and consequences of stress at work*. Chichester, England: John Wiley & Sons.
- Cooper, D. R., & Schindler, P. S. (2008). *Business research methods* (10th ed.). USA, New York, NY: McGraw-Hill Companies, Ins.
- Costa, G. (1996). The impact of shift and night work on health. *Applied Ergonomics*, 27(1), 9-16.
- Costa, G. (2003). Shift work and occupational medicine: An overview. *Occupational Medicine*, 53(2), 83-88.
- Costea, N. (2011). Are you my nurse? Life and death in the hospice fast lane. *Nursing Forum*, 46(4), 251-255.

- Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology, 95*(5), 834-848.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874-900.
- Crowley, S. J., Lee, C., Tseng, C. Y., Fogg, L. F., & Eastman, C. I. (2004). Complete or partial circadian re-entrainment improves performance, alertness, and mood during night-shift work. *Sleep, 27*(6), 1077-1087.
- Csikszentmihalyi, M. (1997). *Finding flow: The psychology of engagement with everyday life*. New York: Basic Books.
- Cuirrin, M. O. (2007). *An empirical analysis of the interrelationship between motivation and stress in the computing industry*. Master Thesis. Waterford Institute of Technology, Waterford, Ireland.
- Currid, T. (2009). Experiences of stress among nurses in acute mental health settings. *Nursing Standard, 23*(44), 40-46.
- Czaja, S. J. (1995). Aging and work performance. *Review of Public Personnel Administration, 15*(2), 46-61.
- Czeisler, C. A., Walsh, J. K., Wesnes, K. A., Arora, S., & Roth, T. (2009). Armodafinil for treatment of excessive sleepiness associated with shift work disorder: A randomized controlled study. *Mayo Foundation for Medical Education and Research, 84*, 958-972.
- Damanhoury, A. M. S. (2002). *Considering total quality management in ministry of health hospitals in Jeddah city in Saudi Arabia*. Doctoral thesis. University of Wales, Aberystwyth.

- Damit, A. (2007). *Identifying sources of stress and leave of job satisfaction amongst registered nurses within the first three years of work as a registered nurse in Brunei Darussalam*. Master Thesis. Queensland University of Technology, School of Nursing, Australia, Brisbane.
- Dawley, D. D., Andrews, M. C., & Bucklew, N. S. (2010). Enhancing the ties that bind: Mentoring as a moderator. *Career Development International*, 15(3), 259-278.
- De Croon, E. M., Blonk, R. W. B., De Zwart, B. C. H., Frings-Dresen, M. H. W., & Broersen, J. P. J. (2002). Job stress, fatigue, and job dissatisfaction in Dutch lorry drivers: Towards an occupation specific model of job demands and control. *Occupational and Environmental Medicine*, 59(6), 356-361.
- De Jonge, J., & Dormann, C. (2003). The DISC model: Demand-induced strain compensation mechanisms in job stress. In M. F. Dollard, A. H. Winefield, & H. R. Winefield (Eds.), *Occupational stress in the service professions* (pp. 43-74). London: Taylor & Francis.
- De Jonge, J., & Dormann, C. (2006). Stressors, resources, and strain at work: A longitudinal test of the triple-match principle. *Journal of Applied Psychology*, 91(6), 1359-1374.
- De Witte, H. (1999). Job insecurity and psychological well-being: Review of the literature and exploration of some unresolved issues. *European Journal of Work and Organizational Psychology*, 8(2), 155-177.
- Debrah, Y. A., & Ofori, G. (2001). The state, skill formation and productivity enhancement in the construction industry: The case of Singapore. *International Journal of Human Resource Management*, 12(2), 184-202.

- Debus, M. E., Probst, T. M., Konig, C. J., & Kleinmann, M. (2012). Catch me if I fall! Enacted uncertainty avoidance and the social safety net as country-level moderators in the job insecurity-job attitudes link. *Journal of Applied Psychology, 97*(3), 690-698.
- Decker, F. H. (1997). Occupational and nonoccupational factors in job satisfaction and psychological distress among nurses. *Research in Nursing & Health, 20*(5), 453-464.
- Deihl, L. M. (2009). *The relevance of the supervisory working alliance to burnout and vigor among residential frontline staff*. Doctoral thesis. University at Albany, State University of New York, New York.
- Dekker, S. W. A., & Schaufeli, W. B. (1995). The effects of job insecurity on psychological health and withdrawal: A longitudinal study. *Australian Psychologist, 30*(1), 57-63.
- Demerouti, E. (2006). Job characteristics, flow, and performance: The moderating role of conscientiousness. *Journal of Occupational Health Psychology, 11*(3), 266-280.
- Demerouti, E., & Bakker, A. B. (2011). The job demands-resources model: Challenges for future research. *SA Journal of Industrial Psychology, 37*(2), 1-9.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2000). A model of burnout and life satisfaction amongst nurses. *Journal of Advanced Nursing, 32*(2), 454-464.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied psychology, 86*(3), 499-512.

- Demerouti, E., & Geurts, S. (2004). Towards a typology of work-home interaction. *Community, Work & Family*, 7(3), 285-309.
- Demerouti, E., Le Blanc, P. M., Bakker, A. B., Schaufeli, W. B., & Hox, J. (2009). Present but sick: A three-wave study on job demands, presenteeism and burnout. *Career Development International*, 14(1), 50-68.
- De Vaus, D. A. (2002). *Surveys in social research* (5 ed.). London: UCL Press.
- DeVellis, R. F. (2003). *Scale development: Theory and applications* (2 ed.). India, New Delhi: Sage Publications, Inc.
- Devereux, J. J., Vlachonikolis, I. G., & Buckle, P. W. (2002). Epidemiological study to investigate potential interaction between physical and psychosocial factors at work that may increase the risk of symptoms of musculoskeletal disorder of the neck and upper limb. *Occupational and Environmental Medicine*, 59(4), 269-277.
- Dewe, P. J. (1987). Identifying the causes of nurses' stress: A survey of New Zealand nurses. *Work & Stress*, 1(1), 15-24.
- Doncevic, S., Romelsjo, A., & Theorell, T. (1998). Comparison of stress, job satisfaction, perception of control, and health among district nurses in Stockholm and prewar Zagreb. *Scandinavian Journal of Public Health*, 26(2), 106-114.
- Douglas, S. P., & Craig, C. S. (2007). Collaborative and iterative translation: An alternative approach to back translation. *Journal of International Marketing*, 15(1), 30-43.
- Doumato, E. A. (1999). Women and work in Saudi Arabia: How flexible are Islamic margins? *The Middle East Journal*, 53(4), 568-583.
- Dwyer, D. J., & Fox, M. L. (2000). The moderating role of hostility in the relationship between enriched jobs and health. *Academy of Management Journal*, 43(6), 1086-1096.

- Dwyer, D. J., & Fox, M. L. (2006). The relationship between job demands and key performance indicators: Moderating effects of job resources in call centers. *Journal of Business and Management, 12*(2), 127-145.
- Dwyer, D. J., & Ganster, D. C. (1991). The effects of job demands and control on employee attendance and satisfaction. *Journal of Organizational Behavior, 12*(7), 595-608.
- Dyer, L., & Reeves, T. (1995). Human resource strategies and firm performance: What do we know and where do we need to go? *International Journal of Human Resource Management, 6*(3), 656-670.
- Eastman, C. I., & Martin, S. K. (1999). How to use light and dark to produce circadian adaptation to night shift work. *Annals of Medicine, 31*(2), 87-98.
- Eberhardt, K., Larsson, B. M., & Nived, K. (1993). Early rheumatoid arthritis-some social, economical, and psychological aspects. *Scandinavian Journal of Rheumatology, 22*(3), 119-123.
- Eisenberger, R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organizational support and employee diligence, commitment, and innovation. *Journal of Applied Psychology, 75*(1), 51-59.
- Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology, 86*(1), 42-51.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71*(3), 500-507.
- Eisenstat, R. A., & Felner, R. D. (1984). Toward a differentiated view of burnout: Personal and organizational mediators of job satisfaction and stress. *American Journal of Community Psychology, 12*(4), 411-430.

- Elamin, A. M. (2012). Perceived organizational justice and work-related attitudes: A study of Saudi employees. *World Journal of Entrepreneurship, Management and Sustainable Development*, 8(1), 71-88.
- Elfering, A., Grebner, S., Semmer, N. K., & Gerber, H. (2002). Time control, catecholamines and back pain among young nurses. *Scandinavian Journal of Work, Environment & Health*, 28(6), 386-393.
- El-Gilany, A., & Al-Wehady, A. (2001). Job satisfaction of female Saudi nurses. *Eastern Mediterranean Health Journal*, 7(1-2), 31-37.
- Ellis, J. (2008). Managing performance. *Nursing Management*, 15(1), 28-33.
- El-Sanabary, N. (1993). The education and contribution of women health care professionals in Saudi Arabia: The case of nursing. *Social Science & Medicine*, 37(11), 1331-1343.
- Emilia, Z. A., & Hassim, I. N. (2007). Work-related stress and coping: A survey on medical and surgical nurses in a Malaysian teaching hospital. *Jabatan Kesihatan Masyarakat*, 13, 55-66.
- Engels, J. A., Van Der Gulden, J. W. J., Senden, T. F., Hertog, C., Kolk, J. J., & Binkhorst, R. A. (1994). Physical work load and its assessment among the nursing staff in nursing homes. *Journal of Occupational and Environmental Medicine*, 36(3), 338-345.
- Engkvist, I. L., Hagberg, M., Hjelm, E. W., Menckel, E., Ekenvall, L., & Group, P. S. (1998). The accident process preceding overexertion back injuries in nursing personnel. *Scandinavian Journal of Work, Environment & Health*, 24(5), 367-375.
- Engkvist, I. L., Hjelm, E. W., Hagberg, M., Menckel, E., & Ekenvall, L. (2000). Risk indicators for reported over-exertion back injuries among female nursing personnel. *Epidemiology*, 11(5), 519-522.

- Erdogan, B., & Enders, J. (2007). Support from the top: Supervisors' perceived organizational support as a moderator of leader-member exchange to satisfaction and performance relationships. *Journal of Applied Psychology, 92*(2), 321-330.
- Erez, A., & Judge, T. A. (2001). Relationship of core self-evaluations to goal setting, motivation, and performance. *Journal of Applied Psychology, 86*(6), 1270-1279.
- Estryn-Behar, M., Kaminski, M., Peigne, E., Bonnet, N., Vaichere, E., Gozlan, C., et al. (1990). Stress at work and mental health status among female hospital workers. *British Journal of Industrial Medicine, 47*(1), 20-28.
- Evanoff, B., Wolf, L., Aton, E., Canos, J., & Collins, J. (2003). Reduction in injury rates in nursing personnel through introduction of mechanical lifts in the workplace. *American Journal of Industrial Medicine, 44*(5), 451-457.
- Evanoff, B. A., Bohr, P. C., & Wolf, L. D. (1999). Effects of a participatory ergonomics team among hospital orderlies. *American Journal of Industrial Medicine, 35*(4), 358-365.
- Evans, M. G., Kiggundu, M. N., & House, R. J. (1979). A partial test and extension of the job characteristics model of motivation. *Organizational Behavior and Human Performance, 24*(3), 354-381.
- Evans, O., & Steptoe, A. (2002). The contribution of gender-role orientation, work factors and home stressors to psychological well-being and sickness absence in male-and female-dominated occupational groups. *Social Science & Medicine, 54*(4), 481-492.
- Fairchild, R. M. Practical ethical theory for nurses responding to complexity in care. *Nursing Ethics, 17*(3), 353-362.
- Farber, B. A. (1991). *Crisis in education: Stress and burnout in the American teacher*. San Francisco, CA, US: Jossey-Bass.



- Farh, J. L., Podsakoff, P. M., & Organ, D. W. (1990). Accounting for organizational citizenship behavior: Leader fairness and task scope versus satisfaction. *Journal of Management*, 16(4), 705-721.
- Feather, N. T., & Rauter, K. A. (2004). Organizational citizenship behaviours in relation to job status, job insecurity, organizational commitment and identification, job satisfaction and work values. *Journal of Occupational and Organizational Psychology*, 77(1), 81-94.
- Feldstein, A., Valanis, B., Vollmer, W., Stevens, N., & Overton, C. (1993). The back injury prevention project pilot study: Assessing the effectiveness of back attack, an injury prevention program among nurses, aides, and orderlies. *Journal of Occupational and Environmental Medicine*, 35(2), 114-120.
- Fernandes, R. C. P., Carvalho, F. M., Assuncao, A. Ã., & Silvany Neto, A. M. (2009). Interactions between physical and psychosocial demands of work associated to low back pain. *Revista de Saude Publica*, 43(2), 326-334.
- Fernandez-Lopez, J. A., Martin-Payo, R., Fernandez-Fidalgo, M., & Rodel, A. (2006). Analisis factorial confirmatorio de la version espanola del cuestionario Effort-Reward Imbalance, de medida del estress laboral. *Atencion Primaria*, 38(8), 465-466.
- Fido, A., & Ghali, A. (2008). Detrimental effects of variable work shifts on quality of sleep, general health and work performance. *Medical Principles and Practice*, 17(6), 453-457.
- Fido, A. A., & Ghali, A. (1998). Effect of 8-hour variable shift-work schedules on quality of sleep, work performance and general health. *Kuwait Medical Journal*, 30, 212-215.
- Fink, A. (2002). *How to sample in surveys* (2nd ed.). London: Sage Publications, Inc.

- Fitzpatrick, J. M., While, A. E., & Roberts, J. D. (1999). Shift work and its impact upon nurse performance: Current knowledge and research issues. *Journal of Advanced Nursing*, 29(1), 18-27.
- Floyd, S. W., & Wooldridge, B. (1997). Middle management's strategic influence and organizational performance. *Journal of Management Studies*, 34(3), 465-485.
- Fogarty, T. J., & Kalbers, L. P. (2000). An empirical evaluation of the interpersonal and organisational correlates of professionalism in internal auditing. *Accounting and Business Research*, 30(2), 125-136.
- Foley, S., Hang-yue, N., & Lui, S. (2005). The effects of work stressors, perceived organizational support, and gender on work-family conflict in Hong Kong. *Asia Pacific Journal of Management*, 22(3), 237-256.
- Folkard, S. (2008). Shift work, safety, and aging. *Chronobiology International*, 25, 2(3), 183-198.
- Folkard, S., Spelten, E., Totterdell, P., Barton, J., & Smith, L. (1995). The use of survey measures to assess circadian variations in alertness. *Sleep: Journal of Sleep Research & Sleep Medicine*, 18(5), 355-361.
- Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science*, 13(2), 172-175.
- French, S. E., Lenton, R., Walters, V., & Eyles, J. (2000). An empirical evaluation of an expanded nursing stress scale. *Journal of Nursing Measurement*, 8(2), 161-178.
- Frenkel, S. J., & Lee, B. H. (2010). Do high performance work practices work in South Korea? *Industrial Relations Journal*, 41(5), 479-504.
- Fried, Y., & Ferris, G. R. (1987). The validity of the job characteristics model: A review and meta-analysis. *Personnel Psychology*, 40(2), 287-322.

- Friend, K. E. (1982). Stress and performance: Effects of subjective work load and time urgency. *Personnel Psychology*, 35(3), 623-633.
- Frone, M. R., Yardley, J. K., & Markel, K. S. (1997). Developing and testing an integrative model of the work-family interface. *Journal of Vocational Behavior*, 50(2), 145-167.
- Frost, J. (1998). Narrowing the perception gap: A study in employee benefit communications. *Compensation and Benefits Management*, 14(2), 22-28.
- Fuß, I., Nubling, M., Hasselhorn, H. M., Schwappach, D., & Rieger, M. A. (2008). Working conditions and work-family conflict in German hospital physicians: Psychosocial and organisational predictors and consequences. *BMC Public Health*, 8(1), 353.
- Fullagar, C. J., & Kelloway, E. K. (2009). Flow at work: An experience sampling approach. *Journal of Occupational and Organizational Psychology*, 82(3), 595-615.
- Gagne, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26(4), 331-362.
- Galletta, M., Portoghese, I., Penna, M. P., Battistelli, A., & Saiani, L. Turnover intention among Italian nurses: The moderating roles of supervisor support and organizational support. *Nursing & Health Sciences*, 13(2), 184-191.
- Galy, E., Melan, C., & Cariou, M. (2008). Investigation of task performance variations according to task requirements and alertness across the 24-h day in shift workers. *Ergonomics*, 51(9), 1338-1351.
- Ganster, D. C., & Fusilier, M. R. (1989). Control in the workplace. In C. L. Cooper & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology* (pp. 235-280). Oxford, England: John Wiley & Sons.

- Garbarino, S., Beelke, M., Costa, G., Violani, C., Lucidi, F., Ferrillo, F., et al. (2002). Brain function and effects of shift work: Implications for clinical neuropharmacology. *Neuropsychobiology*, *45*(1), 50-56.
- Garg, A., & Moore, J. S. (1992). Epidemiology of low-back pain in industry. *Occupational Medicine (Philadelphia, Pa.)*, *7*(4), 593-608.
- Garg, P., & Rastogi, R. (2006). New model of job design: Motivating employees' performance. *Journal of Management Development*, *25*(6), 572-587.
- Gavois, H., Paulsson, G., & Fridlund, B. (2006). Mental health professional support in families with a member suffering from severe mental illness: A grounded theory model. *Scandinavian Journal of Caring Sciences*, *20*(1), 102-109.
- Gay, L. R., & Diehl, P. L. (1992). *Research methods for business and management*. New York: Macmillan.
- Geiger-Brown, J., Trinkoff, A. M., Nielsen, K., Lirtmunlikaporn, S., Brady, B., & Vasquez, E. I. (2004). Nurses' perception of their work environment, health, and well-being: A qualitative perspective. *AAOHN Journal: Official Journal of the American Association of Occupational Health Nurses*, *52*(1), 16-22.
- Gelsema, T. I., van der Doef, M., Maes, S., Akerboom, S., & Verhoeven, C. (2005). Job stress in the nursing profession: The influence of organizational and environmental conditions and job characteristics. *International Journal of Stress Management*, *12*(3), 222-240.
- George, J. M., & Brief, A. P. (1992). Feeling good-doing good: A conceptual analysis of the mood at work-organizational spontaneity relationship. *Psychological Bulletin*, *112*(2), 310-329.

- George, J. M., Reed, T. F., Ballard, K. A., Colin, J., & Fielding, J. (1993). Contact with AIDS patients as a source of work-related distress: Effects of organizational and social support. *Academy of Management Journal*, *36*(1), 157-171.
- George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. *Journal of Applied Psychology*, *86*(3), 513-524.
- Ghaddar, A., Ronda, E., & Nolasco, A. (2011). Work ability, psychosocial hazards and work experience in prison environments. *Occupational Medicine*, *61*(7), 503-508.
- Gillespie, N. A., Walsh, M., Winefield, A. H., Dua, J., & Stough, C. (2001). Occupational stress in universities: Staff perceptions of the causes, consequences and moderators of stress. *Work & Stress*, *15*(1), 53-72.
- Godbey, K. L., & Courage, M. M. (1994). Stress-management program: Intervention in nursing student performance anxiety. *Archives of Psychiatric Nursing*, *8*(3), 190-199.
- Gold, D. R., Rogacz, S., Bock, N., Tosteson, T. D., Baum, T. M., Speizer, F. E., et al. (1992). Rotating shift work, sleep, and accidents related to sleepiness in hospital nurses. *American Journal of Public Health*, *82*(7), 1011-1014.
- Goldenhar, L. M., LaMontagne, A. D., Katz, T., Heaney, C., & Landsbergis, P. (2001). The intervention research process in occupational safety and health: An overview from the national occupational research agenda intervention effectiveness research team. *Journal of Occupational and Environmental Medicine*, *43*(7), 616-622.
- Gong, Y., & Chang, S. (2008). Institutional antecedents and performance consequences of employment security and career advancement practices:

- Evidence from the People's Republic of China. *Human Resource Management*, 47(1), 33-48.
- Goodin, H. J. (2003). The nursing shortage in the United States of America: An integrative review of the literature. *Journal of Advanced Nursing*, 43(4), 335-343.
- Goodman, J. S., & Blum, T. C. (1996). Assessing the non-random sampling effects of subject attrition in longitudinal research. *Journal of Management*, 22(4), 627-652.
- Goodridge, D., Johnston, P., & Thomson, M. (1997). Impact of a nursing assistant training program on job performance, attitudes, and relationships with residents. *Educational Gerontology: An International Quarterly*, 23(1), 37-51.
- Gorgievski, M. J., & Hobfoll, S. E. (2008). Work can burn us out or fire us up: Conservation of resources in burnout and engagement. In J. R. B. Halbesleben (Ed.), *Handbook of stress and burnout in health care* (pp. 7-22). New York: Nova Science Publishers, Inc.
- Graham, S. (2009). The effects of different conflict management styles on job satisfaction in rural healthcare settings. *Economics & Business Journal: Inquiries & Perspectives*, 2(1), 71-85.
- Grandey, A. A., Fisk, G. M., & Steiner, D. D. (2005). Must "service with a smile" be stressful? The moderating role of personal control for American and French employees. *Journal of Applied Psychology*, 90(5), 893-904.
- Grant, A. M. (2008). The significance of task significance: Job performance effects, relational mechanisms, and boundary conditions. *Journal of Applied Psychology*, 93(1), 108-124.
- Grant, A. M., & Sumanth, J. J. (2009). Mission possible? The performance of prosocially motivated employees depends on manager trustworthiness. *Journal of Applied Psychology*, 94(4), 927-944.

- Grantcharov, T. P., Bardram, L., Peter, F. J., & Rosenberg, J. (2001). Laparoscopic performance after one night on call in a surgical department: prospective study. *BMJ*, *323*(7323), 1222-1223.
- Graw, P., Krauchi, K., Knoblauch, V., Wirz-Justice, A., & Cajochen, C. (2004). Circadian and wake-dependent modulation of fastest and slowest reaction times during the psychomotor vigilance task. *Physiology & Behavior*, *80*(5), 695-701.
- Gray-Toft, P., & Anderson, J. G. (1981). The nursing stress scale: Development of an instrument. *Journal of Psychopathology and Behavioral Assessment*, *3*(1), 11-23.
- Gray-Toft, P., & Anderson, J. G. (1983). A hospital staff support program: Design and evaluation. *International Journal of Nursing Studies*, *20*(3), 137-147.
- Green, S. B., & Salkind, N. J. (2008). *Using SPSS for windows and Macintosh: Analyzing and understanding data*. New Jersey: Pearson Prentice Hall.
- Greenglass, E. R., & Burke, R. J. (2001). Application of an impact of restructuring scale to the healthcare sphere. *Healthcare Management Forum*, *14*(4), 1-9.
- Greenhalgh, L., & Rosenblatt, Z. (1984). Job insecurity: Toward conceptual clarity. *Academy of Management Review*, *9*(3), 438-448.
- Greenslade, J. H., & Jimmieson, N. L. (2007). Distinguishing between task and contextual performance for nurses: Development of a job performance scale. *Journal of Advanced Nursing*, *58*(6), 602-611.
- Greer, C. R., & Castro, M. A. D. (1986). The relationship between perceived unit effectiveness and occupational stress: The case of purchasing agents. *The Journal of Applied Behavioral Science*, *22*(2), 159-175.
- Griep, R. H., Rotenberg, L., Vasconcellos, A. G. G., Landsbergis, P., Comaru, C. M., & Alves, M. G. M. (2009). The psychometric properties of demand-control and

- effort-reward imbalance scales among Brazilian nurses. *International Archives of Occupational and Environmental Health*, 82(10), 1163-1172.
- Griffin, M., Neal, A., & Neale, M. (2000). The contribution of task performance and contextual performance to effectiveness: Investigating the role of situational constraints. *Applied Psychology*, 49(3), 517-533.
- Guidice, R. M., & Mero, N. P. (2012). Hedging their bets: A longitudinal study of the trade-offs between task and contextual performance in a sales organization. *Journal of Personal Selling and Sales Management*, 32(4), 451-472.
- Gupta, N., & Beehr, T. A. (1979). Job stress and employee behaviors. *Organizational Behavior and Human Performance*, 23(3), 373-387.
- Guzzo, R. A., Noonan, K. A., & Elron, E. (1994). Expatriate managers and the psychological contract. *Journal of Applied Psychology*, 79(4), 617-626.
- Gwinner, C. (2006). *5-point vs. 6-point likert scale*. Retrieved 12 July, 2010, from [http://www.infosurv.com/Insider/White\\_Papers/PDF/Likert\\_Scale\\_Debate.pdf](http://www.infosurv.com/Insider/White_Papers/PDF/Likert_Scale_Debate.pdf)
- Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology*, 60(2), 159-170.
- Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, 16(2), 250-279.
- Hackman, J. R., & Oldham, G. R. (1980). Work redesign reading. MA: Addison-Wesley.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). New York: Pearson Prentice Hall.
- Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). *Research methods for business*. USA, West Sussex: John Wiley & Sons.



