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Motivations and Barriers for Saudi Nurses to Pursue a Doctoral Degree

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MOTIVATIONS AND BARRIERS FOR SAUDI NURSES TO PURSUE A DOCTORAL DEGREE

A Dissertation Presented

by

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DEDICATION

This dissertation is dedicated to my great father and mother, Saeed and Fatima. Their love, prayers, support, and encouragement have sustained me throughout my whole life.

Special thanks go to my dear wife, Hend, and my lovely children, Firas and Rayana. I wish to thank you all for adding so much value to my life and encouraging me to succeed in my study. I am sorry for the stress created by the requirements of my study that have led me to spend so much time away from you. Thank you for your love, support, encouragement and patience.

Finally, I dedicate this effort to my brothers, sisters, and friends for their support and encouragement.

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ABSTRACT

MOTIVATIONS AND BARRIERS FOR SAUDI NURSES
TO PURSUE A DOCTORAL DEGREE

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Background/ Purpose: A shortage of Saudi PhD prepared nursing school faculty and a limited number of advanced degree programs in Saudi Arabia, are preventing the education of enough nurses to meet growing healthcare demands and the preparation of nurses for faculty roles. The purpose of this study was to identify motivating and barrier factors that may influence the decision of a nurse to seek further education at the doctorate level.

Theoretical Framework: Cross's (1981) Chain-of-Response Model was used as to guide this study and the interpretation of findings.

Methods: A mixed method design was used for this study. A questionnaire was distributed to four groups of nurses using email and social media methods. A total of 161 responses were obtained from nurses working in Saudi Arabia and internationally. The analysis strategy included descriptive statistics, ANOVA, ANCOVA, and factor analysis methods. Qualitative data analysis involved creating codes and themes to create categories of responses that could be compared with the quantitative data.

Findings: There was a statistically significant difference between group membership (decided and undecided PhD study) and dispositional barriers, but no

statistical difference between motivation scores and gender for either group. Analysis indicated institutional barriers were more important for female nurses in pursuing higher education. The length of time in practice or experience did not statistically impact the decision to pursue a doctoral degree, nor was it associated with motivation or barrier scores, or group membership. Analysis of the qualitative data identified important motivation and barriers factors including prior success in study or work, the need to advance nursing knowledge, personal and work aspirations, and a belief in the importance of improving professional nursing and care outcomes. Support from family members, work colleagues and fellow students were important in deciding to study for a PhD.

Conclusions: This study identified motivation and barrier factors that were unique to Saudi Arabian nursing students. Knowledge of these can be used to inform policy and practice aimed at increasing the number of nursing faculty necessary to grow the Saudi nursing workforce.

Keywords: motivations, barriers, Saudi, nurses, doctoral degree, doctorate

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CHAPTER 1

INTRODUCTION

Background of the Study

As the population increases in Saudi Arabia, so does the demand for nurses and an awareness of the importance of doctoral programs that are needed more today than ever before. Yet the pipeline for nurse preparation is significantly obstructed by the lack of an appropriate number of nursing faculty and universities offering doctoral programs. Acording to Maas, Conn, Buckwalter, Herr and Tripp-Reimer (2009), doctoral degrees can prepare nurses to enhance and carry out research that develops the knowledge and theoretical foundation underlying nursing practice. It prepares for faculty positions in nursing education programs, produces qualified leaders, and impacts nursing and health policy (Jackson, Peters, Andrew, Salamonson and Halcomb, 2011).

Samarkandi (2011) said Saudi Arabia has 35 universities that award a variety of majors for baccalaureate degrees. Among these 35 universities, 21 offer baccalaureate degrees for female students (Samarkandi, 2011). The latest statistics from the Ministry of Education (MOE) (2012) indicate there are 33 government and private nursing colleges spread around the five regions of the country (Saudi Arabia, 2003). Of these, 13 are affiliated with nine universities and the rest are separate colleges. Female nursing baccalaureate programs are offered in all 33 nursing colleges, while a male baccalaureate is offered at only 15 colleges (MOE, 2012). Master's degrees are offered only for female nurses in three colleges. Currently there is no master's program for male nurses and no doctoral program for either gender (MOE, 2014). The ability to follow trends in university growth is hampered by the lack of data and statistical analysis.