- Hakanen, J. J., Bakker, A. B., & Jokisaari, M. (2011). A 35-year follow-up study on burnout among Finnish employees. *Journal of Occupational Health Psychology, 16*(3), 345-360.
- Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology, 43*(6), 495-513.
- Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The job demands-resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress, 22*(3), 224-241.
- Halbesleben, J. R. B., & Wheeler, A. R. (2011). I owe you one: Coworker reciprocity as a moderator of the day-level exhaustion-performance relationship. *Journal of Organizational Behavior, 32*(4), 608-626.
- Halinski, R. S., & Feldt, L. S. (1970). The selection of variables in multiple regression analysis. *Journal of Educational Measurement, 7*(3), 151-157.
- Hamdan-Mansour, A. M., Al-Gamal, E., Puskar, K., Yacoub, M., & Marini, A. (2011). Mental health nursing in Jordan: An investigation into experience, work stress and organizational support. *International Journal of Mental Health Nursing, 20*(2), 86-94.
- Hammer, T. H., Saksvik, P. O., Nytro, K., Torvatn, H., & Bayazit, M. (2004). Expanding the psychosocial work environment: Workplace norms and work-family conflict as correlates of stress and health. *Journal of Occupational Health Psychology, 9*(1), 83-97.
- Hamwi, G. A., Rutherford, B. N., & Boles, J. S. (2011). Reducing emotional exhaustion and increasing organizational support. *Journal of Business & Industrial Marketing, 26*(1), 4-13.

- Hansez, I., & Chmiel, N. (2010). Safety behavior: Job demands, job resources, and perceived management commitment to safety. *Journal of Occupational Health Psychology, 15*(3), 267-278.
- Harma, M., Tenkanen, L., Sjoblom, T., Alikoski, T., & Heinsalmi, P. (1998). Combined effects of shift work and life-style on the prevalence of insomnia, sleep deprivation and daytime sleepiness. *Scandinavian Journal of Work Environment and Health, 24*(4), 300-307.
- Harrington, J. M. (2001). Health effects of shift work and extended hours of work. *Occupational and Environmental Medicine, 58*(1), 68-72.
- Harris, J. H., & Berger, P. K. (1983). Antecedents of psychological stress. *Journal of Human Stress, 9*(2), 24-31.
- Harrison, D. A., & Shaffer, M. A. (2005). Mapping the criterion space for expatriate success: Task-and relationship-based performance, effort and adaptation. *The International Journal of Human Resource Management, 16*(8), 1454-1474.
- Hart, C. L., Ward, A. S., Haney, M., Nasser, J., & Foltin, R. W. (2003). Methamphetamine attenuates disruptions in performance and mood during simulated night-shift work. *Psychopharmacology, 169*(1), 42-51.
- Hatton, C., Brown, R., Caine, A., & Emerson, E. (1995). Stressors, coping strategies and stress-related outcomes among direct care staff in staffed houses for people with learning disabilities. *Mental Handicap Research, 8*(4), 252-271.
- Hawkins, A. C., Howard, R. A., & Oyebode, J. R. (2007). Stress and coping in hospice nursing staff. The impact of attachment styles. *Psycho-Oncology, 16*(6), 563-572.

- Haworth, C. L., & Levy, P. E. (2001). The importance of instrumentality beliefs in the prediction of organizational citizenship behaviors. *Journal of Vocational Behavior, 59*(1), 64-75.
- Hayajneh, Y. A. (2000). *Identification of the influence of organizational variables on hospital staff nurses' job performance*. Doctoral thesis. The University of Iowa, Iowa.
- Health Forum. (2008, March). Separate colleges of health ministry and attached to higher education. *Health Forum, 89*, 11-11.
- Hedges, J. N., & Sekscenski, E. S. (1979). Workers on late shifts in a changing economy. *Monthly Labor Review, 102*(9), 14-22.
- Hekman, D. R., Bigley, G. A., Steensma, H. K., & Hereford, J. F. (2009). Combined effects of organizational and professional identification on the reciprocity dynamic for professional employees. *The Academy of Management Journal, 52*(3), 506-526.
- Hellgren, J., Sverke, M., & Isaksson, K. (1999). A two-dimensional approach to job insecurity: Consequences for employee attitudes and well-being. *European Journal of Work and Organizational Psychology, 8*(2), 179-195.
- Herold, D. M., Letherwood, M. L., & Liden, R. C. (1987). Using multiple attributes to assess sources of performance feedback. *Academy of Management Journal, 30*(4), 826-835.
- Hinno, S., Partanen, P., Vehviläinen-Julkunen, K., & Aaviksoo, A. (2009). Nurses' perceptions of the organizational attributes of their practice environment in acute care hospitals. *Journal of Nursing Management, 17*(8), 965-974.

- Hipwell, A. E., Tyler, P. A., & Wilson, C. M. (1989). Sources of stress and dissatisfaction among nurses in four hospital environments. *British Journal of Medical Psychology*, 62(1), 71-79.
- Hirschfeld, R. R., Schmitt, L. P., & Bedeian, A. G. (2002). Job-content perceptions, performance-reward expectancies, and absenteeism among Low-wage public-sector clerical employees. *Journal of Business and Psychology*, 16(4), 553-564.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513-524.
- Hobfoll, S. E. (1998). *The psychology and philosophy of stress, culture, and community*. New York: Plenum.
- Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology*, 50(3), 337-421.
- Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6(4), 307-324.
- Hobfoll, S. E., & Freedy, J. (1993). Conservation of resources: A general stress theory applied to burnout. In W. B. Schaufeli, C. Maslach & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research. Series in applied psychology: Social issues and questions* (pp. 299). Philadelphia, PA, US: Taylor & Francis.
- Hochwarter, W. A., Witt, L. A., Treadway, D. C., & Ferris, G. R. (2006). The interaction of social skill and organizational support on job performance. *Journal of Applied Psychology*, 91(2), 482-489.
- House, J. S. (1981). *Work stress and social support*. MA: Addison-Wesley publishing, (Reading Mass).

- Houtman, I. L. D., & Kompier, M. A. J. (1995). *Risk factors and occupational risk groups for work stress in the Netherlands*. Washington, D.C., US: American Psychological Association.
- Hsieh, T. H. (2004). The Relationship between employees' personal work standards and perceived work stress. *International Journal of Stress Management*, *11*(2), 177-187.
- Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology*, *92*(5), 1332-1356.
- Hung, H., & Wong, Y. H. (2007). The relationship between employer endorsement of continuing education and training and work and study performance: A Hong Kong case study. *International Journal of Training and Development*, *11*(4), 295-313.
- Hunter, L. W., & Thatcher, S. M. B. (2007). Feeling the heat: Effects of stress, commitment, and job experience on job performance. *Academy of Management Journal*, *50*(4), 953-968.
- Hutchison, S. (1997). A path model of perceived organizational support. *Journal of Social Behavior & Personality*, *12*(1), 159-174.
- Ida, H., Miura, M., Komoda, M., Yakura, N., Mano, T., Hamaguchi, T., et al. (2009). Relationship between stress and performance in a Japanese nursing organization. *International Journal of Health Care Quality Assurance*, *22*(6), 642-657.
- Igbaria, M., Iivari, J., & Maragahh, H. (1995). Why do individuals use computer technology? A Finnish case study. *Information & Management*, *29*(5), 227-238.

- Ilgen, D. R., & Favero, J. L. (1985). Limits in generalization from psychological research to performance appraisal processes. *Academy of Management Review*, *10*(2), 311-321.
- Ilhan, M. N., Durukan, E., Taner, E., Maral, I., & Bumin, M. A. (2008). Burnout and its correlates among nursing staff: Questionnaire survey. *Journal of Advanced Nursing*, *61*(1), 100-106.
- Israel, B. A., House, J. S., Schurman, S. J., Heaney, C. A., & Mero, R. P. (1989). The relation of personal resources, participation, influence, interpersonal relationships and coping strategies to occupational stress, job strains and health: A multivariate analysis. *Work & Stress*, *3*(2), 163-194.
- Ito, J. K., & Brotheridge, C. M. (2007). Exploring the predictors and consequences of job insecurity's components. *Journal of Managerial Psychology*, *22*(1), 40-64.
- Jackson, C. L., & Gary, R. (1991). Nursing: Attitudes, perceptions and strategies for progress in Saudi Arabia. *Annals of Saudi Medicine*, *11*(4), 452-458.
- Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Decision Processes*, *36*(1), 16-78.
- Jacobsson, C., Pousette, A., & Thylefors, I. (2001). Managing stress and feelings of mastery among Swedish comprehensive school teachers. *Scandinavian Journal of Educational Research*, *45*(1), 37-53.
- Jamal, M. (1984). Job stress and job performance controversy: An empirical assessment. *Organizational Behavior and Human Performance*, *33*(1), 1-21.
- Jamal, M. (1985). Relationship of job stress to job performance: A study of managers and blue-collar workers. *Human Relations*, *38*(5), 409-424.

- Jamal, M. (2007). Job stress and job performance controversy revisited: An empirical examination in two countries. *International Journal of Stress Management*, 14(2), 175-187.
- Jamal, M. (2011). Job stress, job performance and organizational commitment in a multinational company: An empirical study in two countries. *International Journal of Business and Social Science*, 2(2), 20-29.
- Jamal, M., & Baba, V. V. (1992). Shift work and department-type related to job stress, work attitudes and behavioral intentions: A study of nurses. *Journal of Organizational Behavior*, 13(5), 449-464.
- Janowitz, I. L., Gillen, M., Ryan, G., Rempel, D., Trupin, L., Swig, L., et al. (2006). Measuring the physical demands of work in hospital settings: Design and implementation of an ergonomics assessment. *Applied Ergonomics*, 37(5), 641-658.
- Jansen, N., Kant, I. J., van Amelsvoort, L., Nijhuis, F., & van den Brandt, P. (2003). Need for recovery from work: Evaluating short-term effects of working hours, patterns and schedules. *Ergonomics*, 46(7), 664-680.
- Janssen, P. P. M., Schaufelie, W. B., & Houkes, I. (1999). Work-related and individual determinants of the three burnout dimensions. *Work & Stress*, 13(1), 74-86.
- Jawahar, I. M., & Ferris, G. R. (2011). A longitudinal investigation of task and contextual performance influences on promotability judgments. *Human Performance*, 24(3), 251-269.
- Jawahar, I. M., Stone, T. H., & Kisamore, J. L. (2007). Role conflict and burnout: The direct and moderating effects of political skill and perceived organizational

- support on burnout dimensions. *International Journal of Stress Management*, 14(2), 142-159.
- Jenkins, R., & Elliott, P. (2004). Stressors, burnout and social support: nurses in acute mental health settings. *Journal of Advanced Nursing*, 48(6), 622-631.
- Jeon, J. (2009). *The impact of organizational justice and job security on organizational commitment: Exploring the mediating effect of trust in top management*. University of Minnesota.
- Jex, S. M. (1998). *Stress and job performance: Theory, research, and implications for managerial practice. Advanced topics in organizational behavior*. Thousand Oaks, CA: Sage Publications Ltd.
- Jimmieson, N. L., Terry, D. J., & Callan, V. J. (2004). A longitudinal study of employee adaptation to organizational change: The role of change-related information and change-related self-efficacy. *Journal of Occupational Health Psychology*, 9(1), 11-27.
- Johnson, D. M., Palmieri, P. A., Jackson, A. P., & Hobfoll, S. E. (2007). Emotional numbing weakens abused inner-city women's resiliency resources. *Journal of Traumatic Stress*, 20(2), 197-206.
- Johnson, J. W. (2001). The relative importance of task and contextual performance dimensions to supervisor judgments of overall performance. *Journal of Applied Psychology*, 86(5), 984-996.
- Johnson, K., Chisholm, A., & Weatherman, P. (2008). Work schedules and job performance: What's the link? *Nursing Management*, 39(6), 44-47.
- Jones, F., & Fletcher, B. C. (1996). Job control and health. In M. J. Schabracq, J. A. M. Winnubst & C. L. Cooper (Eds.), *Handbook of work and health psychology* (pp. 33-50). Chichester: Wiley & Sons.



- Judge, T. A., Erez, A., & Bono, J. E. (1998). The power of being positive: The relation between positive self-concept and job performance. *Human Performance, 11*(2-3), 167-187.
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin, 127*(3), 376-407.
- Kacmar, K. M., Collins, B. J., Harris, K. J., & Judge, T. A. (2009). Core self-evaluations and job performance: The role of the perceived work environment. *Journal of Applied Psychology, 94*(6), 1572-1580.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress*. New York: Wiley.
- Kahn, S. E., & Long, B. C. (1988). Work-related stress, self-efficacy, and well-being of female clerical workers. *Counselling Psychology Quarterly, 1*(2), 145-153.
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*, 141-151.
- Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24*(2), 285-308.
- Karasek, R., Baker, D., Marxer, F., Ahlbom, A., & Theorell, T. (1981). Job decision latitude, job demands, and cardiovascular disease: a prospective study of Swedish men. *American Journal of Public Health, 71*(7), 694-705.
- Karasek, R., & Theorell, T. (1990). *Healthy work: stress, productivity, and the reconstruction of working life*. New York, USA: Basic Books.
- Karatepe, O. M. (2011). Do job resources moderate the effect of emotional dissonance on burnout?: A study in the city of Ankara, Turkey. *International Journal of Contemporary Hospitality Management, 23*(1), 44-65.

- Karlson, B., Eek, F., Orbek, P., & Osterberg, K. (2009). Effects on sleep-related problems and self-reported health after a change of shift schedule. *Journal of Occupational Health Psychology, 14*(2), 97-109.
- Karriker, J. H., & Williams, M. L. (2009). Organizational justice and organizational citizenship behavior: A mediated multifoci model. *Journal of Management, 35*(1), 112-135.
- Katz, D., & Kahn, R. L. (1966). *The social psychology of organizations*. New York: Wiley & Sons.
- Kaufmann, G. M., & Beehr, T. A. (1986). Interactions between job stressors and social support: Some counterintuitive results. *Journal of Applied Psychology, 71*(3), 522-526.
- Kawano, Y. (2008). Association of job-related stress factors with psychological and somatic symptoms among Japanese hospital nurses: Effect of departmental environment in acute care hospitals. *Journal of Occupational Health, 50*(1), 79-85.
- Keijsers, G. J., Schaufeli, W. B., Blanc, P. M. L., Zwerts, C., & Miranda, D. R. (1995). Performance and burnout in intensive care units. *Work & Stress, 9*(4), 513-527.
- Kemper, M. (2001). The role and effectiveness of napping on the work performances of shift workers. *Work: A Journal of Prevention, Assessment and Rehabilitation, 16*(2), 153-157.
- Kennedy, P. (1985). *A guide to econometrics* (2nd ed.). Oxford: Basil Blackwell.
- Khurram, S. (2009). Perceived organizational support, antecedents and consequences proposing and testing a model in a public sector university of Pakistan. *South Asian Journal of Management, 16*(1), 7-26.

- Kim, I. H., Geiger-Brown, J., Trinkoff, A., & Muntaner, C. (2010). Physically demanding workloads and the risks of musculoskeletal disorders in homecare workers in the USA. *Health & Social Care in the Community*, 18(5), 445-455.
- Kinney, P. R., & Gray, C. D. (1994). *SPSS for Windows made simple*. UK: Lawrence Erlbaum Associates Publishers.
- Kinnunen, U., Feldt, T., & Makikangas, A. (2008). Testing the effort-reward imbalance model among Finnish managers: The role of perceived organizational support. *Journal of Occupational Health Psychology*, 13(2), 114-127.
- Kirkpatrick, M. G., Haney, M., Vosburg, S. K., Comer, S. D., Foltin, R. W., & Hart, C. L. (2009). Methamphetamine self-administration by humans subjected to abrupt shift and sleep schedule changes. *Psychopharmacology*, 203(4), 771-780.
- Kivimaki, M., Vahtera, J., Pentti, J., & Ferrie, J. E. (2000). Factors underlying the effect of organisational downsizing on health of employees: Longitudinal cohort study. *BMJ*, 320(7240), 971-975.
- Knoop, R. (1994). Relieving stress through value-rich work. *The Journal of Social Psychology*, 134(6), 829-836.
- Knutsson, A. (2003). Health disorders of shift workers. *Occupational Medicine*, 53(2), 103-108.
- Knutsson, A. (2004). Methodological aspects of shift-work research. *Chronobiology International*, 21(6), 1037-1047.
- Ko, I. (2011). *Crafting a job: Creating optimal experiences at work*. Doctoral thesis. The Claremont Graduate University, Claremont, California.
- Kohn, L. T., Corrigan, J., & Donaldson, M. S. (2000). *To err is human: Building a safer health system* (Vol. 6). USA: National Academies Press.

- Koys, D. J. (2001). The effects of employee satisfaction, organizational citizenship behavior, and turnover on organizational effectiveness: A unit-level, longitudinal study. *Personnel Psychology, 54*(1), 101-114.
- Krafcik, J. F. (1988). Triumph of the lean production system. *Sloan Management Review, 30*(1), 41-52.
- Kraimer, M. L., Wayne, S. J., & Jaworski, R. A. A. (2001). Sources of support and expatriate performance: The mediating role of expatriate adjustment. *Personnel Psychology, 54*(1), 71-99.
- Kraimer, M. L., Wayne, S. J., Liden, R. C., & Sparrowe, R. T. (2005). The role of job security in understanding the relationship between employees' perceptions of temporary workers and employees' performance. *Journal of Applied Psychology, 90*(2), 389-398.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*, 607-610.
- Kristensen, T. S., Bjorner, J. B., Christensen, K. B., & Borg, V. (2004). The distinction between work pace and working hours in the measurement of quantitative demands at work. *Work & Stress, 18*(4), 305-322.
- Kristensen, T. S., Borg, V., & Hannerz, H. (2002). Socioeconomic status and psychosocial work environment: Results from a Danish national study. *Scandinavian Journal of Public Health, 30*(59 suppl), 41-48.
- Kuhnert, K. W., Sims, R. R., & Lahey, M. A. (1989). The relationship between job security and employee health. *Group & Organization Management, 14*(4), 399-410.

- Kwakman, K. (2001). Work stress and work-based learning in secondary education: Testing the Karasek model. *Human Resource Development International*, 4(4), 487-501.
- Kyriacou, C. (2001). Teacher stress: Directions for future research. *Educational Review*, 53(1), 27-35.
- Lachman, V. D. (2010). Clinical ethics committees: Organizational support for ethical practice. *Journal of the Academy of Medical-Surgical Nurses*, 19(6), 351-353.
- Lagace, R. R. (1988). Role-stress differences between salesmen and saleswomen: Effect on job satisfaction and performance. *Psychological Reports*, 62(3), 815-825.
- Lang, J., Thomas, J. L., Bliese, P. D., & Adler, A. B. (2007). Job demands and job performance: The mediating effect of psychological and physical strain and the moderating effect of role clarity. *Journal of Occupational Health Psychology*, 12(2), 116-124.
- Laschinger, H. K. S., Purdy, N., Cho, J., & Almost, J. (2006). Antecedents and consequences of nurse managers' perceptions of organizational support. *Nursing Economics*, 24(1), 20-29.
- Lautert, L. (1999). Work overload in the perception of nurses working at hospitals. *Revista Gaucha de Enferm*, 20(2), 50-64.
- Lawler, E. E. (1973). *Motivation in work organizations*. Monterey, California: Brooks/Cole Publishing Co.
- Lazarova, M., Westman, M., & Shaffer, M. A. (2010). Elucidating the positive side of the work-family interface on international assignments: A model of expatriate work and family performance. *The Academy of Management Review (AMR)*, 35(1), 93-117.

- Lazarus, R. S. (1990). Theory-based stress measurement. *Psychological Inquiry, 1*(1), 3-13.
- Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotions. *American Psychologist, 46*(8), 819-834.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY, USA: Springer Publishing Company, Inc.
- Le Blanc, P. M., Bakker, A. B., Peeters, M. C. W., van Heesch, N. C. A., & Schaufeli, W. B. (2001). Emotional job demands and burnout among oncology care providers. *Anxiety, Stress and Coping, 14*(3), 243-263.
- Lee, H., Wilbur, J. E., Kim, M. J., & Miller, A. M. (2008). Psychosocial risk factors for work-related musculoskeletal disorders of the lower-back among long-haul international female flight attendants. *Journal of Advanced Nursing, 61*(5), 492-502.
- Lee, I. S. F., & Low, L. P. L. (2010). Nurses' role in the early defibrillation of cardiac patients: Implications for nursing in Hong Kong. *Contemporary Nurse, 35*(1), 88-94.
- Lee, K., Joshi, K., Kim, Y., & Lee, J. Y. (2008). *A proposed investigation of the employee job context*. Paper presented at the CPR conference on computer personnel doctoral consortium and research, New York, NY, USA.
- Leger, D. (1994). The cost of sleep-related accidents: A report for the national commission on sleep disorders research. *Sleep, 17*(1), 84-93.
- Leonard, C., Bourke, S., & Schofield, N. (2000). *Student stress and absenteeism in primary schools*. Paper presented at the annual conference of the Australian Association for Research in Education, Melbourne.

- LePine, J. A., Erez, A., & Johnson, D. E. (2002). The nature and dimensionality of organizational citizenship behavior: A critical review and meta-analysis. *Journal of Applied Psychology, 87*(1), 52-65.
- Leroux, I., Dionne, C. E., Bourbonnais, R., & Brisson, C. (2005). Prevalence of musculoskeletal pain and associated factors in the Quebec working population. *International Archives of Occupational and Environmental Health, 78*(5), 379-386.
- Lewiston, N. J., Conley, J., & Blessing-Moore, J. (1981). Measurement of hypothetical burnout in cystic fibrosis caregivers. *Acta Paediatrica, 70*(6), 935-939.
- Lexshimi, R., Tahir, S., Santhna, L., & Nisam, J. (2007). Prevalence of stress and coping mechanism among staff nurses in the intensive care unit. *Med & Health, 2*(2), 146-153.
- Li, J., Fu, H., Hu, Y., Shang, L., Wu, Y., Kristensen, T. S., et al. (2010). Psychosocial work environment and intention to leave the nursing profession: Results from the longitudinal chinese NEXT study. *Scandinavian Journal of Public Health, 38*(3 suppl), 69-80.
- Li, J., Yang, W., Cheng, Y., Siegrist, J., & Cho, S. I. (2005). Effort-reward imbalance at work and job dissatisfaction in Chinese healthcare workers: A validation study. *International Archives of Occupational and Environmental Health, 78*(3), 198-204.
- Lim, V. K. G. (1996). Job insecurity and its outcomes: Moderating effects of work-based and nonwork-based social support. *Human Relations, 49*(2), 171-194.
- Lim, V. K. G. (1997). Moderating effects of work-based support on the relationship between job insecurity and its consequences. *Work & Stress, 11*(3), 251-266.

- Lim, V. K. G., & Teo, T. S. H. (2000). To work or not to work at home-an empirical investigation of factors affecting attitudes towards teleworking. *Journal of Managerial Psychology, 15*(6), 560-586.
- Lin, S. L., & Hsieh, A. T. (2002). Constraints of task identity on organizational commitment. *International Journal of Manpower, 23*(2), 151-165.
- Lindholm, M. (2006). Working conditions, psychosocial resources and work stress in nurses and physicians in chief managers' positions. *Journal of Nursing Management, 14*(4), 300-309.
- Lingard, H. (2003). The impact of individual and job characteristics on 'burnout' among civil engineers in Australia and the implications for employee turnover. *Construction Management & Economics, 21*(1), 69-80.
- Llorens, S., Bakker, A. B., Schaufeli, W., & Salanova, M. (2006). Testing the robustness of the job demands-resources model. *International Journal of Stress Management, 13*(3), 378-391.
- Loi, R., Hang-Yue, N., & Foley, S. (2006). Linking employees' justice perceptions to organizational commitment and intention to leave: The mediating role of perceived organizational support. *Journal of Occupational and Organizational Psychology, 79*(1), 101-120.
- Lowden, A., Akerstedt, T., & Wibom, R. (2004). Suppression of sleepiness and melatonin by bright light exposure during breaks in night work. *Journal of Sleep Research, 13*(1), 37-43.
- Luna, L. (1998). Culturally competent health care: A challenge for nurses in Saudi Arabia. *Journal of Transcultural Nursing, 9*(2), 8-14.



- Lynch, P. D., Eisenberger, R., & Armeli, S. (1999). Perceived organizational support: Inferior versus superior performance by wary employees. *Journal of Applied Psychology, 84*(4), 467-483.
- MacDonald, W. (2003). The impact of job demands and workload on stress and fatigue. *Australian Psychologist, 38*(2), 102-117.
- Mache, S., Vitzthum, K., Nienhaus, A., Klapp, B. F., & Groneberg, D. A. (2009). Physicians' working conditions and job satisfaction: Does hospital ownership in Germany make a difference? *BMC Health Services Research, 9*(1), 148-157.
- MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organizational Behavior and Human Decision Processes, 50*(1), 123-150.
- Madhi, S. T., & Barrientos, A. (2003). Saudisation and employment in Saudi Arabia. *Career Development International, 8*(2), 70-77.
- Madsen, S. R., John, C., & Miller, D. (2005). Work-family conflict and health: A study of the workplace, psychological, and behavioral correlates. *Journal of Behavioral and Applied Management, 225*-247.
- Maertz Jr, C. P., Griffeth, R. W., Campbell, N. S., & Allen, D. G. (2007). The effects of perceived organizational support and perceived supervisor support on employee turnover. *Journal of Organizational Behavior, 28*(8), 1059-1075.
- Maier, N. R. F. (1955). *Psychology in industry: A psychological approach to industrial problems*. Oxford, England: Houghton Mifflin.
- Mak, A. S., & Mueller, J. (2000). Job insecurity, coping resources and personality dispositions in occupational strain. *Work & Stress, 14*(4), 312-328.

- Marshall, N. L., & Barnett, R. C. (1992). Work-related support among women in caregiving occupations. *Journal of Community Psychology, 20*(1), 36-42.
- Marshall, N. L., Barnett, R. C., Baruch, G. K., & Pleck, J. H. (1991). More than a job: Women and stress in caregiving occupations. *Current Research on Occupations and Professions, 6*, 61-81.
- Martens, M. F. J., Nijhuis, F. J. N., Van Boxtel, M. P. J., & Knottnerus, J. A. (1999). Flexible work schedules and mental and physical health. A study of a working population with non-traditional working hours. *Journal of Organizational Behavior, 20*(1), 35-46.
- Martin, R., & Wall, T. D. (1989). Attentional demand and cost responsibility as stressors in shopfloor jobs. *Academy of Management Journal, 32*(1), 69-86.
- Maslach, C. (2003). *Burnout: The cost of caring*. USA: Ishk Book Service.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*(1), 397-422.
- Maslow, A. H. (1943). A theory of motivation. *Psychological Review, 50*(4), 370-396.
- Masterson, S. S., Lewis, K., Goldman, B. M., & Taylor, M. S. (2000). Integrating justice and social exchange: The differing effects of fair procedures and treatment on work relationships. *Academy of Management Journal, 43*(4), 738-748.
- Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin, 108*(2), 171-194.
- Matteson, M. T., Ivancevich, J. M., & Smith, S. V. (1984). Relation of type a behavior to performance and satisfaction among sales personnel. *Journal of Vocational Behavior, 25*(2), 203-214.

- McFadzean, F., & McFadzean, E. (2005). Riding the emotional roller-coaster: A framework for improving nursing morale. *Journal of Health Organization and Management, 19*(4/5), 318-339.
- McGrath, J. E. (1976). Stress and behavior in organizations. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1351-1395). Chicago: Rand McNally.
- McGuire, D., & McLaren, L. (2009). The impact of physical environment on employee commitment in call centres: The mediating role of employee well-being. *Team Performance Management, 15*(1/2), 35-48.
- McKnight, D. H., Phillips, B., & Hardgrave, B. C. (2009). Which reduces IT turnover intention the most: Workplace characteristics or job characteristics? *Information & Management, 46*(3), 167-174.
- McLean, A. A. (1974). *Occupational stress*. Springfield, Illinois: Charles C. Thomas.
- Mebrouk, J. (2008). Perception of nursing care: Views of Saudi Arabian female nurses. *Contemporary Nurse, 28*(1-2), 149-161.
- Meglino, B. M. (1977). Stress and performance: Are they always incompatible. *Supervisory Management, 22*(3), 2-12.
- Mehta, V., & Shah, H. (2005). Characteristics of a work organization from a lean perspective. *Engineering Management Journal, 17*(2), 14-20.
- Menzel, N. N. (2007). Psychosocial factors in musculoskeletal disorders. *Critical Care Nursing Clinics of North America, 19*(2), 145-153.
- Merriam Webster Online Dictionary. ( 2010). *Performance*. Retrieved 22 July, 2010, from <http://www.merriam-webster.com/dictionary/performance>
- Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation*. London, United Kingdom: Sage Publications, Inc.

- Miao, R., & Kim, H. G. (2010). Perceived organizational support, job satisfaction and employee performance: An Chinese empirical study. *Journal of Service Science and Management*, 3(2), 257-264.
- Michiel, P., Looze, D. E., Zinzen, E., Caboor, D., Van Roy, P., & Clarijs, J. A. N. P. (1998). Muscle strength, task performance and low back load in nurses. *Ergonomics*, 41(8), 1095-1104.
- Mikkelsen, A., Ogaard, T., & Landsbergis, P. (2005). The effects of new dimensions of psychological job demands and job control on active learning and occupational health. *Work & Stress*, 19(2), 153-175.
- Mikkelsen, A., Ogaard, T., & Lovrich, N. (2000). Modeling the effects of organizational setting and individual coping style on employees subjective health, job satisfaction and commitment. *Public Administration Quarterly*, 24(3), 371-397.
- Miller, D. E., & Kunce, J. T. (1973). Prediction and statistical overkill revisited. *Measurement and Evaluation in Guidance*, 6(3), 157-163.
- Miller-Rosser, K., Chapman, Y., & Francis, K. (2006). Historical, cultural, and contemporary influences on the status of women in nursing in Saudi Arabia. *Online Journal of Issues in Nursing*, 11(3), 3-3.
- Millette, V., & Gagne, M. (2008). Designing volunteers' tasks to maximize motivation, satisfaction and performance: The impact of job characteristics on volunteer engagement. *Motivation and Emotion*, 32(1), 11-22.
- Mintz-Binder, R. D., & Sanders, D. L. (2012). Workload demand: A significant factor in the overall well-being of directors of associate degree nursing programs. *Teaching and Learning in Nursing*, 7(1), 10-16.

- Mitchell, J. E. (2009). *Job satisfaction and burnout among foreign-trained nurses in Saudi Arabia: A mixed-method study*. Doctoral thesis. University of Phoenix.
- MOCS. (2009). *Salary of health personnel at the ministry of health*. Retrieved August, 2010, from <http://www.mcs.gov.sa/McsImages/r106.pdf>
- MOFA. (2006). Administrative divisions of the Kingdom. Retrieved 2 August, 2010, from <http://www.mofa.gov.sa/Detail.asp?>
- MOH. (2009). *Health statistical year book*. Riyadh: Saudi Ministry of Health.
- MOH. (2010). *Health statistical year book*. Riyadh: Saudi Ministry of Health.
- Mohamed, M. S., & Anisa, H. (2013). Job engagement: Medical transcription. *SCMS Journal of Indian Management, 10*(1), 22-32.
- Mohr, G. B. (2000). The changing significance of different stressors after the announcement of bankruptcy: A longitudinal investigation with special emphasis on job insecurity. *Journal of Organizational Behavior, 21*(3), 337-359.
- Monk, T. H., & Folkard, S. (1985). Individual differences in shift work adjustment. In *Hours of Work-Temporal Factors in Work-Scheduling* (pp. 227-237). New York: Wiley.
- Monk, T. H., & Folkard, S. (1992). *Making shift work tolerable*. London: Taylor & Francis.
- Montgomery, A. J., Panagopolou, E., & Benos, A. (2006). Work-family interference as a mediator between job demands and job burnout among doctors. *Stress and Health, 22*(3), 203-212.
- Moody, R. C., & Pesut, D. J. (2006). The motivation to care: Application and extension of motivation theory to professional nursing work. *Journal of Health Organization and Management, 20*(1), 15-48.

- Moore-Ede, M. C., & Richardson, G. S. (1985). Medical implications of shift-work. *Annual Review of Medicine, 36*(1), 607-617.
- Morgeson, F. P., & Humphrey, S. E. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology, 91*(6), 1321-1339.
- Mori, M., Nakashima, Y., Yamazaki, Y., & Kurita, H. (2002). Sex-role orientation, marital status and mental health in working women. *Archives of Women's Mental Health, 5*(4), 161-176.
- Morris, J. A., & Feldman, D. C. (1996). The dimensions, antecedents, and consequences of emotional labor. *Academy of Management Review, 21*(4), 986-1010.
- Morrison, E. W. (1994). Role definitions and organizational citizenship behavior: The importance of the employee's perspective. *Academy of Management Journal, 37*(6), 1543-1567.
- Morrison, R. S., Jones, L. D., & Fuller, B. (1997). The relation between leadership style and empowerment on job satisfaction of nurses. *Journal of Nursing Administration, 27*(5), 27-34.
- Motowildo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. *Human Performance, 10*(2), 71-83.
- Motowidlo, S. J., Packard, J. S., & Manning, M. R. (1986). Occupational stress: Its causes and consequences for job performance. *Journal of Applied Psychology, 71*(4), 618-629.

- Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, 79(4), 475-480.
- Mrayyan, M. T., & Al-Faouri, I. (2008). Predictors of career commitment and job performance of Jordanian nurses. *Journal of Nursing Management*, 16(3), 246-256.
- Munz, D. C., Kohler, J. M., & Greenberg, C. I. (2001). Effectiveness of a comprehensive worksite stress management program: Combining organizational and individual interventions. *International Journal of Stress Management*, 8(1), 49-62.
- Murphy, F. C., Michael, A., Robbins, T. W., & Sahakian, B. J. (2003). Neuropsychological impairment in patients with major depressive disorder: The effects of feedback on task performance. *Psychological Medicine*, 33(3), 455-467.
- Murphy, G., Athanasou, J., & King, N. (2002). Job satisfaction and organizational citizenship behaviour: A study of Australian human-service professionals. *Journal of Managerial Psychology*, 17(4), 287-297.
- Murphy, K. R. (1989). Is the relationship between cognitive ability and job performance stable over time? *Human Performance*, 2(3), 183-200.
- Murphy, L. A. (2011). *A Macroergonomics approach examining the relationship between work-family conflict and employee safety*. Portland State University.
- Muse, L. A., Harris, S. G., & Feild, H. S. (2003). Has the inverted-U theory of stress and job performance had a fair test? *Human Performance*, 16(4), 349-364.
- Muse, L. A., & Stamper, C. L. (2007). Perceived organizational support: Evidence for a mediated association with work performance. *Journal of Managerial Issues*, 19(4), 517-535.

- Myers, R. H. (1990). *Classical and modern regression with applications* (2nd ed.). Boston: Duxbury Press.
- Nabe-Nielsen, K., Fallentin, N., Christensen, K. B., Jensen, J. N., & Diderichsen, F. (2008). Comparison of two self-reported measures of physical work demands in hospital personnel: A cross-sectional study. *BMC Musculoskeletal Disorders*, 9(1), 1-7.
- Nabirye, R. C., Brown, K. C., Pryor, E. R., & Maples, E. H. (2011). Occupational stress, job satisfaction and job performance among hospital nurses in Kampala, Uganda. *Journal of Nursing Management*, 19(6), 760-768.
- Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, 96(1), 71-94.
- Naswall, K., Sverke, M., & Hellgren, J. (2005). The moderating role of personality characteristics on the relationship between job insecurity and strain. *Work & Stress: An International of Work, Health & Organizations*, 19(1), 37-49.
- Neuman, W. L. (1997). *Social research methods*. London: Allyn & Bacon.
- Nielsen, M. B., Mearns, K., Matthiesen, S. B., & Eid, J. (2011). Using the job demands-resources model to investigate risk perception, safety climate and job satisfaction in safety critical organizations. *Scandinavian Journal of Psychology*, 52(5), 465-475.
- NIOSH. (2007). *Stress at work*. Retrieved 20 May, 2010, from <http://www.cdc.gov/niosh/docs/99-101/>
- Noble, C. H. (2008). The influence of job security on field sales manager satisfaction: Exploring frontline tensions. *Journal of Personal Selling and Sales Management*, 28(3), 247-262.



- Nonis, S. A., & Wright, D. (2003). Moderating effects of achievement striving and situational optimism on the relationship between ability and performance outcomes of college students. *Research in Higher Education, 44*(3), 327-346.
- Norman, G. R., Sloan, J. A., & Wyrwich, K. W. (2003). Interpretation of changes in health-related quality of life: The remarkable universality of half a standard deviation. *Medical Care, 41*(5), 582-592.
- Norusis, M. J. (1997). *SPSS 6.1 Guide to data analysis* (1 ed.). USA, NJ: Prentice Hall Press.
- Nunnally, J. C. (1978). *Psychometric theory*. NY: McGraw-Hill Inc.
- Ohayon, M. M., Lemoine, P., Arnaud-Briant, V., & Dreyfus, M. (2002). Prevalence and consequences of sleep disorders in a shift worker population. *Journal of Psychosomatic Research, 53*(1), 577-583.
- Olofsson, B., Bengtsson, C., & Brink, E. (2003). Absence of response: A study of nurses' experience of stress in the workplace. *Journal of Nursing Management, 11*(5), 351-358.
- Olson, K. J. (2011). *Development and initial validation of a measure designed to assess conflict associated with work, family, and school roles*. Doctoral thesis. Washington State University, Washington.
- O'Neill, O. A., Vandenberg, R. J., DeJoy, D. M., & Wilson, M. G. (2009). Exploring relationships among anger, perceived organizational support, and workplace outcomes. *Journal of Occupational Health Psychology, 14*(3), 318-333.
- Organ, D. W., & Konovsky, M. (1989). Cognitive versus affective determinants of organizational citizenship behavior. *Journal of Applied Psychology, 74*(1), 157-164.

- Organ, D. W., & Lingl, A. (1995). Personality, satisfaction, and organizational citizenship behavior. *The Journal of Social Psychology, 135*(3), 339-350.
- Orpen, C. (1985). The effects of need for achievement and need for independence on the relationship between perceived job attributes and managerial satisfaction and performance. *International Journal of Psychology, 20*(1), 207-219.
- Orpen, C., & Welch, M. (1989). Stress and work attitudes among Australian nurses: An empirical study. *Psychological Studies-University of Calicut, 34*, 214-214.
- Ostry, A. S., Yassi, A., Ratner, P. A., Park, I., Tate, R., & Kidd, C. (2003). Work organization and patient care staff injuries: The impact of different care models for "alternate level of care" patients. *American Journal of Industrial Medicine, 44*(4), 392-399.
- Ovretveit, J. (1998). *Evaluating health interventions: An introduction to evaluation of health treatments, services, policies, and organizational interventions*. PA: Open University Press.
- Pal, S., & Saksvik, P. O. (2008). Work-family conflict and psychosocial work environment stressors as predictors of job stress in a cross-cultural study. *International Journal of Stress Management, 15*(1), 22-42.
- Pallant, J. (2001). *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows (Version 10)*. England: Open University Press, McGraw-Hill Education.
- Pallant, J. (2007). *SPSS survival manual: A step by step guide to data analysis using SPSS for windows (version 15)* (3rd ed.). England: Open University Press, McGraw-Hill Education.

- Pallant, J. (2010). *SPSS survival manual: A step by step guide to data analysis using SPSS for windows (version 10 and 11)*. Philadelphia, PA, USA: Open University Press.
- Panatik, S. A., O'Driscoll, M. P., & Anderson, M. H. (2009). *Psychological strain as a mediator of the relationship between job design, employee work reactions and job performance*. Paper presented at the 8th industrial & organizational psychology conference, Australia, Sydney.
- Pang, S., Wong, T. K. S., Wang, C. S., Zhang, Z. J., Chan, H. Y. L., Lam, C. W. Y., et al. (2004). Towards a Chinese definition of nursing. *Journal of Advanced Nursing*, 46(6), 657-670.
- Parasuraman, S., Greenhaus, J. H., & Granrose, C. S. (1992). Role stressors, social support, and well-being among two-career couples. *Journal of Organizational Behavior*, 13(4), 339-356.
- Park, K. O., & Wilson, M. G. (2003). Psychosocial work environments and psychological strain among Korean factory workers. *Stress and Health*, 19(3), 173-179.
- Parkhouse, W., & Gall, B. (2004). Task frequency as a function of age for the powerline technician trade. *Ergonomics*, 47(6), 660-670.
- Parry-Jones, B., Grant, G., McGrath, M., Caldock, K., Ramcharan, P., & Robinson, C. A. (1998). Stress and job satisfaction among social workers, community nurses and community psychiatric nurses: Implications for the care management model. *Health & Social Care in the Community*, 6(4), 271-285.
- Payne, R. L., Jabri, M. M., & Pearson, A. W. (1988). On the importance of knowing the affective meaning of job demands. *Journal of Organizational Behavior*, 9(2), 149-158.

- Pearlin, L. I. (1993). *The social contexts of stress* (2nd ed.). New York: Free Press.
- Peeters, M. C. W., Montgomery, A. J., Bakker, A. B., & Schaufeli, W. B. (2005). Balancing work and home: How job and home demands are related to burnout. *International Journal of Stress Management*, *12*(1), 43-63.
- Peng, K. Z., Wong, C. S., & Che, H. S. (2010). The missing link between emotional demands and exhaustion. *Journal of Managerial Psychology*, *25*(7), 777-798.
- Penini, G., & Carmeli, A. (2010). Auditing in organizations: A theoretical concept and empirical evidence. *Systems Research and Behavioral Science*, *27*(1), 37-59.
- Perrewe, P. L., & Ganster, D. C. (1989). The impact of job demands and behavioral control on experienced job stress. *Journal of Organizational Behavior*, *10*(3), 213-229.
- Perry, C. M., Sheik-Nainar, M. A., Segall, N., Ma, R., & Kaber, D. B. (2008). Effects of physical workload on cognitive task performance and situation awareness. *Theoretical Issues in Ergonomics Science*, *9*(2), 95-113.
- Peters, V. P. J. M., De Rijk, A. E., & Boumans, N. P. G. (2009). Nurses' satisfaction with shiftwork and associations with work, home and health characteristics: A survey in the Netherlands. *Journal of Advanced Nursing*, *65*(12), 2689-2700.
- Peterson, U., Demerouti, E., Bergstrom, G., Samuelsson, M., Asberg, M., & Nygren, A. (2008). Burnout and physical and mental health among Swedish healthcare workers. *Journal of Advanced Nursing*, *62*(1), 84-95.
- Pierce, J. L., Jussila, I., & Cummings, A. (2009). Psychological ownership within the job design context: Revision of the job characteristics model. *Journal of Organizational Behavior*, *30*(4), 477-496.

- Pinikahana, J., & Happell, B. (2004). Stress, burnout and job satisfaction in rural psychiatric nurses: A Victorian study. *Australian Journal of Rural Health, 12*(3), 120-125.
- Pizam, A., & Neumann, Y. (1988). The effect of task characteristics on hospitality employees' job satisfaction and burnout. *Journal of Hospitality & Tourism Research, 12*(2), 99-105.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879-903.
- Poggenpoel, M., Myburgh, C. P. H., & Morare, M. N. (2011). Registered nurses' experiences of interaction with patients with mental health challenges in medical wards in Johannesburg. *Journal of Nursing Management, 19*(7), 950-958.
- Polly, L. M. (2002). *Social exchange and customer service: The relationship between perceived organizational support, leader-member exchange, and customer service behavior*. Doctoral thesis. Louisiana State University.
- Pongruengphant, R., & Tyson, P. D. (1997). *Coping strategies, stress, and job satisfaction in Thailand's hospital nurses*. Thailand: Siam Design & Management.
- Pope, D. P., Silman, A. J., Cherry, N. M., Pritchard, C., & Macfarlane, G. J. (1998). Validity of a self-completed questionnaire measuring the physical demands of work. *Scandinavian Journal of Work, Environment & Health, 24*(5), 376-385.
- Pope, D. P., Silman, A. J., Cherry, N. M., Pritchard, C., & Macfarlane, G. J. (2001). Association of occupational physical demands and psychosocial working environment with disabling shoulder pain. *Annals of the Rheumatic Diseases, 60*(9), 852-858.

- Posdakoff, P. M., & MacKenzie, S. B. (1994). Organizational citizenship behaviors and sales unit effectiveness. *Journal of Marketing Research*, 31(3), 351-363.
- Poulton, E. C. (1978). Blue collar stressors. In C. L. Cooper, & R. Payne, (Eds.), *Stress at work* (pp. 51-79). New York: Wiley.
- Pousette, A., & Jacobsson, C. (1999). Consequences of feedback environment in human service organizations. *Goteborg Psychological Reports*, 29, 1-21.
- Probst, T. M. (2002). Layoffs and tradeoffs: Production, quality, and safety demands under the threat of job loss. *Journal of Occupational Health Psychology*, 7(3), 211-220.
- Punnett, L., & Wegman, D. H. (2004). Work-related musculoskeletal disorders: The epidemiologic evidence and the debate. *Journal of Electromyography and Kinesiology*, 14(1), 13-23.
- Rodel, A., Siegrist, J., Hessel, A., & Brahler, E. (2004). Questionnaire measuring effort-reward imbalance. *Journal of Personality and Social Psychology*, 25(4), 227-238.
- Rabinowitz, S., & Stumpf, S. A. (1987). Facets of role conflict, role-specific performance, and organizational level within the academic career. *Journal of Vocational Behavior*, 30(1), 72-83.
- Rafferty, Y., Friend, R., & Landsbergis, P. A. (2001). The association between job skill discretion, decision authority and burnout. *Work & Stress*, 15(1), 73-85.
- Rauhala, A., Kivimaki, M., Fagerstrom, L., Elovainio, M., Virtanen, M., Vahtera, J., et al. (2007). What degree of work overload is likely to cause increased sickness absenteeism among nurses? Evidence from the RAFAELA patient classification system. *Journal of Advanced Nursing*, 57(3), 286-295.

- Redfern, S. J., & Norman, I. J. (1990). Measuring the quality of nursing care: A consideration of different approaches. *Journal of Advanced Nursing, 15*(11), 1260-1271.
- Redman, B. K., & Fry, S. T. (2000). Nurses' ethical conflicts: What is really known about them? *Nursing Ethics, 7*(4), 360-366.
- Rehman, M. S. (2011). Human resource practices and job performance in Pakistan, analysis of a hypothesized model. *Information Management and Business Review, 3*(2), 78-90.
- Reisel, W. D., Chia, S. L., & Maloles Iii, C. M. (2005). Job insecurity spillover to key account management: Negative effects on performance, effectiveness, adaptiveness, and esprit de corps. *Journal of Business and Psychology, 19*(4), 483-503.
- Rentsch, J. R., & Steel, R. P. (1998). Testing the durability of job characteristics as predictors of absenteeism over a six-year period. *Personnel Psychology, 51*(1), 165-190.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology, 87*(4), 698-714.
- Rice, G. (2004). Doing business in Saudi Arabia. *Thunderbird International Business Review, 46*(1), 59-84.
- Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *The Academy of Management Journal (AMJ), 53*(3), 617-635.
- Richardson, K. M., & Rothstein, H. R. (2008). Effects of occupational stress management intervention programs: A meta-analysis. *Journal of Occupational Health Psychology, 13*(1), 69-93.

- Rijk, A. E., Blanc, P. M. L., Schaufeli, W. B., & Jonge, J. (1998). Active coping and need for control as moderators of the job demand-control model: Effects on burnout. *Journal of Occupational and Organizational Psychology*, *71*(1), 1-18.
- Robert, G., & Hockey, J. (1997). Compensatory control in the regulation of human performance under stress and high workload: A cognitive-energetical framework. *Biological Psychology*, *45*(1), 73-93.
- Robinson, P. K. (1986). Age, health and job performance. In J. E. Birren, P. K. Robinson & J. Livingston (Eds.), *Age, Health and Employment*. Englewood Cliffs, N.J.: Prentice-Hall.
- Rocha, C. M., & Chelladurai, P. (2011). Relationship between organizational support and performance of college coaches: A mediational model. *European Sport Management Quarterly*, *11*(3), 301-319.
- Rodriguez-Calcagno, M., & Brewer, E. W. (2005). Job stress among Hispanic professionals. *Hispanic Journal of Behavioral Sciences*, *27*(4), 504-516.
- Rodriguez-Munoz, A., Sanz-Vergel, A. I., Demerouti, E., & Bakker, A. B. (2012). Reciprocal relationships between job demands, job resources, and recovery opportunities. *Journal of Personnel Psychology*, *11*(2), 86-94.
- Rosa, R. R., & Colligan, M. J. (1997). *Plain language about shift work*: CSA Illumina.
- Roscoe, J. T. (1975). *Fundamental research statistics for the behavioral sciences* (2nd ed.). New York: Holt, Rinehart and Winston.
- Rose, M. (1984). Shift work how does it affect you? *The American Journal of Nursing*, *84*(4), 442-447.



- Rosenblatt, Z., & Ruvio, A. (1996). A test of a multidimensional model of job insecurity: The case of Israeli teachers. *Journal of Organizational Behavior*, 17(1), 587-605.
- Roskies, E., & Louis-Guerin, C. (1990). Job insecurity in managers: Antecedents and consequences. *Journal of Organizational Behavior*, 11(5), 345-359.
- Roskies, E., Louis-Guerin, C., & Fournier, C. (1993). Coping with job insecurity: How does personality make a difference? *Journal of Organizational Behavior*, 14(7), 617-630.
- Rothmann, S., & Joubert, J. H. M. (2007). Job demands, job resources, burnout and work engagement of managers at a platinum mine in the North West Province. *South African Journal of Business Management*, 38(3), 49-61.
- Rotundo, M., & Sackett, P. R. (2002). The relative importance of task, citizenship, and counterproductive performance to global ratings of job performance: A policy-capturing approach. *Journal of Applied Psychology*, 87(1), 66-80.
- Rousseau, D. M. (1977). Technological differences in job characteristics, employee satisfaction, and motivation: A synthesis of job design research and sociotechnical systems theory. *Organizational Behavior and Human Performance*, 19(1), 18-42.
- Ruggiero, J. S., & Pezzino, J. M. (2006). Nurses' perceptions of the advantages and disadvantages of their shift and work schedules. *Journal of Nursing Administration*, 36(10), 450-453.
- Rugulies, R., Aust, B., & Pejtersen, J. H. (2010). Do psychosocial work environment factors measured with scales from the Copenhagen psychosocial questionnaire predict register-based sickness absence of 3 weeks or more in Denmark? *Scandinavian Journal of Public Health*, 38(3 suppl), 42-50.