A high percentage of nursing schools are run by expatriate faculty members (Alamri, 2011). The exact number is not documented in the literature, but personal experience as a faculty member indicates a number of nursing schools, particularly male schools, are running with 100% expatriate faculty members who have only a master's degree. The lack of Saudi nationals who have doctoral degrees, along with the high percentage of expatriates with only a master's degree, is incongruent with the policy of MOE that indicates 80% of faculty members in any school should hold a doctoral degree (MOE, 2011). Working toward incorporating the policy of MOE requires continued running of undergraduate programs, establishing or expanding the existing master's programs, and opening doctoral programs for both genders.

In some countries, doctoral degrees in nursing are established enough to have not only the doctorate degree, but also different types of it. For instance, Meleis (1988) said many nursing schools in the United States have had different types of nursing doctoral programs since 1966. According to Redman, Pressler, Furspan, and Potempa (2014), American students preferred the PhD and DNP to fulfill the Institute of Medicine's recommendation of doubling the number of nurses with doctorates by 2020. A study by Lewallen and Kohlenberg (2011) showed that students should be doctoral prepared to be educators, clinical researchers or administrators. Potempa (2011) confirmed that a PhD improves research and the DNP strengthens nurses in the clinical area, enhancing knowledge to improve nursing practices and patient outcomes and supporting leadership to strengthen practice and health care delivery.

The growing demand for national nurses in Saudi Arabia justifies the need to have more nurses with PhDs and, in the near future, establish doctoral programs, which will

decrease the demand for foreign nurses. Tumulty (2001) indicates that Saudi nurses working in the Ministry of Health (MOH) make up only 15.5% of a total number of 33,373 and 8.6% of the 12,485 who are working in other governmental hospitals. The majority of expatriate nurses working in MOH facilities are Indian and Filipino (Tumulty, 2001). Expatriate nurses are also recruited to highly prestigious hospitals from North America, United Kingdom, Australia, South Africa, Malaysia and other Middle East countries (Aboul-Enein, 2002). The wide scale use of expatriate nurses creates a financial issue, as these nurses cost considerably more in terms of their salaries and other contractual arrangements, including accommodation and airline travel. There are also patient care issues. Saudi patients deserve the right to have nurses who communicate in their language, which may by itself lead to improved healthcare outcomes, better quality care, greater reported levels of patient satisfaction and a reduction in errors.

It is clearly evident that the shortage of Saudi nurses is significant, and nursing education programs in Saudi Arabia need to be encouraged and supported to educate more nurses and to prepare a cadre of nurses with doctoral degrees. Yet, as Aldossary, While & Barriball (2008) comment, at the current rate, Saudi Arabia will need 25 years to educate enough Saudi nurses to meet 30% of Saudi Arabia's nursing workforce requirements.

As part of a short-term solution to the shortage of doctoral prepared nurses, there has been an increase in the number of nurses studying doctoral degrees internationally. Despite this, the most recent available data indicates that Saudi Arabia has only seven nurses (Abu-Zinadah & Banjar, 2006) who hold a doctoral degree. This has limited the increase in numbers of nursing schools and contributes to the shortage of nurses.

There are, however, other important economic and policy issues to consider. Current unstable political conditions in other Arab countries risk the possibility of a second nurse-staffing crisis in the Saudi health care system. The first occurred during the second Gulf war in 1990, when many expatriate nurses left the country without prior notice, putting intolerable strain on the ability to deliver high quality care to patients. As a result, the Saudi government developed and emphasized the policy of "Saudization" as a priority (AlYami & Watson, 2014). This national policy is designed to encourage and enable Saudi nationals to obtain employment in the private sector and to create long-term career pathways. There is a process underway of replacing expatriate workers in all job sectors and skill levels throughout the Kingdom. Securing the Saudi Arabian health care system with national nurses is significant. Preparing faculty to offer innovative, effective curricula and produce a well-educated nursing workforce is essential to health leaders in Saudi Arabia. This will not be possible unless adequate numbers of Saudi nurses with doctoral degrees are available to work as faculty.