- Russell, C. J., Settoon, R. P., McGrath, R. N., Blanton, A. E., Kidwell, R. E., Lohrke, F. T., et al. (1994). Investigator characteristics as moderators of personnel selection research: A meta-analysis. *Journal of Applied Psychology*, 79(2), 163-170.
- Russell, D. W., Altmaier, E., & Van Velzen, D. (1987). Job-related stress, social support, and burnout among classroom teachers. *Journal of Applied Psychology*, 72(2), 269-274.
- Sackett, P. R., Zedeck, S., & Fogli, L. (1988). Relations between measures of typical and maximum job performance. *Journal of Applied Psychology*, 73(3), 482-486.
- Sadi, M. A., & Al-Buraey, M. A. (2009). A framework of the implementation process: The case of Saudization. *International Management Review*, 5(1), 70-84.
- Sagie, A., & Krausz, M. (2003). What aspects of the job have most effect on nurses? *Human Resource Management Journal*, 13(1), 46-62.
- Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600-619.
- Salami, A., Ojokuku, R., & Ilesanmi, O. (2010). Impact of job stress on managers' performance. *European Journal of Scientific Research*, 45(2), 249-260.
- Salleh, A. L., Abu Bakar, A., & Keong, W. K. (2008). How detrimental is job stress?: A case study of executives in the Malaysian furniture industry. *International Review of Business Research Papers*, 4(5), 64-73.
- Saudi Human Rights Commission. (2008). *Human rights - fact and practice* (No. 30). Riyadh.
- SCFHS. (2009). *Professional classification manual for health practitioners* (5th ed.). Riyadh, Saudi Arabia: Saudi Commission for Health Specialties.
- SCFHS. (2010). *About us*. Retrieved 14 January, 2010, from <http://scfhs.org.sa/>

- Schaefer, J. A., & Moos, R. H. (1993). Work stressors in health care: Context and outcomes. *Journal of Community & Applied Social Psychology, 3*(4), 235-242.
- Schaubroeck, J., Ganster, D. C., & Kemmerer, B. E. (1994). Job complexity, "type A" behavior, and cardiovascular disorder: A prospective study. *Academy of Management Journal, 37*(2), 426-439.
- Schaufeli, W., & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis*. London: Taylor & Francis.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*(3), 293-315.
- Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior, 30*(7), 893-917.
- Schaufeli, W. B., Keijsers, G. J., & Reis Miranda, D. R. (1995). Burnout, technology use, and ICU-performance. In S. L. Sauter, & L. R. Murphy, (Eds.), *Organizational risk factors for job stress* (pp. 259-271). US, Washington, DC: American Psychological Association.
- Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career Development International, 14*(3), 204-220.
- Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin, 124*(2), 262-274.
- Schonberger, R. J. (1982). *Japanese manufacturing techniques: Nine hidden lessons in simplicity*. New York: Collier Macmillan.

- Schuler, R. S. (1975). Sex, organizational level, and outcome importance: Where the differences are. *Personnel Psychology*, 28(3), 365-375.
- Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. *Applied Psychology*, 57(1), 152-171.
- Schwerha, D. J., & McMullin, D. L. (2002). Prioritizing ergonomic research in aging for the 21st century American workforce. *Experimental Aging Research*, 28(1), 99-110.
- Schwirian, P. M. (1978). Evaluating the performance of nurses: A multidimensional approach. *Nursing Research*, 27(6), 347-351.
- Scott, W. E. (1966). Activation theory and task design. *Organizational Behavior and Human Performance*, 1(1), 3-30.
- Searle, B. J., Bright, J. E. H., & Bochner, S. (1999). Testing the 3-factor model of occupational stress: The impact of demands, control and social support on a mail sorting task. *Work & Stress*, 13(3), 268-279.
- Sekaran, U. (2003). *Research methods for business: A skill building approach* (4th ed.). New York: John Wiley & Sons.
- Selye, H. (1976). *The stress of life*. New York, NY, US: McGraw-Hill.
- Selye, H. (1977). Stress without distress. *School Guidance Worker*, 32(5), 5-13.
- Sethi, V., King, R. C., & Quick, J. C. (2004). What causes stress in information system professionals? *Communications of the ACM*, 47(3), 99-102.
- Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived organizational support, leader-member exchange, and employee reciprocity. *Journal of Applied Psychology*, 81(3), 219-227.
- Selye, H. (1975). *Stress without distress*. New York: McGraw-Hill.

- Shaffer, M. A., Harrison, D. A., & Gilley, K. M. (1999). Dimensions, determinants, and differences in the expatriate adjustment process. *Journal of International Business Studies*, 30(3), 557-581.
- Shamian, J., O'Brien-Pallas, L., Thomson, D., Alksnis, C., & Kerr, M. S. (2003). Nurse absenteeism, stress and workplace injury: What are the contributing factors and what can/should be done about it? *International Journal of Sociology and Social Policy*, 23(8/9), 81-103.
- Sharkey, K. M., Fogg, L. F., & Eastman, C. I. (2001). Effects of melatonin administration on daytime sleep after simulated night shift work. *Journal of Sleep Research*, 10(3), 181-192.
- Sharma, D., Gassenheimer, J. B., & Alford, B. L. (2010). Internet channel and cannibalization: An empirical assessment of sales agents' perspective. *Journal of Personal Selling and Sales Management*, 30(3), 209-222.
- Shen, H. C., Cheng, Y., Tsai, P. J., Lee, S. S., & Guo, Y. L. (2005). Occupational stress in nurses in psychiatric institutions in Taiwan. *Journal of Occupational Health*, 47(3), 218-225.
- Shen, J., Botly, L. C. P., Chung, S. A., Gibbs, A. L., Sabanadzovic, S., & Shapiro, C. M. (2006). Fatigue and shift work. *Journal of Sleep Research*, 15(1), 1-5.
- Shephard, R. J. (1969). The working capacity of the older employee. *Archives of Environmental Health*, 18(6), 982.
- Sherehiy, B., Karwowski, W., & Marek, T. (2004). Relationship between risk factors and musculoskeletal disorders in the nursing profession: A systematic review. *Occupational Ergonomics*, 4(4), 241-279.

- Shore, L. M., & Wayne, S. J. (1993). Commitment and employee behavior: Comparison of affective commitment and continuance commitment with perceived organizational support. *Journal of Applied Psychology, 78*(5), 774-780.
- Shostak, A. B. (1980). *Blue-collar stress*. Reading Mass: Addison-Wesley Pub. Co.
- Shuriquie, M., While, A., & Fitzpatrick, J. (2008). Nursing work in Jordan: An example of nursing work in the Middle East. *Journal of Clinical Nursing, 17*(8), 999-1010.
- Siegrist, J., Wege, N., Puhlhofer, F., & Wahrendorf, M. (2009). A short generic measure of work stress in the era of globalization: effort-reward imbalance. *International Archives of Occupational and Environmental Health, 82*(8), 1005-1013.
- Simpson, E., Butler, M., Al-Somali, S., & Courtney, M. (2006). Guiding the transition of nursing practise from an inpatient to a community-care setting: A Saudi Arabian experience. *Nursing & Health Sciences, 8*(2), 120-124.
- Sims Jr, H. P., Szilagy, A. D., & Keller, R. T. (1976). The measurement of job characteristics. *Academy of Management Journal, 19*(2), 195-212.
- Sims, R. L., & Keon, T. L. (1997). Ethical work climate as a factor in the development of person-organization fit. *Journal of Business Ethics, 16*(11), 1095-1105.
- Singh, A. K., & Singh, A. P. (2010). Role of stress and organizational support in predicting organizational citizenship behavior. *The IUP Journal of Organizational Behavior, IX*(4), 7-25.
- Siu, O. (2003). Job stress and job performance among employees in Hong Kong: The role of Chinese work values and organizational commitment. *International Journal of Psychology, 38*(6), 337-347.

- Skipper Jr, J. K., Jung, F. D., & Coffey, L. C. (1990). Nurses and shift work: Effects on physical health and mental depression. *Journal of Advanced Nursing*, *15*(7), 835-842.
- Smith, L., Folkard, S., Tucker, P., & Macdonald, I. (1998). Work shift duration: A review comparing eight hour and 12 hour shift systems. *Occupational and Environmental Medicine*, *55*(4), 217-229.
- Smith, P. M., & Mustard, C. A. (2004). Examining the associations between physical work demands and work injury rates between men and women in Ontario, 1990-2000. *Occupational and Environmental Medicine*, *61*(9), 750-756.
- Smith, S. S., Kilby, S., Jorgensen, G., & Douglas, J. A. (2007). Napping and nightshift work: Effects of a short nap on psychomotor vigilance and subjective sleepiness in health workers. *Sleep and Biological Rhythms*, *5*(2), 117-125.
- Snelgrove, S. R. (1998). Occupational stress and job satisfaction: A comparative study of health visitors, district nurses and community psychiatric nurses. *Journal of Nursing Management*, *6*(2), 97-104.
- Sonnentag, S., & Frese, M. (2002). Performance concepts and performance theory. In S. Sonnentag (Ed.), *Psychological management of individual performance* (pp. 3-25). New York, USA: John Wiley & Sons, Inc.
- Sonnentag, S., & Niessen, C. (2008). Staying vigorous until work is over: The role of trait vigour, day-specific work experiences and recovery. *Journal of Occupational and Organizational Psychology*, *81*(3), 435-458.
- Spector, P. E. (2006). Method variance in organizational research. *Organizational Research Methods*, *9*(2), 221-232.

- Spector, P. E., & Jex, S. M. (1991). Relations of job characteristics from multiple data sources with employee affect, absence, turnover intentions, and health. *Journal of Applied Psychology, 76*(1), 46-53.
- Sperlich, S., Arnhold-Kerri, S., Engelke, S., Noeres, D., Collatz, J., & Geyer, S. (2009). Development of a questionnaire for measuring effort-reward imbalance in household and family work. *Psychother Psychosom Med Psychol, 59*(5), 177-185.
- Stamper, C. L., & Johlke, M. C. (2003). The impact of perceived organizational support on the relationship between boundary spanner role stress and work outcomes. *Journal of Management, 29*(4), 569-588.
- Staufenbiel, T., & Konig, C. J. (2010). A model for the effects of job insecurity on performance, turnover intention, and absenteeism. *Journal of Occupational and Organizational Psychology, 83*(1), 101-117.
- Stewart, W., & Barling, J. (1996). Fathers' work experiences effect children's behaviors via job-related affect and parenting behaviors. *Journal of Organizational Behavior, 17*(3), 221-232.
- Sudman, S., & Bradburn, N. M. (1982). *Asking questions: A practical guide to questionnaire design* (1 ed.). San Francisco: Jossey-Bass Publishers.
- Suleiman, W. (2002, May). Local market need of nurses over 90 000 nurses. *Health Forum, 31*, 36-37.
- Sun, L. Y., & Pan, W. (2008). HR practices perceptions, emotional exhaustion, and work outcomes: A conservation-of-resources theory in the Chinese context. *Human Resource Development Quarterly, 19*(1), 55-74.
- Sveinsdottir, H., Biering, P., & Ramel, A. (2006). Occupational stress, job satisfaction, and working environment among Icelandic nurses: A cross-sectional questionnaire survey. *International Journal of Nursing Studies, 43*(7), 875-889.



- Sverke, M., & Hellgren, J. (2002). The nature of job insecurity: Understanding employment uncertainty on the brink of a new millennium. *Applied Psychology*, 51(1), 23-42.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston: Pearson Education.
- Taber, T. D., & Taylor, E. (1990). A review and evaluation of the psychometric properties of the job diagnostic survey. *Personnel Psychology*, 43(3), 467-500.
- Takeuchi, R., Wang, M., Marinova, S. V., & Yao, X. (2009). Role of domain-specific facets of perceived organizational support during expatriation and implications for performance. *Organization Science*, 20(3), 621-634.
- Tan, C. C. (1991). Occupational health problems among nurses. *Scandinavian journal of work, environment & health*, 17(4), 221-230.
- Taris, T. W., & Schreurs, P. J. G. (2009). Explaining worker strain and learning: How important are emotional job demands? *Anxiety, Stress & Coping*, 22(3), 245-262.
- Taris, T. W., Schreurs, P. J. G., Eikmans, K. J. L., & Van Riet, P. (2008). Work Characteristics, well-being and organizational performance: A test of the happy-productive worker hypothesis at the organizational level. *Behavior and Organization*, 21(1), 3-18.
- Taris, T. W., Schreurs, P. J. G., & Schaufeli, W. B. (1999). Construct validity of the Maslach burnout inventory-general survey: A two-sample examination of its factor structure and correlates. *Work & Stress*, 13(3), 223-237.
- Teas, R. K. (1983). Supervisory behavior, role stress, and the job satisfaction of industrial salespeople. *Journal of Marketing Research*, 20(1), 84-91.

- Terborg, J. R. (1977). Validation and extension of an individual differences model of work performance. *Organizational Behavior and Human Performance*, 18(1), 188-216.
- Tholdy Doncevic, S., Romelsjo, A., & Theorell, T. (1998). Comparison of stress, job satisfaction, perception of control, and health among district nurses in Stockholm and Prewar Zagreb. *Scandinavian Journal of Public Health*, 26(2), 106-114.
- Tilley, A. J., Wilkinson, R. T., Warren, P. S. G., Watson, B., & Drud, M. (1982). The sleep and performance of shift workers. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 24(6), 629-641.
- Tooren, M., & Jonge, J. (2010). The role of matching job resources in different demanding situations at work: A vignette study. *Journal of Occupational and Organizational Psychology*, 83(1), 39-54.
- Tourangeau, A., Cranley, L., Laschinger, H. K. S., & Pachis, J. (2010). Relationships among leadership practices, work environments, staff communication and outcomes in long-term care. *Journal of Nursing Management*, 18(8), 1060-1072.
- Tourigny, L., Baba, V. V., & Wang, X. (2010). Stress episode in aviation: The case of China. *Cross Cultural Management: An International Journal*, 17(1), 62-78.
- Treadway, D. C., Ferris, G. R., Hochwarter, W., Perrewe, P., Witt, L. A., & Goodman, J. M. (2005). The role of age in the perceptions of politics-job performance relationship: A three-study constructive replication. *Journal of Applied Psychology*, 90(5), 872-881.
- Trinkoff, A. M., Johantgen, M., Storr, C. L., Han, K., Liang, Y., Gurses, A. P., et al. (2010). A comparison of working conditions among nurses in magnet and non-magnet hospitals. *Journal of Nursing Administration*, 40(7/8), 309-315.

- Trinkoff, A. M., Lipscomb, J. A., Geiger-Brown, J., Storr, C. L., & Brady, B. A. (2003). Perceived physical demands and reported musculoskeletal problems in registered nurses. *American Journal of Preventive Medicine, 24*(3), 270-275.
- Trinkoff, A. M., Storr, C. L., & Lipscomb, J. A. (2001). Physically demanding work and inadequate sleep, pain medication use, and absenteeism in registered nurses. *Journal of Occupational and Environmental Medicine, 43*(4), 355-363.
- Trochim, W. M. K. (2006). Research methods knowledge base. Retrieved 20 July, 2010, from <http://www.socialresearchmethods.net/kb/statdesc.php>
- Tse, J. L. M., Flin, R., & Mearns, K. (2007). Facets of job effort in bus driver health: Deconstructing "effort" in the effort-reward imbalance model. *Journal of Occupational Health Psychology, 12*(1), 48-62.
- Tsui, A. S., Ashford, S. J., St. Clair, L., & Xin, K. R. (1995). Dealing with discrepant expectations: Response strategies and managerial effectiveness. *Academy of Management Journal, 38*(6), 1515-1543.
- Tsui, A. S., & Farh, J. L. L. (1997). Where guanxi matters: Relational demography and guanxi in the Chinese context. *Work and Occupations, 24*(1), 56-79.
- Tsutsumi, A., Iwata, N., Wakita, T., Kumagai, R., Noguchi, H., & Kawakami, N. (2008). Improving the measurement accuracy of the effort-reward imbalance scales. *International Journal of Behavioral Medicine, 15*(2), 109-119.
- Tsutsumi, A., Umehara, K., Ono, H., & Kawakami, N. (2007). Types of psychosocial job demands and adverse events due to dental mismanagement: A cross sectional study. *BMC Oral Health, 7*(1), 1-6.
- Tucker, P., Smith, L., Macdonald, I., & Folkard, S. (1999). Distribution of rest days in 12 hour shift systems: Impacts on health, wellbeing, and on shift alertness. *Occupational and Environmental Medicine, 56*(3), 206-214.

- Tumulty, G. (2001). Professional development of nursing in Saudi Arabia. *Journal of Nursing Scholarship*, 33(3), 285-290.
- Tuomi, K., Vanhala, S., Nykyri, E., & Janhonen, M. (2004). Organizational practices, work demands and the well-being of employees: A follow-up study in the metal industry and retail trade. *Occupational Medicine*, 54(2), 115-121.
- Tustin, N. (2010). The cost of shift work on employee health and performance: Can organizations afford to ignore the consequences? *India Review*, 9(4), 425-449.
- Tuten, T. L., & Neidermeyer, P. E. (2004). Performance, satisfaction and turnover in call centers: The effects of stress and optimism. *Journal of Business Research*, 57(1), 26-34.
- Tyler, P., & Cushway, D. (1992). Stress, coping and mental well-being in hospital nurses. *Stress Medicine*, 8(2), 91-98.
- Tyler, P., & Cushway, D. (1995). Stress in nurses: The effects of coping and social support. *Stress Medicine*, 11(1), 243-251.
- Tyson, P. D., & Pongruengphant, R. (2004). Five-year follow-up study of stress among nurses in public and private hospitals in Thailand. *International Journal of Nursing Studies*, 41(3), 247-254.
- Tzeng, H. M. (2004). Nurses' self-assessment of their nursing competencies, job demands and job performance in the Taiwan hospital system. *International Journal of Nursing Studies*, 41(5), 487-496.
- Umstot, D. D. (1988). *Understanding organizational behavior* (2nd ed.). St. Paul: West Publishing Company.
- Vagg, P. R., & Spielberger, C. D. (1998). Occupational stress: Measuring job pressure and organizational support in the workplace. *Journal of Occupational Health Psychology*, 3(4), 294-305.

- Van den berg, P. T., & Feij, J. A. (2003). Complex relationships among personality traits, job characteristics, and work behaviors. *International Journal of Selection and Assessment*, 11(4), 326-339.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, 22(3), 277-294.
- Van Den Tooren, M., & De Jonge, J. (2008). Managing job stress in nursing: What kind of resources do we need? *Journal of Advanced Nursing*, 63(1), 75-84.
- van der Heijden, B. I. J. M., Demerouti, E., Bakker, A. B., & Hasselhorn, H. (2008). Work-home interference among nurses: Reciprocal relationships with job demands and health. *Journal of Advanced Nursing*, 62(5), 572-584.
- Van Dyne, L., Jehn, K. A., & Cummings, A. (2002). Differential effects of strain on two forms of work performance: Individual employee sales and creativity. *Journal of Organizational Behavior*, 23(1), 57-74.
- van Emmerik, I. J. H., Bakker, A. B., & Euwema, M. C. (2009). Explaining employees' evaluations of organizational change with the job-demands resources model. *Career Development International*, 14(6), 594-613.
- van Emmerik, I. J. H., & Peeters, M. C. W. (2009). Crossover specificity of team-level work-family conflict to individual-level work-family conflict. *Journal of Managerial Psychology*, 24(3), 254-268.
- van Hooff, M. L. M., Geurts, S. A. E., Kompier, M. A. J., & Taris, T. W. (2007). Workdays, in-between workdays and the weekend: A diary study on effort and recovery. *International Archives of Occupational and Environmental Health*, 80(7), 599-613.

- Van Yperen, N. W., & Hagedoorn, M. (2003). Do high job demands increase intrinsic motivation or fatigue or both? The role of job control and job social support. *The Academy of Management Journal*, 46(3), 339-348.
- Vanroelen, C., Louckx, F., Moors, G., & Levecque, K. (2010). The clustering of health-related occupational stressors among contemporary wage-earners. *European Journal of Work and Organizational Psychology*, 19(6), 654-674.
- Vassar, L. (2011). *An analysis of educator resiliency within a rural public secondary setting*. Doctoral thesis. Trevecca Nazarene University.
- Vegchel, N., Jonge, J., Soderfeldt, M., Dormann, C., & Schaufeli, W. (2004). Quantitative versus emotional demands among Swedish human service employees: Moderating effects of job control and social support. *International Journal of Stress Management*, 11(1), 21-40.
- Vieira, E. R. (2007). Why do nurses have a high incidence of low back disorders, and what can be done to reduce their risk? *Bariatric Nursing and Surgical Patient Care*, 2(2), 141-148.
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, 54(2), 314-334.
- Voydanoff, P. (2004). Implications of work and community demands and resources for work-to-family conflict and facilitation. *Journal of Occupational Health Psychology*, 9(4), 275-285.
- Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.
- Walker, J. (1985). Social problems of shiftwork. In S. Folkard & T. H. Monk (Eds.), *Hours of work. Temporal factors in work-scheduling* (pp. 211-225). Chichester: John Wiley & Sons.

- Wall, T. D., Michie, J., Patterson, M., Wood, S. J., Sheehan, M., Clegg, C. W., et al. (2004). On the validity of subjective measures of company performance. *Personnel Psychology, 57*(1), 95-118.
- Wandelt, M. A., & Phaneuf, M. C. (1972). Three instruments for measuring the quality of nursing care. *Hospital Topics, 50*(8), 20-29.
- Wang, K., & Shu, Q. (2008). *The moderating impact of perceived organizational support on the relationship between technostress and role stress*. Paper presented at the Database and expert systems application, 2008. DEXA '08. 19th international workshop.
- Wang, M. L. (2009). Does organizational support promote citizenship in service settings? The moderating role of service climate. *The Journal of Social Psychology, 149*(6), 648-676.
- Warr, P. (1994). Age and job performance. In J. Snel & R. Cremer (Eds.), *Work and aging: A European Perspective* (pp. 309-322). London: Taylor and Francis.
- Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin, 96*(3), 465-490.
- Way, M., & MacNeil, M. (2006). Organizational characteristics and their effect on health. *Nursing Economic, 24*(2), 67-76.
- Wayne, S. J., Shore, L. M., Bommer, W. H., & Tetrick, L. E. (2002). The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange. *Journal of Applied Psychology, 87*(3), 590-598.
- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *The Academy of Management Journal, 40*(1), 82-111.

- Webster, J. R., & Adams, G. A. (2010). Organizational support and contract fulfillment as moderators of the relationship between preferred work status and performance. *Journal of Business and Psychology, 25*(1), 131-138.
- Weinberg, A., & Creed, F. (2000). Stress and psychiatric disorder in healthcare professionals and hospital staff. *The Lancet, 355*(9203), 533-537.
- Welker-Hood, K. (2006). Does workplace stress lead to accident or error?: Many nurses feel the pressure. *AJN The American Journal of Nursing, 106*(9), 104-105.
- Wennerberg, R. W. (2011). *A systemic perspective of stress in emergency medical personnel, emergency medical technicians and firefighters*. Doctoral thesis. Pepperdine University.
- Westman, M., & Eden, D. (1991). Implicit stress theory: The spurious effects of stress on performance ratings. *Journal of Social Behavior & Personality, 6*(7), 127-140.
- Westman, M., & Eden, D. (1996). The inverted-U relationship between stress and performance: A field study. *Work & Stress, 10*(2), 165-173.
- Wheeler, H., & Riding, R. (1994). Occupational stress in general nurses and midwives. *British Journal of Nursing (Mark Allen Publishing), 3*(10), 527-534.
- WHO. (2006). *The world health report 2006: Working together for health*. Geneva: World Health Organization.
- Wiley, C. (1997). What motivates employees according to over 40 years of motivation surveys. *International Journal of Manpower, 18*(3), 263-280.
- Wilk, S. L., & Moynihan, L. M. (2005). Display rule" regulators": The relationship between supervisors and worker emotional exhaustion. *Journal of Applied Psychology, 90*(5), 917-927.