Professional Saudi nurses understand the effect of the lack of doctoral prepared nurses to nursing science and to the health system. Additional work is needed to attract more nurses to doctoral programs to ensure the improvement of future generations of educators and scientists and provide enough nurses to supply current health care demands, improve patient care, and decrease health care spending. No one has addressed the concerns of motivations and barriers of Saudi nurses studying doctorates. Considering the key role nurse faculty play in adding to the nation's health care, uncovering motivations and barriers to try to increase the number of doctoral prepared faculty positions will make a major contribution to increase the numbers of new students,

increase the number of local RN graduates, decrease the shortage of nurses, improve patient care, and decrease the cost of health care for individuals. Having enough doctoral prepared faculty will allow the opening of more master's programs for female nurses, open new ones for men, and make the dream a reality for nurses who want to study for a doctoral degree locally.

This study will identify motivations and barriers among Saudi nurses who are considering beginning doctoral study, as well as reasons of those who have decided not to do so. This research will also investigate whether motivators and barriers change with, for example, years of RN practice, and will look for other motivations and barriers faced by Saudi nurses that are not reported in the literature. It is remarkable that no study has attempted to identify the motivations and barriers to doctorate study of nurses in Saudi Arabia, calling into question whether current nurses are ready for change and to address the barriers they are facing. Given the current nursing faculty shortage, unless there is a sustained increase in the number of doctoral prepared nurses, non-doctoral prepared faculty will continue to educate the next generation of nurses. If nurses interested in continued study can be attracted to faculty positions and given the chance to obtain a terminal degree, this will be beneficial to the higher education system and the nursing profession.

Statement of the Problem

While there is a clear understanding of some of the national, cultural, employment, and educational factors that may support or limit the number of nursing doctoral students being educated, there is a dearth of information about other personal and motivational issues that may influence the decision to pursue doctoral education.

This study will offer a much needed timely study of these factors as the Saudi government embarks on a plan to expand the number of nurses in practice, and therefore the number and preparation of faculty needed to educate them.

Purpose of the Study

The purpose of this descriptive, mixed method research study is to identify the motivators and barriers to Saudi nurses wanting a doctoral degree in nursing. The study will also explore the reasons of those nurses who are not interested in studying for this degree.

Theoretical Framework

This study will be guided by Cross's (1981) Chain-of-Response Model. This model was chosen after an extensive review of the literature about motivational models discussed in a wide range of disciplines. Cross's theoretical work describes the balance between motivators and barriers within complex environments and can be used to model and understand further the current concern about workforce planning in Saudi Arabia.

Research Questions

This study asked the following questions:

Quantitative Research Questions

1. What are the perceived motivators and barriers to study for those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it'?
2. What motivators/barriers are 'strongest' in these groups?
3. Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to situational barriers?

4. Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to institutional barriers?

5. Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to dispositional barriers?

6. What are the differences in motivations and barriers with relation to gender?

7. What are the differences in motivations and barriers due to practice/experience issues?

Qualitative Research Questions

1. For how long did you seriously consider studying doctoral degree? And what are the important reasons for that?

2. What was, or is, the most important barriers you face or are currently facing that may or will prevent you for returning to school for doctoral degree?

3. Did any one person encourage you or any event influence your decision to continue your education?

4. What additional remarks of motivations and barriers are highlighted by Saudi nurses who are interested in going forward to study for a doctoral degree?