- Wilkes, L., Beale, B., Hall, E., Rees, E., Watts, B., & Denne, C. (1998). Community nurses' descriptions of stress when caring in the home. *International Journal of Palliative Nursing, 4*, 14-20.
- Wilkins, K., & Beaudet, M. P. (1998). Work stress and health. *Health Reports, 10*(3), 47-62.
- Williams, B. (2010). *Stimulate employee job performance with motivational feedback*. Retrieved 10 May, 2010, from [https://www.hrtools.com/insights/bev\\_williams/stimulate\\_employee\\_job\\_performance\\_with\\_motivational\\_feedback.aspx](https://www.hrtools.com/insights/bev_williams/stimulate_employee_job_performance_with_motivational_feedback.aspx)
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management, 17*(3), 601-617.
- Williams, S., Dale, J., Glucksman, E., & Wellesley, A. (1997). Senior house officers' work related stressors, psychological distress, and confidence in performing clinical tasks in accident and emergency: A questionnaire study. *British Medical Journal, 314*, 713-718.
- Williams, S., Michie, S., & Pattani, S. (1998). *Improving the health of the NHS workforce: Report of the partnership on the health of the NHS workforce*. London: Nuffield Trust.
- Witt, L. A., & Carlson, D. S. (2006). The work-family interface and job performance: Moderating effects of conscientiousness and perceived organizational support. *Journal of Occupational Health Psychology, 11*(4), 343-357.
- Witt, L. A., Kacmar, K. M., Carlson, D. S., & Zivnuska, S. (2002). Interactive effects of personality and organizational politics on contextual performance. *Journal of Organizational Behavior, 23*(8), 911-926.

- Witt, L. A., & Spitzmuller, C. (2007). Person-situation predictors of maximum and typical performance. *Human Performance, 20*(3), 305-315.
- Wolfe, F., & Hawley, D. J. (1998). The long term outcomes of rheumatoid arthritis: Work disability: a prospective 18 year study of 823 patients. *The Journal of Rheumatology, 25*(11), 2108- 2117.
- Wong, Y. T., Ngo, H. Y., & Wong, C. S. (2002). Affective organizational commitment of workers in Chinese joint ventures. *Journal of Managerial Psychology, 17*(7), 580-598.
- Woods, R. C. (1993). Managing to meet employee expectations: Quality improvement tools narrow the gap between employee expectation and company resources. *Human Resource Planning, 16*(4), 13-29.
- Wright Jr, K. P., Hull, J. T., & Czeisler, C. A. (2002). Relationship between alertness, performance, and body temperature in humans. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology, 283*(6), 1370-1377.
- Wright, T. A., & Hobfoll, S. E. (2004). Commitment, psychological well-being and job performance: An examination of conservation of resources (COR) theory and job burnout. *Journal of Business and Management, 9*(4), 389-406.
- Wu, H., Chi, T. S., Chen, L., Wang, L., & Jin, Y. P. (2010). Occupational stress among hospital nurses: Cross-sectional survey. *Journal of Advanced Nursing, 66*(3), 627-634.
- Wu, S., Zhu, W., Wang, Z., Wang, M., & Lan, Y. (2007). Relationship between burnout and occupational stress among nurses in China. *Journal of Advanced Nursing, 59*(3), 233-239.

- Wu, Y. C. (2011). Job stress and job performance among employees in the Taiwanese finance sector: The role of emotional intelligence. *Social Behavior and Personality: An International Journal*, 39(1), 21-31.
- Xanthopoulou, D., Baker, A. B., Heuven, E., Demerouti, E., & Schaufeli, W. B. (2008). Working in the sky: A diary study on work engagement among flight attendants. *Journal of Occupational Health Psychology*, 13(4), 345-356.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14(2), 121-141.
- Xie, J. L. (1996). Karasek's model in the People's Republic of China: Effects of job demands, control, and individual differences. *Academy of Management Journal*, 39(6), 1594-1618.
- Xie, J. L., & Johns, G. (1995). Job scope and stress: Can job scope be too high? *Academy of Management Journal*, 38(5), 1288-1309.
- Xu, Y., Bach, E., & Orhede, E. (1997). Work environment and low back pain: The influence of occupational activities. *Occupational and Environmental Medicine*, 54(10), 741-745.
- Yahaya, N., Yahaya, A., Tamyas, F. F., Ismail, J., & Jaalam, S. (2010). The effect of various modes of occupational stress, job satisfaction, intention to leave and absenteeism companies commission of Malaysia. *Australian Journal of Basic and Applied Sciences*, 4(7), 1676-1684.
- Yassi, A., Cooper, J., & Tate, R. (2000). Early intervention for back-injured nurses at a large hospital. *Spine*, 25(19), 2549-2549.

- Yassi, A., Cooper, J. E., Tate, R. B., Gerlach, S., Muir, M., Trottier, J., et al. (2001). A randomized controlled trial to prevent patient lift and transfer injuries of health care workers. *Spine*, 26(16), 1739-1746.
- Yassi, A., Khokhar, J., Tate, R., Cooper, J., Snow, C., & Vallentyne, S. (1995). The epidemiology of back injuries in nurses at a large Canadian tertiary care hospital: Implications for prevention. *Occupational Medicine*, 45(4), 215-220.
- Yerkes, R. M., & Dodson, J. D. (1908). The relation of strength of stimulus to rapidity of habit-formation. *Journal of Comparative Neurology and Psychology*, 18(5), 459-482.
- Yousef, D. A. (1998). Satisfaction with job security as a predictor of organizational commitment and job performance in a multicultural environment. *International Journal of Manpower*, 19(3), 184-194.
- Yousef, D. A. (2000). Organizational commitment: A mediator of the relationships of leadership behavior with job satisfaction and performance in a non-western country. *Journal of Managerial Psychology*, 15(1), 6-24.
- Zeytinoglu, I. U., Denton, M., Davies, S., Baumann, A., Blythe, J., & Boos, L. (2007). Associations between work intensification, stress and job satisfaction: The case of nurses in Ontario. *Relations Industrielles*, 62(2), 201-225.
- Zeytinoglu, I. U., Denton, M., & Plenderleith, J. M. (2011). Flexible employment and nurses' intention to leave the profession: The role of support at work. *Health Policy*, 99(2), 149-157.
- Zhou, M., Li, J., Zhang, H., Qiu, K., & Yang, J. (2010). A Study on influential factors of job burnout in Kunming enterprise employees. *Journal of Environmental & Occupational Medicine*, 9, 1-4.

Zikmund, W. G. (2003). *Business research methods* (7th ed.). USA, Ohio: Thomson South-Western.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods* (8th ed.). Canada: South-Western, Cengage Learning.

## APPENDIX A

### Survey Questionnaire (English & Arabic Version)



UNIVERSITI UTARA MALAYSIA  
06010 SINTOK, KEDAH

Date: 15 June 2011

Dear Sir/Madam,

#### **A QUESTIONNAIRE ON HOSPITAL NURSES IN THE MINISTRY OF HEALTH, SAUDI ARABIA**

I am a doctoral student at Universiti Utara Malaysia (UUM), and I am conducting a survey to investigate your work experience as a nurse in the Ministry of Health hospitals in the Kingdom of Saudi Arabia. This study is to fulfill requirements for the degree of doctoral of philosophy in human resource management at the university.

I am seeking your assistance in completing the questionnaire attached. Your participation in this study is completely voluntary and you may decline from participating whenever you wish to do so. However, as this study is important for me and for the hospital administrators in improving your work experience, I would like you to spend a little time to answer the questions.

Your answers are very important to the accuracy of my study. Information gathered will be kept strictly confidential, and your identity will remain anonymous.

Once you have completed the questionnaire, please return it by using the pre-addressed envelope attached herewith.

If you wish to know more about this study, please do not hesitate to contact me at this email address: e-mail: [w-hail@hotmail.com](mailto:w-hail@hotmail.com), or alternatively, you can speak to me directly at this number: **0060175334478 (Malaysia), or 00966505159787 (Saudi Arabia).**

Thank you again for your kind help and assistance.

Have a nice day.

Regards,

AL-HOMAYAN, ABDULLAH MOHAMMAD

## SECTION A: DEMOGRAPHIC INFORMATION

Please place an (√) in the block that relates to you.

### Gender:

Male

Female

### Nationality:

Saudi

Non-Saudi

*If you a non-Saudi, please state your country of origin*

### Your age:

25 years or below

26-30 years

31-35 years

More than 35 years

### Educational qualifications:

Diploma in nursing

Bachelor's degree in nursing

Master's degree in nursing

Doctoral degree in nursing

### Job title:

Nursing Assistant

Nursing Technician

Nursing Specialist

Nursing Senior Specialist

### Total number of years working as a nurse:

0-5 years

6-10 years

11-15 years

More than 15 years

### Marital status:

Single

Married

Divorced

Widowed

### Basic salary per month (in riyals):

Less than 3000 SR

3000-6999 SR

7000-10999 SR

11000 SR or more than

### Total number of years working in this hospital:

0-5 years

6-10 years

11-15 years

More than 15 years

### Clinical ward you are currently attached to:

Surgical

Emergency

Operating

Medical

Outpatient

Psychiatry

Maternity

Intensive care

Recovery

Pediatric

Obstetrics/gynecology

Other

### Total number of years working in this ward:

0-5 years

6-10 years

11-15 years

More than 15 years

## SECTION B: JOB DEMANDS

Please respond to the subsequent items by circling the appropriate number/answer that most closely indicates how you feel about each statement using the scale provided below. There is no right or wrong answers, just your opinion. Your privacy will be carefully protected. All responses will be reported in the aggregate only; nothing is on an individual basis.

### B1 QUANTITATIVE DEMANDS

**In your work, how often are you with:**

(1) *Hardly ever*, (2) *Seldom*, (3) *A few times*, (4) *Many times*, (5) *Always*

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | How often do you lack time to complete all your work tasks?   | 1 | 2 | 3 | 4 | 5 |
| 2. | Can you pause in your work whenever you want?                 | 1 | 2 | 3 | 4 | 5 |
| 3. | Do you have to work very fast?                                | 1 | 2 | 3 | 4 | 5 |
| 4. | Is your workload unevenly distributed so that things pile up? | 1 | 2 | 3 | 4 | 5 |
| 5. | Do you have enough time to talk to patients?                  | 1 | 2 | 3 | 4 | 5 |

### B2 PHYSICAL DEMANDS

**In your work, how many times a day are you confronted with this physical demands:**

(1) *0-1* (2) *2-4*, (3) *5-7*, (4) *8-10*, (5) *> 10 times a day*

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | Bedding and positioning patients.                           | 1 | 2 | 3 | 4 | 5 |
| 2. | Transferring or carrying patients.                          | 1 | 2 | 3 | 4 | 5 |
| 3. | Lifting patients in bed without aid.                        | 1 | 2 | 3 | 4 | 5 |
| 4. | Mobilizing patients.  | 1 | 2 | 3 | 4 | 5 |
| 5. | Clothing patients.  | 1 | 2 | 3 | 4 | 5 |
| 6. | Helping with feeding.                                       | 1 | 2 | 3 | 4 | 5 |
| 7. | Making beds.  | 1 | 2 | 3 | 4 | 5 |
| 8. | Pushing patient's beds, food trolleys, or laundry trolleys. | 1 | 2 | 3 | 4 | 5 |

### B3 EMOTIONAL DEMANDS

**In your work, how often are you confronted with:**

(1) *Never*, (2) *Seldom*, (3) *Sometimes*, (4) *Often*, (5) *Always*

- |    |                                       |   |   |   |   |   |
|----|---------------------------------------|---|---|---|---|---|
| 1. | Death.                                | 1 | 2 | 3 | 4 | 5 |
| 2. | Illness or any other human suffering. | 1 | 2 | 3 | 4 | 5 |
| 3. | Aggressive patients.                  | 1 | 2 | 3 | 4 | 5 |
| 4. | Troublesome patients' in their work.  | 1 | 2 | 3 | 4 | 5 |

### B4 SHIFT WORK

(1) *Not at all*, (2) *A few times*, (3) *Sometimes*, (4) *Quite a lot*, (5) *A great deal*

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | During the last month, approximately how many times did you work more than 8 hours per shift? | 1 | 2 | 3 | 4 | 5 |
| 2. | During the last month, how often did you work two shifts, back to back?                       | 1 | 2 | 3 | 4 | 5 |

## SECTION C: JOB RESOURCES

Please respond to the subsequent items by circling the appropriate number/answer that most closely indicates how you feel about each statement using the scale provided below. There is no right or wrong answers, just your opinion. Your privacy will be carefully protected. All responses will be reported in the aggregate only; nothing is on an individual basis.

(1) *Strongly disagree*, (2) *Disagree*, (3) *Neutral*, (4) *Agree*, (5) *Strongly agree*

### C1 SKILL VARIETY

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | My job requires me to do many different things as work, using a variety of my skills and talents. | 1 | 2 | 3 | 4 | 5 |
| 2. | My job requires me to use a number of complex or high-level skills.                               | 1 | 2 | 3 | 4 | 5 |
| 3. | Overall, my tasks are not simple and repetitive.  | 1 | 2 | 3 | 4 | 5 |
| 4. | My job requires that I make use of a wide range of my talents or abilities.                       | 1 | 2 | 3 | 4 | 5 |



**C2 TASK SIGNIFICANCE**

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | My job is one where a lot of other people, in this hospital and other hospitals, can be affected by how well my work gets done. | 1 | 2 | 3 | 4 | 5 |
| 2. | My job is important in that the results of my work can significantly affect other peoples' ability to do their work.            | 1 | 2 | 3 | 4 | 5 |
| 3. | My job itself is very significant and important in that it facilitates or enables other peoples' work.                          | 1 | 2 | 3 | 4 | 5 |

**C3 TASK IDENTITY**

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | My job is arranged so that I can usually do an entire piece of work from beginning to end, not just a small part of an overall piece of work. | 1 | 2 | 3 | 4 | 5 |
| 2. | My job generally provides me the chance to completely finish the pieces of work I begin.  | 1 | 2 | 3 | 4 | 5 |
| 3. | My job usually involves a complete piece of work that has an obvious beginning and end.   | 1 | 2 | 3 | 4 | 5 |

**C4 FEEDBACK**

- |    |  |   |   |   |   |   |
|----|--|---|---|---|---|---|
| 1. | My job itself provides me information about my work performance. That is, the actual work itself provides clues about how well I am doing aside from any feedback co-workers or supervisors may provide. | 1 | 2 | 3 | 4 | 5 |
| 2. | After I finish a task, I know whether I performed it well.   | 1 | 2 | 3 | 4 | 5 |
| 3. | Just doing the work required by this job provides many chances for me to figure out how well I am doing.   | 1 | 2 | 3 | 4 | 5 |

**C5 JOB SECURITY**

- |    |  |   |   |   |   |   |
|----|--|---|---|---|---|---|
| 1. | I am presently safe from dismissal at this hospital.   | 1 | 2 | 3 | 4 | 5 |
| 2. | I am confident that this hospital will remain a steady place of employment for as long as I want to continue working here. | 1 | 2 | 3 | 4 | 5 |
| 3. | I feel uneasy about the security in my present job.  | 1 | 2 | 3 | 4 | 5 |
| 4. | I feel I am likely to be laid off at this hospital.  | 1 | 2 | 3 | 4 | 5 |
| 5. | I am worried about my future with this hospital.   | 1 | 2 | 3 | 4 | 5 |
| 6. | I am worried about my job security.  | 1 | 2 | 3 | 4 | 5 |

**SECTION D: JOB STRESS**

Please respond to the subsequent items by circling the appropriate number/answer that most closely indicates how you feel about each statement **in the last month**, using the scale provided below. Your privacy will be carefully protected. All responses will be reported in the aggregate only; nothing is on an individual basis.

**How often you felt this way during the last month?**

*None of the time, (2) A little bit of time, (3) Some of the time, (4) A lot of the time, (5) All of the time*

- |     |  |   |   |   |   |   |
|-----|--|---|---|---|---|---|
| 1.  | Exhausted at the end of the day.         | 1 | 2 | 3 | 4 | 5 |
| 2.  | Did not feel energized on the job.       | 1 | 2 | 3 | 4 | 5 |
| 3.  | Was not able to sleep through the night. | 1 | 2 | 3 | 4 | 5 |
| 4.  | Felt burnt out most or all of the time.  | 1 | 2 | 3 | 4 | 5 |
| 5.  | Felt that there is nothing more to give. | 1 | 2 | 3 | 4 | 5 |
| 6.  | Had little or no control over my life.   | 1 | 2 | 3 | 4 | 5 |
| 7.  | Felt irritable and tense.                | 1 | 2 | 3 | 4 | 5 |
| 8.  | Suffered from headaches or migraines.    | 1 | 2 | 3 | 4 | 5 |
| 9.  | Felt helpless.                           | 1 | 2 | 3 | 4 | 5 |
| 10. | Felt like yelling at people.             | 1 | 2 | 3 | 4 | 5 |
| 11. | Angry.                                   | 1 | 2 | 3 | 4 | 5 |
| 12. | Felt like crying.                        | 1 | 2 | 3 | 4 | 5 |
| 13. | Had difficulty concentrating.            | 1 | 2 | 3 | 4 | 5 |
| 14. | Felt dizzy.                              | 1 | 2 | 3 | 4 | 5 |

## SECTION E: ORGANIZATIONAL SUPPORT

Please respond to the subsequent items by circling the appropriate number/answer that most closely indicates how you feel about each statement, using the scale provided below. There is no right or wrong answers, just your opinion. Your privacy will be carefully protected. All responses will be reported in the aggregate only; nothing is on an individual basis.

*Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree*

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | My hospital really cares about my well-being.                     | 1 | 2 | 3 | 4 | 5 |
| 2. | My hospital strongly considers my goals and values.               | 1 | 2 | 3 | 4 | 5 |
| 3. | My hospital shows little concern for me.                          | 1 | 2 | 3 | 4 | 5 |
| 4. | My hospital cares about my opinions.                              | 1 | 2 | 3 | 4 | 5 |
| 5. | My hospital is willing to help me if I need a special favor.      | 1 | 2 | 3 | 4 | 5 |
| 6. | Help is available from my hospital when I have a problem.         | 1 | 2 | 3 | 4 | 5 |
| 7. | My hospital would forgive a honest mistake on my part.            | 1 | 2 | 3 | 4 | 5 |
| 8. | If given the opportunity, my hospital would take advantage of me. | 1 | 2 | 3 | 4 | 5 |

## SECTION F: JOB PERFORMANCE

Please respond to the subsequent items by circling the appropriate number/answer that most closely indicates your performance, using the scale provided below. There is no right or wrong answers, just your opinion. Your privacy will be carefully protected. All responses will be reported in the aggregate only; nothing is on an individual basis.

### F1 TASK PERFORMANCE

**I perform/performed the following:**

*(1) Much below average, (2) Somewhat below average, (3) Average, (4) Somewhat above average, (5) Much above average*

- |     |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|
| 1.  | Explaining to patients what to expect when they leave the hospital.                                     | 1 | 2 | 3 | 4 | 5 |
| 2.  | Providing instructions for care at home.  | 1 | 2 | 3 | 4 | 5 |
| 3.  | Explaining to families what to do if the patient's problems or symptoms continue, get worse, or return. | 1 | 2 | 3 | 4 | 5 |
| 4.  | Explaining to patients when they can resume normal activities, such as going to work or driving a car.  | 1 | 2 | 3 | 4 | 5 |
| 5.  | Providing appropriate information to families about nursing procedures performed.                       | 1 | 2 | 3 | 4 | 5 |
| 6.  | Communicating to patients the purpose of nursing procedures.  | 1 | 2 | 3 | 4 | 5 |
| 7.  | Informing patients of the possible side-effects of nursing procedure.                                   | 1 | 2 | 3 | 4 | 5 |
| 8.  | Explaining to nurses in the unit the nature of the patient's condition.                                 | 1 | 2 | 3 | 4 | 5 |
| 9.  | Reporting the critical elements of patients' situations when turning over work shifts.                  | 1 | 2 | 3 | 4 | 5 |
| 10. | Ensuring all members of the nursing unit are familiar with the patient's recent medical history.        | 1 | 2 | 3 | 4 | 5 |
| 11. | Informing nurses in the unit about changes in a patient's treatment.                                    | 1 | 2 | 3 | 4 | 5 |
| 12. | Informing all nurses in the unit about patient tests and their results.                                 | 1 | 2 | 3 | 4 | 5 |
| 13. | Showing care and concern to families.   | 1 | 2 | 3 | 4 | 5 |
| 14. | Listening to families' concerns.  | 1 | 2 | 3 | 4 | 5 |
| 15. | Taking time to meet families' emotional needs.  | 1 | 2 | 3 | 4 | 5 |
| 16. | Listening to patients' concerns.  | 1 | 2 | 3 | 4 | 5 |
| 17. | Taking time to meet the emotional needs of patients.  | 1 | 2 | 3 | 4 | 5 |
| 18. | Showing care and concern to patients.   | 1 | 2 | 3 | 4 | 5 |
| 19. | Taking patient observations (e.g. blood pressure, pulse, temperature).                                  | 1 | 2 | 3 | 4 | 5 |
| 20. | Assisting patients with activities of daily living (e.g. showering, toileting and feeding).             | 1 | 2 | 3 | 4 | 5 |
| 21. | Developing a plan of nursing care for patients.   | 1 | 2 | 3 | 4 | 5 |
| 22. | Administering medications and treatments.   | 1 | 2 | 3 | 4 | 5 |
| 23. | Evaluating the effectiveness of nursing care.   | 1 | 2 | 3 | 4 | 5 |

**F2 CONTEXTUAL PERFORMANCE**

**I perform/performed the following:**

*(1) Not at All, (2) Minimally, (3) Somewhat, (4) Quite a bit, (5) A great deal*

1.	Raising morale of other nurses in the unit.	1	2	3	4	5
2.	Helping nurses in the unit to resolve work problems.	1	2	3	4	5
3.	Consulting amongst each other when actions might affect other nurses in the unit.	1	2	3	4	5
4.	Taking time to meet unit nurses' emotional needs.	1	2	3	4	5
5.	Volunteering to share special knowledge or expertise with other nurses in the unit.	1	2	3	4	5
6.	Helping nurses in the unit to catch up on their work.	1	2	3	4	5
7.	Making special arrangements for a patient's family.	1	2	3	4	5
8.	Staying late to help families.	1	2	3	4	5
9.	Taking extra time to respond to a family's needs.	1	2	3	4	5
10.	Making special arrangements for the patient.	1	2	3	4	5
11.	Staying late to help patients.	1	2	3	4	5
12.	Taking extra time to respond to a patient's needs.	1	2	3	4	5
13.	Complying with hospital rules, regulations and procedures, even when no one is watching.	1	2	3	4	5
14.	Representing the hospital favorably to individuals outside the hospital.	1	2	3	4	5
15.	Making sure that materials and equipment are not wasted.	1	2	3	4	5
16.	Volunteering to participate on committees within the hospital that are not compulsory.	1	2	3	4	5
17.	Attending and participating in meetings regarding the hospital.	1	2	3	4	5
18.	Making innovative suggestions to improve the overall quality of the department.	1	2	3	4	5

**Note:** Please use the following space to write any comments you wish to add.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

**THANK YOU FOR YOUR KIND ASSISTANCE AND  
COOPERATION**

**HAVE A NICE DAY!**

## APPENDIX A

### Survey Questionnaire (Arabic Version)

جامعة أوتارا – مملكة ماليزيا  
سانتوك, قـدح 06010



التاريخ: 13 رجب 1432 هـ

استبيان عن

ممرضين/ممرضات المستشفيات في وزارة الصحة, المملكة العربية السعودية

عزيزي ممرض/ممرضة المستشفى

كجزء من متطلبات دراستي لنيل درجة الدكتوراة في إدارة الموارد البشرية من جامعة أوتارا في مملكة ماليزيا؛ فإني أجري هذا المسح (الدراسة) للتحقيق حول خبرتكم العملية كممرضين وممرضات في مستشفيات وزارة الصحة في المملكة العربية السعودية.

لذا اطلب مساعدتكم في استكمال الاستبيان المرفق. علماً بأن مشاركتكم في تعبئة هذا الاستبيان هو عمل طوعي؛ حيث يمكنكم التوقف عن المشاركة وتعبئة البيانات متى رغبتم في ذلك. ولأن هذه الدراسة مهمة بالنسبة لي ولمديري المستشفيات في تطوير خبراتكم العملية فإنني أراغب في إعطائي جزء من وقتكم للإجابة على الأسئلة.

إن الدقة في اجابتكم على أسئلة الاستبيان مهمة جداً لدقة دراستي, والمعلومات التي سيتم جمعها ستعامل بسرية تامة, وهويتكم الشخصية ستبقى مجهولة.

كما ارجو منكم إعادة الاستبيان بعد استكماله إلى العنوان المرفق.

للمزيد من المعلومات عن هذه الدراسة ارجو الا تترددوا في الاتصال بي على عنوان البريد الالكتروني: (w-hail@hotmail.com), أو بدلاً من ذلك, يمكنكم التحدث معي مباشرة على الأرقام: 00966505159787 (السعودية), أو 0060175334478 (ماليزيا).

أشكركم على تعاونكم ومساعدتنا,,,

مع تمنياتي لكم بقضاء يوم ممتع وتقبل فائق تحياتي

عبدالله بن محمد الحميان

الرجاء قبل الإجابة قراءة كل عبارة بعناية ووضع علامة (√) حول الرقم المناسب للمقاييس المستخدم أدناه:

### القسم (أ): المعلومات الشخصية (الديموغرافية):

الرجاء وضع علامة (√) في المربع المتعلق بكم:

الجنسية:		الجنس:	
<input type="checkbox"/>	سعودي	<input type="checkbox"/>	ذكر
<input type="checkbox"/>	غير سعودي	<input type="checkbox"/>	أنثى

إذا كنت غير سعودي؛ الرجاء ذكر بلدكم الأصلي:

المؤهلات العلمية:		العمر:	
<input type="checkbox"/>	دبلوم في التمريض	<input type="checkbox"/>	25 سنة أو أقل
<input type="checkbox"/>	درجة البكالوريوس في التمريض	<input type="checkbox"/>	26-30 سنة
<input type="checkbox"/>	درجة الماجستير في التمريض	<input type="checkbox"/>	31-35 سنة
<input type="checkbox"/>	درجة الدكتوراة في التمريض	<input type="checkbox"/>	أكثر من 35 سنة

إجمالي عدد سنوات العمل كمرض/ة:		المسمى الوظيفي:	
<input type="checkbox"/>	0-5 سنوات	<input type="checkbox"/>	مساعد تمريض
<input type="checkbox"/>	6-10 سنوات	<input type="checkbox"/>	فني تمريض
<input type="checkbox"/>	11-15 سنوات	<input type="checkbox"/>	أخصائي تمريض
<input type="checkbox"/>	أكثر من 15 سنة	<input type="checkbox"/>	أخصائي أول تمريض

الراتب الشهري (بالريال السعودي):		الحالة الاجتماعية:	
<input type="checkbox"/>	أقل من 3000 ريال سعودي	<input type="checkbox"/>	أعزب/عزباء
<input type="checkbox"/>	3000-6999 ريال سعودي	<input type="checkbox"/>	متزوج/متزوجة
<input type="checkbox"/>	7000-10999 ريال سعودي	<input type="checkbox"/>	طلاق/طلاقة
<input type="checkbox"/>	11000 ريال سعودي فأكثر	<input type="checkbox"/>	ارمل/ارملة

إجمالي عدد سنوات العمل كمرض/ة في هذا المستشفى:

<input type="checkbox"/>	0-5 سنوات
<input type="checkbox"/>	6-10 سنوات
<input type="checkbox"/>	11-15 سنوات
<input type="checkbox"/>	أكثر من 15 سنة

القسم الطبي الذي تعمل فيه حالياً:			
<input type="checkbox"/>	العمليات	<input type="checkbox"/>	الطوارئ
<input type="checkbox"/>	النفسية	<input type="checkbox"/>	العيادات الخارجية
<input type="checkbox"/>	الإفافة	<input type="checkbox"/>	العناية المركزة
<input type="checkbox"/>	أخرى	<input type="checkbox"/>	النساء
<input type="checkbox"/>		<input type="checkbox"/>	الأطفال

إجمالي عدد سنوات العمل كمرض/ة في هذا القسم:

<input type="checkbox"/>	0-5 سنوات
<input type="checkbox"/>	6-10 سنوات
<input type="checkbox"/>	11-15 سنوات
<input type="checkbox"/>	أكثر من 15 سنة

## القسم (ب): متطلبات العمل

الرجاء الإجابة على الفقرات التالية بوضع دائرة حول رقم الجواب الذي يشير بشكل أقرب إلى شعورك حول كل فقرة مستخدماً المقياس المعطى لكم. علماً بأنه لا توجد اجابة صحيحة أو خاطئة، مجرد رأيكم الخاص. وسوف يتم حماية خصوصيتكم، وسيتم ابلاغ جميع الردود والتعامل معها بشكل جماعي ولن يتم التعامل معها بشكل فردي بأي حال من الأحوال.

### ب 1: المتطلبات الكمية

في عملك؛ كيف أنت في كثير من الأحيان؟

(1) أبداً، (2) نادراً، (3) عدة مرات، (4) مرات كثيرة، (5) دائماً

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 5 | 4 | 3 | 2 | 1 | 1. م عدد المرات التي لا يتوفر لديك وقتاً كافياً لاستكمال مهام عملك؟ |
| 5 | 4 | 3 | 2 | 1 | 2. تستطيع التوقف عن عملك في أي وقت تشاء؟                            |
| 5 | 4 | 3 | 2 | 1 | 3. هل يتطلب منك العمل بسرعة كبيرة؟                                  |
| 5 | 4 | 3 | 2 | 1 | 4. هل عينك العملي مقسم بشكل غير متساوي بحيث تتراكم الأشياء؟         |
| 5 | 4 | 3 | 2 | 1 | 5. هل لديك ما يكفي من الوقت للتحدث مع المرضى؟                       |

### ب2: المتطلبات البدنية

في عملك؛ كم مرة في اليوم تواجه هذه المتطلبات البدنية؟

(1) 1-0، (2) 2-4، (3) 3-7، (4) 4-10، (5) أكثر من 10 مرات

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 5 | 4 | 3 | 2 | 1 | 1. تجهيز الأسرة والعناية بوضعية المرضى.           |
| 5 | 4 | 3 | 2 | 1 | 2. نقل أو حمل المرضى.                             |
| 5 | 4 | 3 | 2 | 1 | 3. رفع المرضى إلى الأسرة بدون مساعدة.             |
| 5 | 4 | 3 | 2 | 1 | 4. تحريك المرضى.                                  |
| 5 | 4 | 3 | 2 | 1 | 5. تلبس المرضى.                                   |
| 5 | 4 | 3 | 2 | 1 | 6. المساعدة في تغذية المرضى.                      |
| 5 | 4 | 3 | 2 | 1 | 7. ترتيب الأسرة.                                  |
| 5 | 4 | 3 | 2 | 1 | 8. دفع أسرة المرضى، عربات الطعام أو عربات الغسيل. |

### ب3: المتطلبات العاطفية

في عملك؛ كم كنت غالباً ما تواجه؟

(1) أبداً، (2) نادراً، (3) أحياناً، (4) غالباً، (5) دائماً

- |   |   |   |   |   |                                     |
|---|---|---|---|---|-------------------------------------|
| 5 | 4 | 3 | 2 | 1 | 1. الموت.                           |
| 5 | 4 | 3 | 2 | 1 | 2. المرض أو أي معاناة إنسانية أخرى. |
| 5 | 4 | 3 | 2 | 1 | 3. المرضى العدوانيون.               |
| 5 | 4 | 3 | 2 | 1 | 4. المرضى المزعجين في أعمالهم.      |

### ب4: نوبات العمل

(1) لا على الإطلاق، (2) مرات قليلة، (3) أحياناً، (4) الكثير جداً، (5) بقدر كبير جداً

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 5 | 4 | 3 | 2 | 1 | 1. خلال الشهر الماضي؛ تقريباً كم عدد المرات التي عملت بها أكثر من 8 ساعات في كل نوبة (شفت)؟ |
| 5 | 4 | 3 | 2 | 1 | 2. خلال الشهر الماضي؛ كم مرة عملت نوبتين (شفتين) متتاليتين؟                                 |

## القسم (ج): مصادر العمل

الرجاء الإجابة على الفقرات التالية بوضع دائرة حول رقم الجواب الذي يشير بشكل أقرب إلى شعورك حول كل فقرة مستخدماً المقياس المعطى لكم. علماً بأنه لا توجد اجابة صحيحة أو خاطئة، مجرد رأيكم الخاص. وسوف يتم حماية خصوصيتكم، وسيتم ابلاغ جميع الردود والتعامل معها بشكل جماعي ولن يتم التعامل معها بشكل فردي بأي حال من الأحوال.

### ج1: تنوع المهارات

يرجى الإشارة إلى درجة اتفاقك مع الفقرات التالية:

(1) غير موافق بشدة، (2) غير موافق، (3) محايد، (4) موافق، (5) موافق بشدة

- |   |   |   |   |   |  |
|---|---|---|---|---|--|
| 5 | 4 | 3 | 2 | 1 | 1. تتطلب وظيفتي القيام بمهام مختلفة كعمل مثل استخدام مهاراتي ومواهبى المتنوعة. |
| 5 | 4 | 3 | 2 | 1 | 2. تتطلب وظيفتي استخدام مجموعة من المهارات ذات المستوى العالي والمعقدة.        |

3. عموماً، المهام التي اقوم بها ليست سهلة ولا متكررة.  
4. تتطلب وظيفتي استخدام مجموعة واسعة من مهاراتي أو مواهبي.

### ج2: أهمية المهمة

1. تعتبر وظيفتي مهمة حيث أنّ كثير من الموظفين في هذا المستشفى ومستشفيات أخرى يتأثرون بالفعالية التي أنجز فيها مهامي.  
2. تعتبر وظيفتي مهمة لأن نتائج عملي لها أثر بالغ على قدرات الموظفين الآخرين في انجاز اعمالهم.  
3. وظيفتي في ذاتها مهمة جداً لأنها تُسهل عمل الآخرين.

### ج3: هوية المهمة

1. وظيفتي منتظمة لذلك يمكنني القيام بكامل مهام عملي من البداية حتى النهاية وليس مجرد تأدية جزء صغير من العمل.  
2. تُزودني وظيفتي بشكل عام بفرصة إنهاء جزء من عملي بشكل كامل.  
3. تتضمن وظيفتي عادةً انجاز جزئية كاملة من العمل واضحة البداية والنهاية.

### ج4: التغذية الراجعة

1. وظيفتي ذاتها تزودني بالمعلومات بشأن أداء عملي. العمل الفعلي ذاته هو من يُزودني بالمعلومات بشأن انجاز عملي بغض النظر عن ردود فعل الزملاء والمُشرفين.  
2. بعد الإنتهاء من أي مهمة، اعرف ما تم اداءه بشكل جيد.  
3. جرد تأدية العمل المطلوب في هذه الوظيفة يمنحني فرص عديدة لاعرف كيف أُودي بشكل جيد.

### ج5: الأمن الوظيفي

1. أنا حالياً أشعر بالأمان وبأنني لن أطرّد من العمل في هذا المستشفى.  
2. أنا واثق أن هذا المستشفى سيستمر كمكان لوظيفتي طالما أنا أرغب بذلك.  
3. أشعر بعدم الأمان في وظيفتي الحالية.  
4. أشعر كأنني سأوقف عن العمل في هذا المستشفى.  
5. أشعر بالقلق بشأن مستقبل وظيفتي في هذا المستشفى.  
6. أشعر بالقلق بشأن أمن وظيفتي.

## القسم (د): ضغط العمل

الرجاء الإجابة على الفقرات التالية بوضع دائرة حول رقم الجواب الذي يشير بشكل أقرب إلى شعورك حول كل فقرة في الشهر الماضي، مستخدماً المقياس المعطى لكم. علماً بأنه لا توجد اجابة صحيحة أو خاطئة، مجرد رأيكم الخاص. وسوف يتم حماية خصوصيتكم، وسيتم ابلاغ جميع الردود والتعامل معها بشكل جماعي ولن يتم التعامل معها بشكل فردي بأي حال من الأحوال.

### د1: ضغط العمل

يرجى تسجيل شعورك حول النقاط التالية خلال الشهر الماضي:

(1) لا شيء في ذلك الوقت, (2) قليلاً من الوقت, (3) لبعض الوقت, (4) الكثير من الوقت, (5) كل الوقت

1. أشعر بالإرهاق في نهاية اليوم.  
2. لا أشعر بشحن الطاقة في الوظيفة.  
3. أنا لست قادراً على النوم في الليل.  
4. أشعر بالإجهاد معظم أو في كل الوقت.  
5. ليس هناك شيء أكثر للعطاء.  
6. سيطرتي قليلة أو معدومة على مجريات حياتي.  
7. أشعر بأنني سريع الإنفعال والتوتر.  
8. أعاني من الصداع أو الصداع النصفي.  
9. أشعر بالعجز.  
10. أشعر بالرغبة في الصراخ على الناس.  
11. أشعر بالغضب.  
12. أشعر بالرغبة في البكاء.  
13. أعاني من الصعوبة في التركيز.  
14. أشعر بالدوار.

## القسم (هـ): الدعم التنظيمي

الرجاء الإجابة على الفقرات التالية بوضع دائرة حول رقم الجواب الذي يشير بشكل أقرب إلى شعورك حول كل فقرة مستخدماً المقياس المعطى لكم. علماً بأنه لا توجد اجابة صحيحة أو خاطئة، مجرد رأيكم الخاص. وسوف يتم حماية خصوصيتكم، وسيتم ابلاغ جميع الردود والتعامل معها بشكل جماعي ولن يتم التعامل معها بشكل فردي بأي حال من الأحوال.

### 1هـ: الدعم التنظيمي

يرجى الإشارة إلى درجة اتفاقك مع الفقرات التالية:

(1) غير موافق بشدة, (2) غير موافق, (3) محايد, (4) موافق, (5) موافق بشدة

- |   |   |   |   |   |  |
|---|---|---|---|---|--|
| 5 | 4 | 3 | 2 | 1 | 1. المستشفى الذي اعمل فيه يهتم بشكل كبير برفاهيتي.                             |
| 5 | 4 | 3 | 2 | 1 | 2. المستشفى الذي اعمل فيه يهتم بشكل كبير بأهدافي وقيمي.                        |
| 5 | 4 | 3 | 2 | 1 | 3. المستشفى الذي اعمل فيه يظهر اهتماماً قليلاً بي.                             |
| 5 | 4 | 3 | 2 | 1 | 4. المستشفى الذي اعمل فيه يهتم بأرائي.   |
| 5 | 4 | 3 | 2 | 1 | 5. المستشفى الذي اعمل فيه على استعداد لمساعدتي إذا كنت في حاجة إلى خدمة شخصية. |
| 5 | 4 | 3 | 2 | 1 | 6. المساعدة متوفرة من المستشفى الذي اعمل فيه عندما تكون لدي مشكلة.             |
| 5 | 4 | 3 | 2 | 1 | 7. المستشفى الذي اعمل فيه يتسامح مع الأخطاء غير المقصودة التي قد اقع بها.      |
| 5 | 4 | 3 | 2 | 1 | 8. إذا أتاحت له الفرصة؛ المستشفى الذي اعمل فيه قد يستغني.                      |

## القسم (و): أداء العمل

الرجاء الإجابة على الفقرات التالية بوضع دائرة حول رقم الجواب الذي يشير بشكل أقرب إلى شعورك حول كل فقرة مستخدماً المقياس المعطى لكم. علماً بأنه لا توجد اجابة صحيحة أو خاطئة، مجرد رأيكم الخاص. وسوف يتم حماية خصوصيتكم، وسيتم ابلاغ جميع الردود والتعامل معها بشكل جماعي ولن يتم التعامل معها بشكل فردي بأي حال من الأحوال.

### 1و: أداء المهمة

أنا أؤدي / أنفذ ما يلي:

(1) أدنى بكثير من المتوسط, (2) إلى حد ما أقل من المتوسط, (3) متوسط, (4) إلى حد ما فوق المتوسط, (5) فوق المتوسط بكثير

- |   |   |   |   |   |  |
|---|---|---|---|---|--|
| 5 | 4 | 3 | 2 | 1 | 1. اشرح للمرضى ما يمكن توقعه عندما يغادرون المستشفى.                                     |
| 5 | 4 | 3 | 2 | 1 | 2. أزوّدهم بالتعليمات حول العناية في المنزل.   |
| 5 | 4 | 3 | 2 | 1 | 3. اشرح لعائلات المرضى ماذا يتوجب عليهم إذا استمرت أو ساءت أو عادت مشاكل أو أعراض المرض. |
| 5 | 4 | 3 | 2 | 1 | 4. اشرح للمرضى متى يستطيعون العودة للأنشطة العادية مثل العودة للعمل أو قيادة السيارة.    |
| 5 | 4 | 3 | 2 | 1 | 5. أزوّد عائلات المرضى بمعلومات حول الإجراءات التمريضية المؤداة.                         |
| 5 | 4 | 3 | 2 | 1 | 6. اوضح للمرضى الغرض من الإجراءات التمريضية.   |
| 5 | 4 | 3 | 2 | 1 | 7. أخبر المرضى بالآثار الجانبية المحتملة للإجراءات التمريضية.                            |
| 5 | 4 | 3 | 2 | 1 | 8. اشرح للممرضات/للممرضين في الوحدة عن طبيعة حالة المريض.                                |
| 5 | 4 | 3 | 2 | 1 | 9. أبلغ عن العوامل الحرجة في حالات المرضى عند تبديل ورديات العمل.                        |
| 5 | 4 | 3 | 2 | 1 | 10. أؤكد على أن جميع أعضاء وحدة التمريض على دراية بالتاريخ المرضي الحالي للمريض.         |
| 5 | 4 | 3 | 2 | 1 | 11. إبلاغ الممرضات/الممرضين في الوحدة عن التغييرات في علاج المريض.                       |
| 5 | 4 | 3 | 2 | 1 | 12. إبلاغ جميع الممرضات/الممرضين في الوحدة عن الفحوصات التي تمت على المريض ونتائجها.     |
| 5 | 4 | 3 | 2 | 1 | 13. اظهر الرعاية والإهتمام لعائلات المرضى.   |
| 5 | 4 | 3 | 2 | 1 | 14. أصغي لمخاوف وقلق عائلات المرضى.  |
| 5 | 4 | 3 | 2 | 1 | 15. اخصص وقتاً لتلبية الاحتياجات العاطفية لعائلات المرضى.                                |
| 5 | 4 | 3 | 2 | 1 | 16. أصغي لمخاوف وقلق المرضى.   |
| 5 | 4 | 3 | 2 | 1 | 17. اخصص وقتاً لتلبية الاحتياجات العاطفية للمرضى.  |
| 5 | 4 | 3 | 2 | 1 | 18. اظهر الرعاية والإهتمام للمرضى.   |
| 5 | 4 | 3 | 2 | 1 | 19. أخذ الملاحظات على المريض (مثل ضغط الدم، النبض، الحرارة .. إلخ).                      |
| 5 | 4 | 3 | 2 | 1 | 20. اساعد المرضى في أنشطة الحياة اليومية (مثل الإستحمام، إستخدام الحمام والتغذية).       |
| 5 | 4 | 3 | 2 | 1 | 21. أطور خطة العناية التمريضيه للمرضى.   |
| 5 | 4 | 3 | 2 | 1 | 22. أعطي الأدوية والعلاجات.  |
| 5 | 4 | 3 | 2 | 1 | 23. أقيّم فاعلية الرعاية التمريضية.  |

### 2و: أداء السياق





## APPENDIX B

### Written Permission to Conduct the Study



**UNIVERSITI UTARA MALAYSIA**  
06010 UUM Sintok, Kedah Darul Aman, Malaysia. Tel: 604 928 4000



10 January 2011

Director General  
General Administration for Medical Research  
Ministry of Health  
The Kingdom of Saudi Arabia

Dear Sir,

**PERMISSION FOR DATA COLLECTION FOR MR. ABDULLAH MOHAMMAD ALHOMAYAN (Matric No. 92186)**

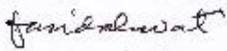
Mr. Alhomayan is currently enrolled in the PhD Program in the College of Business (Human Resource Management) at the Universiti of Utara Malaysia. His PhD research project focuses on the effect of job nature and job stress on nurses' performance in public hospitals in Saudi Arabia.

To enable him complete his thesis, Mr. Alhomayan is required to undertake field work and collect data from the public hospitals under the jurisdiction of the Ministry of Health. Thus, I appreciate it very much if you could assist him in granting him permission to collect the data Mr. Alhomayan needs toward the completion of his thesis.

If you need any further information, please feel free to contact me.

Thank you.

Yours sincerely,



**DR. FARIDAHWATI MOHD. SHAMSUDIN**  
PhD Supervisor of Mr. Alhomayan  
College of Business  
Accounting Building  
06010 Sintok, Kedah, Malaysia  
Phone: +6049283732 / +60194801966  
email: faridah@uum.edu.my



MSC MALAYSIA  
Kedah  
State Institution



## إفادة

إلى من يهمه الأمر

تفيد الملحقية الثقافية في ماليزيا بأن الطالب / عبدالله محمد عبدالله الحميان (سجل مدني رقم ١٠١٤٧٥٤٩٧٠)، مسجل في مرحلة الدكتوراه في جامعة أوتارا الماليزية في مجال إدارة موارد بشرية، ويرغب في القيام برحلة علمية في المملكة لأجل جمع بيانات المتعلقة بموضوع بحثه حسب توصية مشرفه الدراسي.

فنأمل ممن يهمه الأمر تسهيل إجراءات جمع البيانات المعينة على إعداد بحثه لأغراض أكاديمية فقط.

الملحق الثقافي في ماليزيا

د. عبدالرحمن بن محمد فصيل



الرقم : ٤٦٧٨ التاريخ : ١٤٢٤/٤/٩ الموافق : المرفقات :

<http://my.mohe.gov.sa>

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

الرقم : ٢٧١/١٧٢٢٤٩  
التاريخ : ١٤٣٤/١٠/١٥  
المشغوعات :



المملكة العربية السعودية  
وزارة الصحة  
الإدارة العامة للبحوث الطبية

الموضوع: طلب تسهيل مهمة الطالب /  
عبد الله بن محمد الميمان

### السعادة مدير عام الشؤون الصحية بمنطقة حائل

السلام عليكم ورحمة الله وبركاته:  
إشارة إلى موضوع رسالة طالب الدكتوراه / عبد الله بن محمد بن عبد الله الحميدان رقم السجل المدني (١٠١٤٧٥٤٩٧٠) لدراسة مرحلة الدكتوراه في تخصص إدارة الموارد البشرية في جامعة أوقار بمملكة ماليزيا رقم الطالب الأكاديمي (٩٢١٨٦) وعنوان الرسالة :-  
" اثر طبيعة العمل (محتوى وسياق الوظيفة) و ضغوط العمل على أداء ممرضى المستشفيات الحكومية التابعة لوزارة الصحة، بمنطقة حائل بالمملكة العربية السعودية"  
"The effect of Job Nature on Nurses' Performance: The mediating Effect of Job Stress, in Saudi Arabia (Hail Region).  
وحيث أن المذكور عاليه في مرحلة العمل الميداني، نأمل تسهيل مهمته بزيارة المستشفيات التالية بمنطقة حائل:

١. مستشفى الملك خالد
  ٢. مستشفى حائل العام
  ٣. مستشفى الصحة النفسية
  ٤. مستشفى بقعاء
  ٥. مستشفى الثملي
  ٦. مستشفى السليمي
  ٧. مستشفى سميراء
  ٨. مستشفى موفق
  ٩. مستشفى النساء والولادة
- لجمع البيانات اللازمة، مع العلم بأن وزارة الصحة لا تتحمل أية اعباء مالية أو إدارية وأن لا يكون هناك أي تأثير على خدمة المراجعين والمرضى خلال قيامه بهمام بحثه.  
شاكرين لكم حسن تعاونكم.

ولكم أطيب تحياتي ...

مدير عام

الإدارة العامة للبحوث الطبية

د. نبيل بن هزاع القحطاني

الخيرية العامة للشؤون الصحية في حائل  
تاريخ العقد

\*013921\*  
رقم الوارد / ١٣٩٢١  
تاريخ ١٤٣٢٠٠٥٠١٦

إدارة مستشفى

السلام

الخيرية العامة للشؤون الصحية في حائل  
تاريخ العقد

\*013921\*  
رقم الوارد / ١٣٩٢١  
تاريخ ١٤٣٢٠٠٥٠١٦

د. نبيل بن هزاع القحطاني

د. نبيل بن هزاع القحطاني

(١٣٩٢١)  
(١٥١٤٣٢١٤١)

إدارة مستشفى

الرقم: .....  
التاريخ: ١٤٤٢/٦/٢٠ هـ  
المشروعات: .....



المملكة العربية السعودية  
وزارة الصحة  
المديرية العامة للشئون الصحية بمنطقة حائل

ادارة التدريب والإبتعاث

المحترم

سعادة / مدير مستشفى

السلام عليكم ورحمة الله وبركاته

اشارة الى عخطاب مدير عام الإدارة العامة للبحوث الطبية رقم ٣٧/٣٧٢٢٤ بتاريخ  
١٤٣٢/٥/١٤هـ بشأن طالب الدكتوراة / عبدالله محمد الحميان رقم السجل المدني  
١٠١٤٧٥٤٩٧٠ لدراسة مرحلة الدكتوراة بتخصص ادارة الموارد البشرية

في جامعة اوتار بدولة ماليزيا رقم الطالب الأكاديمي ٩٢١٨٦ وعنوان الرسالة

Job demands resources, job stress, organizational support  
and nurses performance (Saudi Arabia)

حيث انه في مرحلة جمع البيانات.

نأمل الإطلاع واكمال اللازم وتسهيل مهمته بزيارتكم لجمع البيانات اللازمة مع العلم  
بأن وزارة الصحة لاتتحمل أي اعباء مالية او ادارية وان لا يكون هناك أي تأثير على  
خدمة المراجعين والمرضى خلال قيامه بمهمته بحثه.