Significance of the Study

This study of nurses' motivations and barriers has the potential to stimulate educational debate and policy discussion about how best to advance the nursing profession and the national need for more doctoral prepared nurses. The appallingly low percentage of doctoral prepared nurses in Saudi Arabia is problematic for the profession currently in the throws of a severe faculty shortage. Raising the prospects and opportunities for nurses to earn this terminal degree is critically important in Saudi Arabia at this time. Findings from this study may have a much more wide-ranging significance, including changing the image that Saudi nurses have of the profession,

nursing practice and themselves. It also offers direction for enhancing health leaders' understanding about those factors that can have an impact on developing the nursing profession. With this, the national program of 'Saudization' can be continued with evidence-based solutions to develop a doctoral prepared workforce that will educate the next generation of nurses, and also work towards a model of self-sufficiency that is at the very center of this workforce challenge.

Definition of Terms

The following terms need to have operational definitions since they are utilized in this study:

- Nursing faculty: any Saudi nurse who has a bachelor or master's degree, holding a faculty position and still not accepted in any doctoral program.
- Registered nurse: Has completed a four-year course in nursing school leading to registration with the Saudi Commission for Health Specialties (Saudi Commission for Health Specialties, 2012).

Assumptions

- Motivations and barriers for Saudi nurses to study for a doctoral degree in nursing exist.

CHAPTER 2

LITERATURE REVIEW

History of Saudi Arabia

The kingdom of Saudi Arabia is one of the largest countries in the Middle East (World Atlas, 2010). Over the 19th century, Saudi Arabia comprised separate regional organizations, or communities, that had various leaders, policies, and systems. Each group had its individual leader, who had the respect of many followers and led the group for several years. In 1932, King Abdul-Aziz successfully united those communities into just one country, called the Kingdom of Saudi Arabia (KSA) that started to be a country of influence within the Middle East (Fakeeh, 2009).

Figure 1: Map of Saudi Arabia (Source: http://www.worldatlas.com)

Economically, Saudi Arabia was dependent on Hajj or pilgrimage, farming, fishing, and safe trades for business. The majority of people worked as farmers on their own land. They sold their seeds or other products, which was their main source of

income. Additionally, animal care was typical work for most of the people within the central region of the country. Because the eastern region is located on the Arabic Gulf coast and the western region is around the Red Sea, fishing and hunting were popular professions there (Fakeeh, 2009).

Pilgrimage, or Hajj, continues to be one of the greatest usual economical sources for Saudi Arabia. During the Hajj time, many Muslims travel to Saudi Arabia to perform the Hajj pillar. This generates a lot of jobs for people within Saudi Arabia, mainly those people who are living in the western area where Mecca is located. Saudi Arabia is strategically located between Al-Sham (Jordan, Syria, Lebanon and Iraq) and Yemen, where most business takes place. In an effort to avoid a business from being stolen, the owners pay people to secure the transportation of their goods. These safe trades have been essential for business owners to help maintain successful work in Saudi Arabia. In general, the careers of farming, fishing, Hajj, and safe trades have traditionally been the main financial sources of the Saudi Arabian economy (Fakeeh, 2009).

In the 1970s, Saudi Arabia found one of the most important resources in its industrial history: oil. The discovery of oil in the eastern region of Saudi Arabia, called the black gold exploration, moved the Saudi Arabian economy into a new era. The emphasis changed from farming, fishing, and safe trades to industrial development and oil production. The sudden innovation was unplanned, leaving the government of Saudi Arabia and its citizens unready for the immediate cultural change caused by the oil boom (Al-Dosary & Rahman, 2005; Maghrabi, 2007).

Following the discovery of oil, the Saudi government employed and accepted, in the private sector, huge numbers of expert overseas workers to work in the growing oil

market, since the local people lacked the required skills. Nevertheless, the Saudi population experienced quick development during this time. The improvement of the healthcare system reduced death rates and increased birth rates, which led to a rapid increase of the Saudi population. The growth rate was 141.8% in 1992 (Ministry of Economy and Planning, 2012). Increasing dependence on foreign employees, combined with the increased Saudi population, created a major issue: an unemployment and health care crisis.