ولكم اطيب تحياتنا،،،،،

مدير ادارة التدريب والإبتعاث

طلال ماجد الرشيدى

طابع صحة حائل

حائل - المحمع الحكومى - سنترال : ٥٣٢٦٦٠٠٠ / فاكس : ٥٣٢٦٧٢٤ / ٠٦

الرقم: ٤٨٠٤٠/٣١/٢٣ س  
التاريخ: ٢٠ / ٦ / ١٤٣٩ هـ  
المشروعات:



المملكة العربية السعودية  
وزارة الصحة  
المديرية العامة للشئون الصحية بمنطقة حائل

إدارة المستشفيات  
مركز المعلومات

المحترم

سعادة/ مدير مستشفى

السلام عليكم ورحمة الله وبركاته

إشارة إلى خطاب مدير عام الإدارة العامة للبحوث العامة الطبية رقم ٣٧/٣٧٢٢٤ وتاريخ ١٤٣٢/٥/١٤ هـ بشأن طالب الدكتوراه/عبدالله بن محمد الحميدان رقم سجل مدني(١٠١٤٧٥٤٩٧٠) لدراسة مرحلة الدكتوراه في تخصص إدارة الموارد البشرية في جامعة أوتار بدولة ماليزيا رقم الطالب الأكاديمي(٩٢١٨٦) وعنوان الرسالة.

Job Demands Resources, Job Stress, Organizational Support and nurses Performance(Saudi Arabia)

حيث إن المذكور أعلاه في مرحلة التدريب الميداني.

نأمل الاطلاع وإكمال اللازم وتسهيل مهمة المذكور أعلاه بزيارتكم لجمع البيانات اللازمة مع العلم بان وزارة الصحة لاتتحمل أية أعباء مالية أو إدارية وان لا يكون هناك أي تأثير على خدمة المراجعين والمرضى خلال قيامه بمهمة بحثه.  
ولكم أطيب تحياتنا...

مدير إدارة المستشفيات

طابع صحة حائل

احمد بن عبدالله الملق

حائل - المجمع الحكومي - سنترال : ٥٣٢٦٦٠٠ / ٠٦ فاكس ٥٣٢٤٧٢٤ / ٠٦

Kingdom Of Saudi Arabia  
Ministry Of Health  
General Directorate of  
Health Affairs in Qassim



المملكة العربية السعودية  
وزارة الصحة  
المديرية العامة للشؤون الصحية  
بمنطقة القصيم

County Hospital Of Bukeryyah

مستشفى محافظة البكيرية

**Dear Head of Nursing at the Hospital**

**May the peace and mercy of Allah be upon you**

You will find 30 questionnaires attached along regarding the study of researcher Abdullah Mohammad Al Homayan, a study prepared for the doctoral degree in the human resource management from Utara University, Malaysia.

I hope you distribute them to the nursing staff in the targeted department to enable the hospital and the researcher to analyze the questionnaire data.

Thanking you in advance for your respected efforts.

With regards

Faithfully yours

**Director of Al Bekariyah General Hospital**

**Khalid bin Farraj Al Enazi**

التاريخ: ١٤٤٢/١١/١٤

الرقم: ٤٤١٢/١٤٤٢

مستشفى محافظة البكيرية ( سنترال : ٠٦/٣٣٥٠٢٨٢ - فاكس : ٠٦/٣٣٥٠١٥١ )

الرقم : .....  
التاريخ : ١٤٣٢ / ١٠ / ٢٥ هـ  
المشروعات : .....



المملكة العربية السعودية  
وزارة الصحة  
المديرية العامة لشؤون الصحية بمنطقة حائل

Copy to: Dr.Faridahwati Mohd Shamsudin Phd  
Supervisor of Mr.Al-homayan  
UUM college of business

To the saudi cultural attache in Malaysia

Inform you that the researcher / Al humaian Abdullah Mohammed  
Matric No : (92186) has ended the data collection of his research in the  
Hail region hospitals during the period 15/6/2011 to 15/9/2011  
This certificate given upon his request

Director of training and  
scholarship of Hail region

Mr. Talal Majid Al-reshidi



طابع صحة حائل

حائل - المجمع الحكومي - سبترال : ٥٣٢٦٦٠٠ / ٠٦ فاكس : ٥٣٢٦٧٧٤ / ٠٦



**APPENDIX C**  
**Multiple Regression Evaluating the**  
**Main Effects of Job Demands Resources on Nurses' Job Performance**  
Dependent Variable: Provision of Information

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered. b. Dependent Variable: PI

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.624 <sup>a</sup>	.390	.381	.62393	1.837

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: PI

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	154.761	9	17.196	44.172	.000 <sup>a</sup>
	Residual	242.137	622	.389		
	Total	396.898	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: PI

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	1.094	.307			3.568	.000		
	QD	-.110	.041	-.096		-2.657	.008	.757	1.321
	PD	-.136	.047	-.109		-2.877	.004	.689	1.450
	ED	-.086	.047	-.060		-1.839	.066	.910	1.099
	SW	-.223	.062	-.120		-3.606	.000	.885	1.130
	SV	.191	.035	.210		5.435	.000	.656	1.525
	TS	.293	.038	.309		7.628	.000	.597	1.676
	TI	.203	.045	.160		4.467	.000	.764	1.309
	FB	.138	.033	.149		4.229	.000	.787	1.271
	JSec	.122	.024	.198		5.061	.000	.642	1.559

a. Dependent Variable: PI

Dependent Variable: Coordination of Care

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered. b. Dependent Variable: CC

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.562 <sup>a</sup>	.316	.306	.66832	1.865

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: CC

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	128.084	9	14.232	31.863	.000 <sup>a</sup>
	Residual	277.817	622	.447		
	Total	405.901	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: CC

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	2.452	.328			7.467	.000		
	QD	-.123	.044	-.106		-2.789	.005	.757	1.321
	PD	-.088	.051	-.069		-1.731	.084	.689	1.450
	ED	-.165	.050	-.115		-3.303	.001	.910	1.099
	SW	-.360	.066	-.191		-5.427	.000	.885	1.130
	SV	.180	.038	.195		4.765	.000	.656	1.525
	TS	.233	.041	.243		5.652	.000	.597	1.676
	TI	.038	.049	.030		.790	.430	.764	1.309
	FB	.188	.035	.201		5.371	.000	.787	1.271
	JSec	.111	.026	.177		4.268	.000	.642	1.559

a. Dependent Variable: CC

## Dependent Variable: Provision of Support

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: PS

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.639 <sup>a</sup>	.409	.400	.61143	1.977

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: PS

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.745	9	17.861	47.776	.000 <sup>a</sup>
	Residual	232.531	622	.374		
	Total	393.276	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: PS

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	1.355	.300			4.508	.000		
	QD	-.062	.040	-.055		-1.539	.124	.757	1.321
	PD	-.055	.046	-.044		-1.185	.237	.689	1.450
	ED	-.143	.046	-.101		-3.127	.002	.910	1.099
	SW	-.266	.061	-.143		-4.374	.000	.885	1.130
	SV	.189	.035	.208		5.473	.000	.656	1.525
	TS	.264	.038	.280		7.008	.000	.597	1.676
	TI	.255	.044	.202		5.730	.000	.764	1.309
	FB	.104	.032	.113		3.250	.001	.787	1.271
	JSec	.055	.024	.089		2.310	.021	.642	1.559

a. Dependent Variable: PS

## Dependent Variable: Technical of Care

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: TC

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.611 <sup>a</sup>	.373	.364	.62335	1.857

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: TC

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.681	9	15.965	41.086	.000 <sup>a</sup>
	Residual	241.684	622	.389		
	Total	385.364	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS      b. Dependent Variable: TC

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.983	.306		6.472	.000		
	QD	-.107	.041	-.095	-2.596	.010	.757	1.321
	PD	-.081	.047	-.066	-1.720	.086	.689	1.450
	ED	-.049	.047	-.035	-1.061	.289	.910	1.099
	SW	-.172	.062	-.094	-2.786	.006	.885	1.130
	SV	.210	.035	.234	5.962	.000	.656	1.525
	TS	.250	.038	.268	6.512	.000	.597	1.676
	TI	.158	.045	.127	3.498	.001	.764	1.309
	FB	.111	.033	.122	3.404	.001	.787	1.271
	JSec	.021	.024	.034	.857	.392	.642	1.559

a. Dependent Variable: TC

## Dependent Variable: Interpersonal Support

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.      b. Dependent Variable: IntSup

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.697 <sup>a</sup>	.485	.478	.59308	1.752

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS      b. Dependent Variable: IntSup

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	206.279	9	22.920	65.161	.000 <sup>a</sup>
	Residual	218.785	622	.352		
	Total	425.064	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS      b. Dependent Variable: IntSup

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.413	.291		4.849	.000		
	QD	-.151	.039	-.127	-3.855	.000	.757	1.321
	PD	-.139	.045	-.107	-3.087	.002	.689	1.450
	ED	-.191	.044	-.130	-4.303	.000	.910	1.099
	SW	-.155	.059	-.081	-2.636	.009	.885	1.130
	SV	.182	.033	.193	5.437	.000	.656	1.525
	TS	.331	.037	.337	9.044	.000	.597	1.676
	TI	.304	.043	.232	7.049	.000	.764	1.309
	FB	.095	.031	.099	3.054	.002	.787	1.271
	JSec	.062	.023	.097	2.701	.007	.642	1.559

a. Dependent Variable: IntSup

## Dependent Variable: Job-Task Support

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered. b. Dependent Variable: JTSup

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.549 <sup>a</sup>	.301	.291	.65700	1.843

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: JTSup

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	115.716	9	12.857	29.786	.000 <sup>a</sup>
	Residual	268.489	622	.432		
	Total	384.205	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: JTSup

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	.840	.323			2.603	.009		
	QD	-.075	.044	-.066		-1.717	.086	.757	1.321
	PD	-.028	.050	-.023		-.568	.570	.689	1.450
	ED	-.102	.049	-.073		-2.081	.038	.910	1.099
	SW	-.040	.065	-.022		-.621	.535	.885	1.130
	SV	.125	.037	.139		3.360	.001	.656	1.525
	TS	.307	.041	.329		7.573	.000	.597	1.676
	TI	.290	.048	.233		6.077	.000	.764	1.309
	FB	.008	.034	.008		.220	.826	.787	1.271
	JSec	.069	.025	.113		2.705	.007	.642	1.559

a. Dependent Variable: TSup

## Dependent Variable: Compliance

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered. b. Dependent Variable: Com

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.460 <sup>a</sup>	.211	.200	.75571	1.846

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: Com

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.236	9	10.582	18.529	.000 <sup>a</sup>
	Residual	355.221	622	.571		
	Total	450.457	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: Com

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	2.489	.371			6.703	.000		
	QD	-.125	.050	-.102		-2.488	.013	.757	1.321
	PD	-.172	.057	-.128		-2.993	.003	.689	1.450
	ED	-.122	.056	-.081		-2.166	.031	.910	1.099
	SW	-.162	.075	-.082		-2.157	.031	.885	1.130
	SV	.141	.043	.145		3.302	.001	.656	1.525
	TS	.150	.047	.149		3.230	.001	.597	1.676
	TI	.195	.055	.145		3.557	.000	.764	1.309
	FB	.109	.040	.110		2.751	.006	.787	1.271
	JSec	.050	.029	.076		1.712	.087	.642	1.559

a. Dependent Variable: Com

## Dependent Variable: Volunteering for Additional Duties

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered. b. Dependent Variable: VAD

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.585 <sup>a</sup>	.342	.332	.68503	1.755

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: VAD

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	151.520	9	16.836	35.876	.000 <sup>a</sup>
	Residual	291.883	622	.469		
	Total	443.402	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: VAD

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	1.833	.337			5.446	.000		
	QD	-.178	.045	-.147		-3.919	.000	.757	1.321
	PD	-.151	.052	-.114		-2.901	.004	.689	1.450
	ED	-.122	.051	-.081		-2.377	.018	.910	1.099
	SW	-.199	.068	-.101		-2.929	.004	.885	1.130
	SV	.191	.039	.199		4.947	.000	.656	1.525
	TS	.243	.042	.242		5.752	.000	.597	1.676
	TI	.216	.050	.162		4.341	.000	.764	1.309
	FB	.115	.036	.118		3.210	.001	.787	1.271
	JSec	.072	.027	.110		2.697	.007	.642	1.559

a. Dependent Variable: VAD

**APPENDIX D**  
**Hierarchical Regression Evaluating the Interacting Effects of**  
**Job Stress with Job Demands Resources on Nurses Job Performance**

Interacting Effects of Job Stress with Job Demands Resources on (Provision of Information)

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: PI

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.624 <sup>a</sup>	.390	.381	.62393	1.837

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: PI

**ANOVA<sup>b</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	154.761	9	17.196	44.172	.000 <sup>a</sup>
	Residual	242.137	622	.389		
	Total	396.898	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: PI

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.094	.307		3.568	.000		
	QD	-.110	.041	-.096	-2.657	.008	.757	1.321
	PD	-.136	.047	-.109	-2.877	.004	.689	1.450
	ED	-.086	.047	-.060	-1.839	.066	.910	1.099
	SW	-.223	.062	-.120	-3.606	.000	.885	1.130
	SV	.191	.035	.210	5.435	.000	.656	1.525
	TS	.293	.038	.309	7.628	.000	.597	1.676
	TI	.203	.045	.160	4.467	.000	.764	1.309
	FB	.138	.033	.149	4.229	.000	.787	1.271
	JSec	.122	.024	.198	5.061	.000	.642	1.559

a. Dependent Variable: PI

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JS

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846 <sup>a</sup>	.715	.711	.69381	1.611

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**ANOVA<sup>b</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	752.420	9	83.602	173.675	.000 <sup>a</sup>
	Residual	299.412	622	.481		
	Total	1051.832	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	1.419	.341			4.162	.000		
	QD	.223	.046	.120		4.864	.000	.757	1.321
	PD	.388	.053	.190		7.363	.000	.689	1.450
	ED	.146	.052	.063		2.813	.005	.910	1.099
	SW	.404	.069	.134		5.871	.000	.885	1.130
	SV	-.117	.039	-.079		-2.978	.003	.656	1.525
	TS	-.221	.043	-.143		-5.169	.000	.597	1.676
	TI	-.126	.050	-.061		-2.500	.013	.764	1.309
	FB	-.211	.036	-.140		-5.809	.000	.787	1.271
	JSec	.485	.027	.482		18.041	.000	.642	1.559

a. Dependent Variable: JS

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: PI

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.625 <sup>a</sup>	.391	.381	.62410	1.838

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: PI

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	155.016	10	15.502	39.798	.000 <sup>a</sup>
	Residual	241.882	621	.390		
	Total	396.898	631			

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: PI

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	1.135	.311			3.651	.000		
	QD	-.103	.042	-.090		-2.452	.014	.729	1.372
	PD	-.125	.049	-.099		-2.529	.012	.634	1.577
	ED	-.081	.047	-.057		-1.736	.083	.898	1.113
	SW	-.212	.064	-.114		-3.323	.001	.838	1.193
	SV	.188	.035	.206		5.299	.000	.646	1.547
	TS	.287	.039	.302		7.303	.000	.572	1.748
	TI	.199	.046	.157		4.363	.000	.757	1.322
	FB	.132	.034	.143		3.934	.000	.746	1.340
	JSec	.137	.030	.221		4.574	.000	.421	2.375
	JS	-.029	.036	-.048		-.809	.419	.285	3.513

a. Dependent Variable: PI

## Interacting Effects of Job Stress with Job Demands Resources on (Coordination of Care)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: CC

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.562 <sup>a</sup>	.316	.306	.66832	1.865

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: CC

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	128.084	9	14.232	31.863	.000 <sup>a</sup>
	Residual	277.817	622	.447		
	Total	405.901	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: CC

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	2.452	.328			7.467	.000		
	QD	-.123	.044	-.106		-2.789	.005	.757	1.321
	PD	-.088	.051	-.069		-1.731	.084	.689	1.450
	ED	-.165	.050	-.115		-3.303	.001	.910	1.099
	SW	-.360	.066	-.191		-5.427	.000	.885	1.130
	SV	.180	.038	.195		4.765	.000	.656	1.525
	TS	.233	.041	.243		5.652	.000	.597	1.676
	TI	.038	.049	.030		.790	.430	.764	1.309
	FB	.188	.035	.201		5.371	.000	.787	1.271
	JSec	.111	.026	.177		4.268	.000	.642	1.559

a. Dependent Variable: CC

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JS

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846 <sup>a</sup>	.715	.711	.69381	1.611

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	752.420	9	83.602	173.675	.000 <sup>a</sup>
	Residual	299.412	622	.481		
	Total	1051.832	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	1.419	.341			4.162	.000		
	QD	.223	.046	.120		4.864	.000	.757	1.321
	PD	.388	.053	.190		7.363	.000	.689	1.450
	ED	.146	.052	.063		2.813	.005	.910	1.099
	SW	.404	.069	.134		5.871	.000	.885	1.130
	SV	-.117	.039	-.079		-2.978	.003	.656	1.525
	TS	-.221	.043	-.143		-5.169	.000	.597	1.676
	TI	-.126	.050	-.061		-2.500	.013	.764	1.309
	FB	-.211	.036	-.140		-5.809	.000	.787	1.271
	JSec	.485	.027	.482		18.041	.000	.642	1.559

a. Dependent Variable: JS

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: CC

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.565 <sup>a</sup>	.320	.309	.66689	1.866

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: CC



ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.714	10	12.971	29.166	.000 <sup>a</sup>
	Residual	276.186	621	.445		
	Total	405.901	631			

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: CC

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	2.348	.332			7.066	.000		
	QD	-.140	.045	-.121		-3.110	.002	.729	1.372
	PD	-.116	.053	-.092		-2.206	.028	.634	1.577
	ED	-.176	.050	-.122		-3.504	.000	.898	1.113
	SW	-.390	.068	-.207		-5.733	.000	.838	1.193
	SV	.188	.038	.205		4.968	.000	.646	1.547
	TS	.249	.042	.260		5.935	.000	.572	1.748
	TI	.048	.049	.037		.979	.328	.757	1.322
	FB	.204	.036	.218		5.677	.000	.746	1.340
	JSec	.075	.032	.120		2.343	.019	.421	2.375
	JS	.074	.039	.119		1.915	.056	.285	3.513

a. Dependent Variable: CC

### Interacting Effects of Job Stress with Job Demands Resources on (Provision of Support)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: PS

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.639 <sup>a</sup>	.409	.400	.61143	1.977

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: PS

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.745	9	17.861	47.776	.000 <sup>a</sup>
	Residual	232.531	622	.374		
	Total	393.276	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: PS

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	1.355	.300			4.508	.000		
	QD	-.062	.040	-.055		-1.539	.124	.757	1.321
	PD	-.055	.046	-.044		-1.185	.237	.689	1.450
	ED	-.143	.046	-.101		-3.127	.002	.910	1.099
	SW	-.266	.061	-.143		-4.374	.000	.885	1.130
	SV	.189	.035	.208		5.473	.000	.656	1.525
	TS	.264	.038	.280		7.008	.000	.597	1.676
	TI	.255	.044	.202		5.730	.000	.764	1.309
	FB	.104	.032	.113		3.250	.001	.787	1.271
	JSec	.055	.024	.089		2.310	.021	.642	1.559

a. Dependent Variable: PS

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JS

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846 <sup>a</sup>	.715	.711	.69381	1.611

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	752.420	9	83.602	173.675	.000 <sup>a</sup>
	Residual	299.412	622	.481		
	Total	1051.832	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.419	.341		4.162	.000		
	QD	.223	.046	.120	4.864	.000	.757	1.321
	PD	.388	.053	.190	7.363	.000	.689	1.450
	ED	.146	.052	.063	2.813	.005	.910	1.099
	SW	.404	.069	.134	5.871	.000	.885	1.130
	SV	-.117	.039	-.079	-2.978	.003	.656	1.525
	TS	-.221	.043	-.143	-5.169	.000	.597	1.676
	TI	-.126	.050	-.061	-2.500	.013	.764	1.309
	FB	-.211	.036	-.140	-5.809	.000	.787	1.271
	JSec	.485	.027	.482	18.041	.000	.642	1.559

a. Dependent Variable: JS

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: PS

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.642 <sup>a</sup>	.412	.403	.61011	1.994

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: PS

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	162.118	10	16.212	43.553	.000 <sup>a</sup>
	Residual	231.158	621	.372		
	Total	393.276	631			

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: PS

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.259	.304		4.141	.000		
	QD	-.077	.041	-.068	-1.881	.060	.729	1.372
	PD	-.081	.048	-.065	-1.682	.093	.634	1.577
	ED	-.153	.046	-.108	-3.329	.001	.898	1.113
	SW	-.293	.062	-.158	-4.707	.000	.838	1.193
	SV	.197	.035	.217	5.674	.000	.646	1.547
	TS	.279	.038	.296	7.266	.000	.572	1.748
	TI	.263	.045	.209	5.906	.000	.757	1.322
	FB	.118	.033	.128	3.607	.000	.746	1.340
	JSec	.022	.029	.036	.750	.454	.421	2.375
	JS	.068	.035	.111	1.920	.055	.285	3.513

a. Dependent Variable: PS

## Interacting Effects of Job Stress with Job Demands Resources on (Technical of Care)

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: TC

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.611 <sup>a</sup>	.373	.364	.62335	1.857

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: TC

**ANOVA<sup>b</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	143.681	9	15.965	41.086	.000 <sup>a</sup>
	Residual	241.684	622	.389		
	Total	385.364	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: TC

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.983	.306		6.472	.000		
	QD	-.107	.041	-.095	-2.596	.010	.757	1.321
	PD	-.081	.047	-.066	-1.720	.086	.689	1.450
	ED	-.049	.047	-.035	-1.061	.289	.910	1.099
	SW	-.172	.062	-.094	-2.786	.006	.885	1.130
	SV	.210	.035	.234	5.962	.000	.656	1.525
	TS	.250	.038	.268	6.512	.000	.597	1.676
	TI	.158	.045	.127	3.498	.001	.764	1.309
	FB	.111	.033	.122	3.404	.001	.787	1.271
	JSec	.021	.024	.034	.857	.392	.642	1.559

a. Dependent Variable: TC

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JS

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846 <sup>a</sup>	.715	.711	.69381	1.611

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	752.420	9	83.602	173.675	.000 <sup>a</sup>
	Residual	299.412	622	.481		
	Total	1051.832	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	1.419	.341		4.162	.000		
	QD	.223	.046	.120	4.864	.000	.757	1.321
	PD	.388	.053	.190	7.363	.000	.689	1.450
	ED	.146	.052	.063	2.813	.005	.910	1.099
	SW	.404	.069	.134	5.871	.000	.885	1.130
	SV	-.117	.039	-.079	-2.978	.003	.656	1.525
	TS	-.221	.043	-.143	-5.169	.000	.597	1.676
	TI	-.126	.050	-.061	-2.500	.013	.764	1.309
	FB	-.211	.036	-.140	-5.809	.000	.787	1.271
	JSec	.485	.027	.482	18.041	.000	.642	1.559

a. Dependent Variable: JS

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: TC

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.611 <sup>a</sup>	.373	.363	.62379	1.856

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: TC

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.727	10	14.373	36.937	.000 <sup>a</sup>
	Residual	241.638	621	.389		
	Total	385.364	631			

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: TC

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.000	.311		6.436	.000		
	QD	-.104	.042	-.092	-2.480	.013	.729	1.372
	PD	-.077	.049	-.062	-1.551	.121	.634	1.577
	ED	-.048	.047	-.034	-1.015	.311	.898	1.113
	SW	-.167	.064	-.091	-2.630	.009	.838	1.193
	SV	.208	.035	.232	5.875	.000	.646	1.547
	TS	.248	.039	.265	6.302	.000	.572	1.748
	TI	.157	.046	.126	3.444	.001	.757	1.322
	FB	.109	.034	.119	3.235	.001	.746	1.340
	JSec	.027	.030	.044	.896	.371	.421	2.375
	JS	-.012	.036	-.021	-.345	.730	.285	3.513

a. Dependent Variable: TC

## Interacting Effects of Job Stress with Job Demands Resources on (Interpersonal Support)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: IntSup

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.697 <sup>a</sup>	.485	.478	.59308	1.752

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: IntSup

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	206.279	9	22.920	65.161	.000 <sup>a</sup>
	Residual	218.785	622	.352		
	Total	425.064	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS b. Dependent Variable: IntSup

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.413	.291		4.849	.000		
	QD	-.151	.039	-.127	-3.855	.000	.757	1.321
	PD	-.139	.045	-.107	-3.087	.002	.689	1.450
	ED	-.191	.044	-.130	-4.303	.000	.910	1.099
	SW	-.155	.059	-.081	-2.636	.009	.885	1.130
	SV	.182	.033	.193	5.437	.000	.656	1.525
	TS	.331	.037	.337	9.044	.000	.597	1.676
	TI	.304	.043	.232	7.049	.000	.764	1.309
	FB	.095	.031	.099	3.054	.002	.787	1.271
	JSec	.062	.023	.097	2.701	.007	.642	1.559

a. Dependent Variable: IntSup

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JS

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846 <sup>a</sup>	.715	.711	.69381	1.611

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	752.420	9	83.602	173.675	.000 <sup>a</sup>
	Residual	299.412	622	.481		
	Total	1051.832	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.419	.341		4.162	.000		
	QD	.223	.046	.120	4.864	.000	.757	1.321
	PD	.388	.053	.190	7.363	.000	.689	1.450
	ED	.146	.052	.063	2.813	.005	.910	1.099
	SW	.404	.069	.134	5.871	.000	.885	1.130
	SV	-.117	.039	-.079	-2.978	.003	.656	1.525
	TS	-.221	.043	-.143	-5.169	.000	.597	1.676
	TI	-.126	.050	-.061	-2.500	.013	.764	1.309
	FB	-.211	.036	-.140	-5.809	.000	.787	1.271
	JSec	.485	.027	.482	18.041	.000	.642	1.559

a. Dependent Variable: JS

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: IntSup

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.697 <sup>a</sup>	.486	.478	.59293	1.755