Current Health Care System

There are three main health care providers in the country: The Ministry Of Health (the main government sector), other government sectors, and the private sector (Alghamdi, 2012).

Main Government Sector (MOH)

Government services are delivered by more than ten organizations, directed by the Ministry of Health (MOH). The MOH is responsible for managing the national health system and is accountable for organizing, controlling, financing, directing and regulating the whole health care sector (Alghamdi, 2012). There are 13 health regions; each region is managed by a Regional Director General of Health Services, who reports directly to the Deputy Minister of Health for Executive Affairs. Each Regional Health Directorate has a number of health sections (Alghamdi, 2012). Every Health Section Supervisor oversees several health centers and at least one general hospital, the private health sector for that section, and school health services and health offices (Alghamdi, 2012).

The MOH is the main provider of health care, delivering 62% of all health care services (Walston, Al-Harbi & Al-Omar, 2008; Mobaraki & Söderfeldt, 2010; Aldossary,

et al., 2008). This sector offers a three-tier system of health care service, including primary, secondary and tertiary services, via specialist hospitals, general hospitals, and health centers.

Health Centers

Primary health care (PHC) is delivered via a network of health care centers dispersed all over the kingdom. The number of primary health centers increased from 519 in 1970 to 1,786 in 2001 (Alghamdi, 2012), to a total of 2,259 health care centers across the country in 2012. On average, every center delivers health services to roughly 13,455 individuals (MOH Yearbook, 2012). They basically offer promotional, preventive, curative and rehabilitative services (AlYousuf, et al., 2002). The centers are closely connected with local hospitals.

General Hospitals

The total number of MOH hospitals increased from 47 in 1970 to 191 in 2001 (Alghamdi, 2012) and to 259 in 2012 (MOH Statistical Yearbook, 2012). General public hospitals can be found in each large and small city all over the country, offering tertiary services for the whole population, and are connected through a referral program to specialist hospitals. In 1986, a referral system was proven to enhance coordination among primary care facilities and hospitals (Al-Ahmadi & Roland, 2005), yet the system of referrals between the various levels of services remains unclear (Alghamdi, 2012).

Specialist Hospitals

Specialist hospitals, as Alghamdi (2012) points out, are located within the main cities and accept all Saudi citizens to be treated if they are referred from general hospitals. They provide advanced, top quality specialist services like transplants, cancer

therapy and complicated surgical procedure and diagnoses, and are staffed mostly by foreign medical professionals. Alghamdi also said the quality standards of these hospitals are recognized by Western accreditation agencies, including the Joint Commission International (JCI), Central Board of Accreditation for Health care Institutions (CBAHI), Accreditation Canada and the Australian Council on Health care Standards (ACHS), and they are considered as educating institutions. The top specialist hospitals are King Faisal Specialist Hospital, and King Khalid Eye Specialist Hospital (Alghamdi, 2012).

Other Government Sectors

The other government sectors division offers 18% of the health care services in the country. This grouping is made up of many autonomous organizations, mainly intended to serve their workforces and their family members, and when the needed service is lacking, it is always the duty of the MOH to offer it (Alghamdi, 2012; Walston, et al, 2008).

These highly advanced levels of health care services offer specialized curative services in addition to healthcare education and training courses. This sector is formed of classified hospitals and health center services of large multinational organizations like the kingdom's universities (and affiliated teaching hospitals), and the Saudi ARAMCO Oil Company. Moreover, the Ministry of the Interior and the Ministry of Defense and Aviation, and the Saudi Arabian National Guard provide health care for military employees (Army, Navy and Air Force) (Alghamdi, 2012; Walston, et al, 2008; Aldossary, et al., 2008). Military headquarter health care facilities are typically equipped with 400-650 beds and are located in the main cities: Riyadh, Jeddah, and Dammam (Al-Yousuf, et al., 2002).

Private Sector

The non-public health sector delivers 20% of all health care services in the Saudi nation, and the number of private hospitals and centers is growing all over the kingdom. In 1997, there were 18 private hospitals (Walston, et al, 2008), with the number jumping to 137 in 2012, employing 1,236 of the nation's physicians and 859 nurses, (MOH Statistical Yearbook, 2012; Walston, et al, 2008). The non-public facilities are mostly in big cities, providing services ranging from primary to highly specialized.

Financing Health Care

The Saudi government controls the overall health care in Saudi Arabia and has confirmed significant growth in the provision of health care for the general public. Almost all health care funding comes from government income. About 70% of government income is from sales of natural resources, mostly oil and gas (Al-Yousuf, et al., 2002). The powerful interrelationship between the budget given to the health care field and the oil prices that impact the nation's income, signifies that an increase in oil costs results directly in huge raises in the amount of funds for the overall health sector (Walston, et al, 2008).

In 1932, the first Saudi national budget was released, in the amount of 9.6 million Saudi Riyals (≈ $ 2.56 million at current exchange rates), and the share approved for the health division was 2.8 million Saudi Riyals (≈ $746,666 at current exchange rates) (Alghamdi, 2012). Alghamdi (2012) indicates that health funds were about 2.7% of the country's budget in 1975 and 1985, due to an increase resulting from the improvement in oil income.

The process for paying public providers is via funds transfers from the Ministry of Finance, based on line item allocations for exact cost classification, for instance salaries, maintenance, new initiatives, and so on. The current pattern in funding governmental health services has not changed since the establishment of the health system, although it is challenging to get detailed information about what is allocated to the governmental service sector and health services (Al-Rabeeah, 2003; Walston, et al, 2008). Expenditure is managed directly from the center (MOH division) to the periphery (directorates and health facilities). Leaders of health services are typically restricted from changing funds around defined categories. Additionally, there are strong benefits to spending all allocated yearly funds prior to the end of the financial year, as unspent money is normally not retained by the governmental organization (Alghamdi, 2012). Hospitals under other government sectors are financed by their particular ministry budgets and are considered as rivals for the funds given to the hospitals under the MOH (Walston, et al, 2008).

The financial provision for the MOH has ongoing increases. The percentage has increased every year from 1999 to 2004 to 11.6 %. The MOH's portion of the Saudi funds decreased to 5.6 % in 2008 (SR 25 billion ≈ $6.66 billion); nevertheless, the MOH's percentage of the Saudi budget has increased by more than 100% since the first year it was allocated. The government of Saudi Arabia continues to provide massive support for the health care sector, recently investing approximately 6.8 % of its GDP on the health care (MOH Statistical Yearbook, 2012). This pattern of growth is anticipated to continue with spending expected to exceed SR 75 billion (≈ $20 billion) by 2016 (Alghamdi, 2012).

Supervision of Professional Nursing in Saudi Arabia

Accreditation of Nursing Certificates

The accreditation of all health care providers in Saudi Arabia is done by the Saudi Commission for Health Specialties (SCFHS). The SCFHS specifies that graduated nurses from health institutes and junior colleges with diploma programs be classified as technical and senior technical nurses, while nurses with Bachelor degrees are classified as specialists. Master of nursing and PhD graduates are classified as senior specialists, and nurses with a PhD and three years of clinical experience are classified as nursing consultants (Almalki, 2012).

Nursing Regulation

The Scientific Nursing Board was created in 2002 with the aim of professional development, accreditation and regeneration of nurses under the administration of SCFHS (Miller-Rosser, Chapman & Francis, 2006). Professional development focused on practice, where they identify the scope of practice, establish accountability systems, ethics and practice, set standards of education, and engage in and promote nursing research. The accreditation role attempts to evaluate and approve education programs, institutions and training centers, and overseas qualifications. The regeneration role focuses on license renewals (Abu-Zinadah, 2005). The Scientific Nursing Board has advanced Saudi nursing practice by establishing registration, exams for accreditation, and continuing education. As a result, since 2005, all nurses in Saudi Arabia are registered and need to enroll in a series of continuing education in order to renew their license (Abu-Zinadah, 2005). In 2003, the Saudi Nursing Society was organized and started in King Abdulaziz University in Jeddah. It offers scientific advice to its members,

encourages development of scientific work, and enhances the theoretical and clinical performance of nurses and shares research findings within and outside the country. The council includes highly educated Saudi nurses from different organizations (Almalki, 2012).