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: IntSup

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	206.738	10	20.674	58.804	.000 <sup>a</sup>
	Residual	218.326	621	.352		
	Total	425.064	631			

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: IntSup

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.358	.295		4.596	.000		
	QD	-.160	.040	-.135	-4.004	.000	.729	1.372
	PD	-.154	.047	-.119	-3.284	.001	.634	1.577
	ED	-.196	.045	-.134	-4.405	.000	.898	1.113
	SW	-.171	.060	-.089	-2.828	.005	.838	1.193
	SV	.187	.034	.198	5.535	.000	.646	1.547
	TS	.339	.037	.346	9.090	.000	.572	1.748
	TI	.309	.043	.236	7.130	.000	.757	1.322
	FB	.103	.032	.108	3.234	.001	.746	1.340
	JSec	.043	.028	.067	1.520	.129	.421	2.375
	JS	.039	.034	.062	1.142	.254	.285	3.513

a. Dependent Variable: IntSup

### Interacting Effects of Job Stress with Job Demands Resources on (Job-Task Support)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JTSup

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.549 <sup>a</sup>	.301	.291	.65700	1.843

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JTSup

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	115.716	9	12.857	29.786	.000 <sup>a</sup>
	Residual	268.489	622	.432		
	Total	384.205	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JTSup

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.840	.323		2.603	.009		
	QD	-.075	.044	-.066	-1.717	.086	.757	1.321
	PD	-.028	.050	-.023	-.568	.570	.689	1.450
	ED	-.102	.049	-.073	-2.081	.038	.910	1.099
	SW	-.040	.065	-.022	-.621	.535	.885	1.130
	SV	.125	.037	.139	3.360	.001	.656	1.525
	TS	.307	.041	.329	7.573	.000	.597	1.676
	TI	.290	.048	.233	6.077	.000	.764	1.309
	FB	.008	.034	.008	.220	.826	.787	1.271
	JSec	.069	.025	.113	2.705	.007	.642	1.559

a. Dependent Variable: TSup

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JS

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846 <sup>a</sup>	.715	.711	.69381	1.611

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	752.420	9	83.602	173.675	.000 <sup>a</sup>
	Residual	299.412	622	.481		
	Total	1051.832	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.419	.341		4.162	.000		
	QD	.223	.046	.120	4.864	.000	.757	1.321
	PD	.388	.053	.190	7.363	.000	.689	1.450
	ED	.146	.052	.063	2.813	.005	.910	1.099
	SW	.404	.069	.134	5.871	.000	.885	1.130
	SV	-.117	.039	-.079	-2.978	.003	.656	1.525
	TS	-.221	.043	-.143	-5.169	.000	.597	1.676
	TI	-.126	.050	-.061	-2.500	.013	.764	1.309
	FB	-.211	.036	-.140	-5.809	.000	.787	1.271
	JSec	.485	.027	.482	18.041	.000	.642	1.559

a. Dependent Variable: JS

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JTSup

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.549 <sup>a</sup>	.302	.290	.65735	1.842

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: JTSup

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	115.861	10	11.586	26.813	.000 <sup>a</sup>
	Residual	268.343	621	.432		
	Total	384.205	631			

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: JTSup

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.809	.328		2.470	.014		
	QD	-.080	.044	-.071	-1.796	.073	.729	1.372
	PD	-.037	.052	-.030	-.709	.479	.634	1.577
	ED	-.105	.049	-.075	-2.132	.033	.898	1.113
	SW	-.049	.067	-.027	-.737	.461	.838	1.193
	SV	.127	.037	.142	3.403	.001	.646	1.547
	TS	.312	.041	.334	7.529	.000	.572	1.748
	TI	.293	.048	.235	6.101	.000	.757	1.322
	FB	.012	.035	.013	.346	.730	.746	1.340
	JSec	.058	.031	.096	1.850	.065	.421	2.375
	JS	.022	.038	.037	.581	.562	.285	3.513

a. Dependent Variable: JTSup

## Interacting Effects of Job Stress with Job Demands Resources on (Compliance)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: Com

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.460 <sup>a</sup>	.211	.200	.75571	1.846

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: Com

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.236	9	10.582	18.529	.000 <sup>a</sup>
	Residual	355.221	622	.571		
	Total	450.457	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: Com

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	2.489	.371			6.703	.000		
	QD	-.125	.050	-.102		-2.488	.013	.757	1.321
	PD	-.172	.057	-.128		-2.993	.003	.689	1.450
	ED	-.122	.056	-.081		-2.166	.031	.910	1.099
	SW	-.162	.075	-.082		-2.157	.031	.885	1.130
	SV	.141	.043	.145		3.302	.001	.656	1.525
	TS	.150	.047	.149		3.230	.001	.597	1.676
	TI	.195	.055	.145		3.557	.000	.764	1.309
	FB	.109	.040	.110		2.751	.006	.787	1.271
	JSec	.050	.029	.076		1.712	.087	.642	1.559

a. Dependent Variable: Com

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JS

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846 <sup>a</sup>	.715	.711	.69381	1.611

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	752.420	9	83.602	173.675	.000 <sup>a</sup>
	Residual	299.412	622	.481		
	Total	1051.832	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	1.419	.341			4.162	.000		
	QD	.223	.046	.120		4.864	.000	.757	1.321
	PD	.388	.053	.190		7.363	.000	.689	1.450
	ED	.146	.052	.063		2.813	.005	.910	1.099
	SW	.404	.069	.134		5.871	.000	.885	1.130
	SV	-.117	.039	-.079		-2.978	.003	.656	1.525
	TS	-.221	.043	-.143		-5.169	.000	.597	1.676
	TI	-.126	.050	-.061		-2.500	.013	.764	1.309
	FB	-.211	.036	-.140		-5.809	.000	.787	1.271
	JSec	.485	.027	.482		18.041	.000	.642	1.559

a. Dependent Variable: JS

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: Com



**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.470 <sup>a</sup>	.221	.209	.75165	1.834

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: Com

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	99.601	10	9.960	17.629	.000 <sup>a</sup>
	Residual	350.856	621	.565		
	Total	450.457	631			

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: Com

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.661	.374		7.105	.000		
	QD	-.098	.051	-.080	-1.923	.055	.729	1.372
	PD	-.125	.060	-.093	-2.099	.036	.634	1.577
	ED	-.105	.057	-.069	-1.852	.064	.898	1.113
	SW	-.113	.077	-.057	-1.474	.141	.838	1.193
	SV	.127	.043	.131	2.967	.003	.646	1.547
	TS	.124	.047	.122	2.616	.009	.572	1.748
	TI	.180	.055	.134	3.281	.001	.757	1.322
	FB	.083	.040	.085	2.064	.039	.746	1.340
	JSec	.109	.036	.165	3.024	.003	.421	2.375
	JS	-.121	.043	-.185	-2.780	.006	.285	3.513

a. Dependent Variable: Com

## Interacting Effects of Job Stress with Job Demands Resources on (Volunteering for Additional Duties)

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: VAD

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.585 <sup>a</sup>	.342	.332	.68503	1.755

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: VAD

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	151.520	9	16.836	35.876	.000 <sup>a</sup>
	Residual	291.883	622	.469		
	Total	443.402	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: VAD

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.833	.337		5.446	.000		
	QD	-.178	.045	-.147	-3.919	.000	.757	1.321
	PD	-.151	.052	-.114	-2.901	.004	.689	1.450
	ED	-.122	.051	-.081	-2.377	.018	.910	1.099
	SW	-.199	.068	-.101	-2.929	.004	.885	1.130
	SV	.191	.039	.199	4.947	.000	.656	1.525
	TS	.243	.042	.242	5.752	.000	.597	1.676
	TI	.216	.050	.162	4.341	.000	.764	1.309
	FB	.115	.036	.118	3.210	.001	.787	1.271
	JSec	.072	.027	.110	2.697	.007	.642	1.559

a. Dependent Variable: VAD

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JSec, QD, ED, SW, TI, FB, SV, PD, TS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: JS

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846 <sup>a</sup>	.715	.711	.69381	1.611

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	752.420	9	83.602	173.675	.000 <sup>a</sup>
	Residual	299.412	622	.481		
	Total	1051.832	631			

a. Predictors: (Constant), JSec, QD, ED, SW, TI, FB, SV, PD, TS

b. Dependent Variable: JS

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.419	.341		4.162	.000		
	QD	.223	.046	.120	4.864	.000	.757	1.321
	PD	.388	.053	.190	7.363	.000	.689	1.450
	ED	.146	.052	.063	2.813	.005	.910	1.099
	SW	.404	.069	.134	5.871	.000	.885	1.130
	SV	-.117	.039	-.079	-2.978	.003	.656	1.525
	TS	-.221	.043	-.143	-5.169	.000	.597	1.676
	TI	-.126	.050	-.061	-2.500	.013	.764	1.309
	FB	-.211	.036	-.140	-5.809	.000	.787	1.271
	JSec	.485	.027	.482	18.041	.000	.642	1.559

a. Dependent Variable: JS

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: VAD

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.601 <sup>a</sup>	.361	.351	.67526	1.755

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: VAD

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.243	10	16.024	35.143	.000 <sup>a</sup>
	Residual	283.159	621	.456		
	Total	443.402	631			

a. Predictors: (Constant), JS, QD, ED, TI, SW, FB, SV, PD, TS, JSec

b. Dependent Variable: VAD

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.076	.336		6.169	.000		
	QD	-.140	.046	-.115	-3.065	.002	.729	1.372
	PD	-.085	.053	-.064	-1.584	.114	.634	1.577
	ED	-.097	.051	-.064	-1.906	.057	.898	1.113
	SW	-.130	.069	-.066	-1.890	.059	.838	1.193
	SV	.171	.038	.178	4.465	.000	.646	1.547
	TS	.205	.043	.205	4.826	.000	.572	1.748
	TI	.195	.049	.145	3.946	.000	.757	1.322
	FB	.079	.036	.081	2.179	.030	.746	1.340
	JSec	.154	.032	.236	4.781	.000	.421	2.375
	JS	-.171	.039	-.263	-4.374	.000	.285	3.513

a. Dependent Variable: VAD

## APPENDIX E

### Hierarchical Regression Evaluating the Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance

#### Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance (Provision of Information)

Variables Entered/Removed <sup>b</sup>			
Model	Variables Entered	Variables Removed	Method
1	JS <sup>a</sup>		Enter
2	OS <sup>a</sup>		Enter
3	JSOS <sup>a</sup>		Enter

a. All requested variables entered.      b. Dependent Variable: PI

Model Summary <sup>d</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.363 <sup>a</sup>	.132	.130	.73965	
2	.486 <sup>b</sup>	.236	.234	.69428	
3	.493 <sup>c</sup>	.243	.240	.69147	1.707

a. Predictors: (Constant), JS      b. Predictors: (Constant), JS, OS      c. Predictors: (Constant), JS, OS, JSOS      d. Dependent Variable: PI

ANOVA <sup>d</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.240	1	52.240	95.489	.000 <sup>e</sup>
	Residual	344.659	630	.547		
	Total	396.898	631			
2	Regression	93.703	2	46.852	97.197	.000 <sup>e</sup>
	Residual	303.195	629	.482		
	Total	396.898	631			
3	Regression	96.629	3	32.210	67.365	.000 <sup>e</sup>
	Residual	300.269	628	.478		
	Total	396.898	631			

a. Predictors: (Constant), JS      b. Predictors: (Constant), JS, OS      c. Predictors: (Constant), JS, OS, JSOS      d. Dependent Variable: PI

Coefficients <sup>a</sup>									
Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	3.973	.061			65.039	.000		
	JS	-.223	.023	-.363		-9.772	.000	1.000	1.000
2	(Constant)	2.582	.161			16.087	.000		
	JS	-.151	.023	-.246		-6.626	.000	.884	1.131
	OS	.366	.039	.344		9.275	.000	.884	1.131
3	(Constant)	3.169	.286			11.079	.000		
	JS	-.418	.110	-.680		-3.789	.000	.037	26.762
	OS	.175	.087	.165		2.025	.043	.182	5.487
	JSOS	.090	.036	.419		2.474	.014	.042	23.783

a. Dependent Variable: PI

#### Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance (Coordination of Care)

Variables Entered/Removed <sup>b</sup>			
Model	Variables Entered	Variables Removed	Method
1	JS <sup>a</sup>		Enter
2	OS <sup>a</sup>		Enter
3	JSOS <sup>a</sup>		Enter

a. All requested variables entered.      b. Dependent Variable: CC

Model Summary <sup>d</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.290 <sup>a</sup>	.084	.083	.76822	
2	.505 <sup>b</sup>	.255	.253	.69336	
3	.514 <sup>c</sup>	.264	.261	.68964	1.757

a. Predictors: (Constant), JS      b. Predictors: (Constant), JS, OS      c. Predictors: (Constant), JS, OS, JSOS      d. Dependent Variable: CC

ANOVA<sup>d</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.095	1	34.095	57.772	.000 <sup>a</sup>
	Residual	371.805	630	.590		
	Total	405.901	631			
2	Regression	103.509	2	51.754	107.653	.000 <sup>a</sup>
	Residual	302.392	629	.481		
	Total	405.901	631			
3	Regression	107.225	3	35.742	75.151	.000 <sup>a</sup>
	Residual	298.676	628	.476		
	Total	405.901	631			

a. Predictors: (Constant), JS

b. Predictors: (Constant), JS, OS

c. Predictors: (Constant), JS, OS, JSOS

d. Dependent Variable: CC

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	4.243	.063			66.874	.000		
	JS	-.180	.024		-.290	-7.601	.000	1.000	1.000
2	(Constant)	2.444	.160			15.243	.000		
	JS	-.087	.023		-.140	-3.822	.000	.884	1.131
	OS	.474	.039		.440	12.016	.000	.884	1.131
3	(Constant)	3.105	.285			10.884	.000		
	JS	-.388	.110		-.624	-3.525	.000	.037	26.762
	OS	.259	.086		.240	2.995	.003	.182	5.487
	JSOS	.102	.036		.467	2.795	.005	.042	23.783

a. Dependent Variable: CC

## Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance (Provision of Support)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JS <sup>a</sup>		Enter
2	OS <sup>a</sup>		Enter
3	JSOS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: PS

Model Summary<sup>d</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.366 <sup>a</sup>	.134	.133	.73514	
2	.522 <sup>b</sup>	.273	.271	.67427	
3	.530 <sup>c</sup>	.281	.278	.67099	1.789

a. Predictors: (Constant), JS

b. Predictors: (Constant), JS, OS

c. Predictors: (Constant), JS, OS, JSOS

d. Dependent Variable: PS

ANOVA<sup>d</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.805	1	52.805	97.709	.000 <sup>a</sup>
	Residual	340.471	630	.540		
	Total	393.276	631			
2	Regression	107.310	2	53.655	118.017	.000 <sup>a</sup>
	Residual	285.966	629	.455		
	Total	393.276	631			
3	Regression	110.535	3	36.845	81.837	.000 <sup>a</sup>
	Residual	282.741	628	.450		
	Total	393.276	631			

a. Predictors: (Constant), JS

b. Predictors: (Constant), JS, OS

c. Predictors: (Constant), JS, OS, JSOS

d. Dependent Variable: PS

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	4.123	.061			67.916	.000		
	JS	-.224	.023	-.366		-9.885	.000	1.000	1.000
2	(Constant)	2.529	.156			16.222	.000		
	JS	-.142	.022	-.231		-6.400	.000	.884	1.131
	OS	.420	.038	.396		10.949	.000	.884	1.131
3	(Constant)	3.145	.278			11.331	.000		
	JS	-.422	.107	-.690		-3.942	.000	.037	26.762
	OS	.219	.084	.207		2.612	.009	.182	5.487
	JSOS	.095	.035	.442		2.676	.008	.042	23.783

a. Dependent Variable: PS

## Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance (Technical of Care)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JS <sup>a</sup>		Enter
2	OS <sup>a</sup>		Enter
3	JSOS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: TC

Model Summary<sup>d</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.412 <sup>a</sup>	.170	.168	.71267	
2	.501 <sup>b</sup>	.251	.249	.67723	
3	.506 <sup>c</sup>	.256	.253	.67558	1.716

a. Predictors: (Constant), JS

b. Predictors: (Constant), JS, OS

c. Predictors: (Constant), JS, OS, JSOS

d. Dependent Variable: TC

ANOVA<sup>d</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	65.392	1	65.392	128.752	.000 <sup>a</sup>
	Residual	319.972	630	.508		
	Total	385.364	631			
2	Regression	96.878	2	48.439	105.614	.000 <sup>b</sup>
	Residual	288.486	629	.459		
	Total	385.364	631			
3	Regression	98.741	3	32.914	72.114	.000 <sup>c</sup>
	Residual	286.624	628	.456		
	Total	385.364	631			

a. Predictors: (Constant), JS

b. Predictors: (Constant), JS, OS

c. Predictors: (Constant), JS, OS, JSOS

d. Dependent Variable: TC

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	4.555	.059			77.384	.000		
	JS	-.249	.022	-.412		-11.347	.000	1.000	1.000
2	(Constant)	3.343	.157			21.348	.000		
	JS	-.187	.022	-.308		-8.401	.000	.884	1.131
	OS	.319	.038	.304		8.286	.000	.884	1.131
3	(Constant)	3.811	.279			13.637	.000		
	JS	-.400	.108	-.660		-3.709	.000	.037	26.762
	OS	.167	.085	.159		1.972	.049	.182	5.487
	JSOS	.072	.036	.339		2.020	.044	.042	23.783

a. Dependent Variable: TC

## Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance (Interpersonal Support)

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JS <sup>a</sup>		Enter
2	OS <sup>a</sup>		Enter
3	JSOS <sup>a</sup>		Enter

a. All requested variables entered.      b. Dependent Variable: IntSup

**Model Summary<sup>d</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.421 <sup>a</sup>	.177	.176	.74513	
2	.588 <sup>b</sup>	.346	.344	.66499	
3	.597 <sup>c</sup>	.356	.353	.66009	1.624

a. Predictors: (Constant), JS      b. Predictors: (Constant), JS, OS      c. Predictors: (Constant), JS, OS, JSOS      d. Dependent Variable: IntSup

**ANOVA<sup>d</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.279	1	75.279	135.584	.000 <sup>e</sup>
	Residual	349.785	630	.555		
	Total	425.064	631			
2	Regression	146.916	2	73.458	166.117	.000 <sup>e</sup>
	Residual	278.148	629	.442		
	Total	425.064	631			
3	Regression	151.432	3	50.477	115.848	.000 <sup>e</sup>
	Residual	273.632	628	.436		
	Total	425.064	631			

a. Predictors: (Constant), JS      b. Predictors: (Constant), JS, OS      c. Predictors: (Constant), JS, OS, JSOS      d. Dependent Variable: IntSup

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	4.362	.062			70.885	.000		
	JS	-.268	.023		-.421	-11.644	.000	1.000	1.000
2	(Constant)	2.534	.154			16.483	.000		
	JS	-.173	.022		-.272	-7.928	.000	.884	1.131
	OS	.481	.038		.437	12.728	.000	.884	1.131
3	(Constant)	3.263	.273			11.951	.000		
	JS	-.505	.105		-.794	-4.793	.000	.037	26.762
	OS	.244	.083		.222	2.954	.003	.182	5.487
	JSOS	.112	.035		.503	3.219	.001	.042	23.783

a. Dependent Variable: IntSup

## Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance (Job-Task Support)

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	JS <sup>a</sup>		Enter
2	OS <sup>a</sup>		Enter
3	JSOS <sup>a</sup>		Enter

a. All requested variables entered.      b. Dependent Variable: JTSup

**Model Summary<sup>d</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.269 <sup>a</sup>	.072	.071	.75212	
2	.425 <sup>b</sup>	.181	.178	.70744	
3	.427 <sup>c</sup>	.182	.178	.70746	1.835

a. Predictors: (Constant), JS      b. Predictors: (Constant), JS, OS      c. Predictors: (Constant), JS, OS, JSOS      d. Dependent Variable: JTSup

ANOVA<sup>d</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.824	1	27.824	49.187	.000 <sup>e</sup>
	Residual	356.380	630	.566		
	Total	384.205	631			
2	Regression	69.412	2	34.706	69.348	.000 <sup>e</sup>
	Residual	314.792	629	.500		
	Total	384.205	631			
3	Regression	69.892	3	23.297	46.548	.000 <sup>e</sup>
	Residual	314.313	628	.500		
	Total	384.205	631			

a. Predictors: (Constant), JS    b. Predictors: (Constant), JS, OS    c. Predictors: (Constant), JS, OS, JSOS    d. Dependent Variable: JTSup

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.627	.062		58.383	.000		
	JS	-.163	.023	-.269	-7.013	.000	1.000	1.000
2	(Constant)	2.234	.164		13.657	.000		
	JS	-.091	.023	-.150	-3.903	.000	.884	1.131
	OS	.367	.040	.350	9.116	.000	.884	1.131
3	(Constant)	2.471	.293		8.445	.000		
	JS	-.199	.113	-.329	-1.761	.079	.037	26.762
	OS	.289	.089	.276	3.267	.001	.182	5.487
	JSOS	.037	.037	.172	.979	.328	.042	23.783

a. Dependent Variable: JTSup

### Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance (Compliance)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JS <sup>a</sup>		Enter
2	OS <sup>a</sup>		Enter
3	JSOS <sup>a</sup>		Enter

a. All requested variables entered.    b. Dependent Variable: Com

Model Summary<sup>d</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.356 <sup>a</sup>	.127	.125	.79018	
2	.452 <sup>b</sup>	.204	.202	.75492	
3	.457 <sup>c</sup>	.209	.205	.75335	1.775

a. Predictors: (Constant), JS    b. Predictors: (Constant), JS, OS    c. Predictors: (Constant), JS, OS, JSOS    d. Dependent Variable: Com

ANOVA<sup>d</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.096	1	57.096	91.445	.000 <sup>e</sup>
	Residual	393.360	630	.624		
	Total	450.457	631			
2	Regression	91.986	2	45.993	80.703	.000 <sup>e</sup>
	Residual	358.471	629	.570		
	Total	450.457	631			
3	Regression	94.046	3	31.349	55.237	.000 <sup>e</sup>
	Residual	356.411	628	.568		
	Total	450.457	631			

a. Predictors: (Constant), JS    b. Predictors: (Constant), JS, OS    c. Predictors: (Constant), JS, OS, JSOS    d. Dependent Variable: Com

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.265	.065		65.351	.000		
	JS	-.233	.024	-.356	-9.563	.000	1.000	1.000
2	(Constant)	2.989	.175		17.125	.000		
	JS	-.167	.025	-.255	-6.743	.000	.884	1.131
	OS	.336	.043	.296	7.824	.000	.884	1.131
3	(Constant)	3.481	.312		11.172	.000		
	JS	-.391	.120	-.598	-3.254	.001	.037	26.762
	OS	.176	.094	.155	1.863	.063	.182	5.487
	JSOS	.076	.040	.330	1.905	.057	.042	23.783

a. Dependent Variable: Com

### Interacting Effects of Organizational Support with Job Stress on Nurses Job Performance (Volunteering for Additional Duties)

Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	JS <sup>a</sup>		Enter
2	OS <sup>a</sup>		Enter
3	JSOS <sup>a</sup>		Enter

a. All requested variables entered.

b. Dependent Variable: VAD

Model Summary<sup>d</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.444 <sup>a</sup>	.197	.196	.75162	
2	.554 <sup>b</sup>	.307	.305	.69900	
3	.561 <sup>c</sup>	.315	.312	.69535	1.589

a. Predictors: (Constant), JS

b. Predictors: (Constant), JS, OS

c. Predictors: (Constant), JS, OS, JSOS

d. Dependent Variable: VAD

ANOVA<sup>d</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	87.493	1	87.493	154.872	.000 <sup>e</sup>
	Residual	355.909	630	.565		
	Total	443.402	631			
2	Regression	136.071	2	68.035	139.244	.000 <sup>e</sup>
	Residual	307.332	629	.489		
	Total	443.402	631			
3	Regression	139.757	3	46.586	96.349	.000 <sup>e</sup>
	Residual	303.645	628	.484		
	Total	443.402	631			

a. Predictors: (Constant), JS

b. Predictors: (Constant), JS, OS

c. Predictors: (Constant), JS, OS, JSOS

d. Dependent Variable: VAD

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.301	.062		69.287	.000		
	JS	-.288	.023	-.444	-12.445	.000	1.000	1.000
2	(Constant)	2.796	.162		17.299	.000		
	JS	-.210	.023	-.324	-9.182	.000	.884	1.131
	OS	.396	.040	.352	9.971	.000	.884	1.131
3	(Constant)	3.454	.288		12.010	.000		
	JS	-.510	.111	-.786	-4.600	.000	.037	26.762
	OS	.182	.087	.162	2.091	.037	.182	5.487
	JSOS	.101	.037	.445	2.761	.006	.042	23.783

a. Dependent Variable: VAD