Supply of Healthcare Providers

The first obtainable documentation on the history of current health care services in Saudi Arabia dates back to 1949 and identifies the existence of 111 physicians and less than 100 hospital beds (Sebai, 2001; Al-Rabeeah, 2003; Tumulty, 2001). In June 1951, the Ministry Of Health (MOH) was established as the first organized health provider for preventive care. The MOH, jointly with the Saudi ARAMCO oil company and the World Health Organization (WHO), introduced the first strategy against malaria in the country. The health system progressed slowly until the mid-1960s, but in the period 1965-1985, a quick growth occurred (Al-Yousuf, et al., 2002; Sebai, 2001).

In the 1970s and 1980s, the services tended to be mainly curative and were provided by a network of hospitals and dispensaries. The preventive care services were later improved by the issuance of the 1980 ministerial order that resulted in the establishment of health centers, directed by the WHO slogan ‘Health for All’. The MOH’s major purpose in the early 1990s was to deliver the main care for the Saudi population through primary health care centers (Al-Yousuf, et al., 2002).

Recently, excellent progress has been documented in the growth of health facilities. Official MOH data confirmed far-reaching improvements in health care services, with 2,259 PHC centers and 435 hospitals around the country (MOH Yearbook,

2012). This significant expansion was the outcome of the elevated MOH budget allocated for the health care sector (Alghamdi, 2012).

Just like all other industries in the financial system, the majority of healthcare employees, including physicians, pharmacists and nurses, are expatriates from Pakistan, India, Bangladesh, Philippines, Egypt and several other nation, with a tremendous number of Americans, Canadians, English, and Australians among the large variety of healthcare providers (Aldossary, et al., 2008). There were 71,518 physicians and 139,701 nurses in the country in 2012, but only 23.8% of physicians and 36.2% of nurses were Saudi nationals (MOH, 2012). The total number of physicians employed by the MOH was 35,841 and, of those, only 24.8% were Saudi nationals, whereas a total of 82,948 nurses were employed by the MOH and 48.1% of those were Saudi nationals. Interestingly, of the 22,146 physicians and 28,373 nurses in the private sector in 2011, only 5.0% and 6.5%, respectively, were Saudi nationals (MOH, 2012). It is clear that the country is currently still in need of overseas healthcare workers, especially in the private sector.

Demand for Health Care Providers, Including Nurses

The Saudi Arabian health system is rated 26th of 191 countries worldwide and second among Arab nations (Alghamdi, 2012), based on overall performance (Al-Yousuf, et al., 2002). Canada, Australia, the United States and New Zealand are rated 30th, 32nd, 37th and 41st, respectively (Albejaidi, 2010).

Saudi Arabia is pursuing a goal of delivering a universal health care system to the entire society. At this time, the government covers 80% of all hospital services and offers these services through several government agencies. The main provider is the MOH,

which is responsible for providing about 62% of health care (Abu-Zinadah, 2004). The MOH offers preventive, curative and rehabilitative services. An additional 18% of services are offered by more than ten governmental agencies, including the Ministry of Defense and Aviation, the Ministry of the Interior, the National Guard, university hospitals and several other ministries. The remaining 20% of services are offered by the private sector (Mobaraki & Söderfeldt, 2010; Walston, et al, 2008; Aldossary et al., 2008).

MOH statistics indicate that, in 2012, there were 2.0 nurses for each physician working in Saudi Arabia, as compared to 1.3 nurses for each physician in the Eastern Mediterranean Region (EMR) and 1.8 nurses for each physician internationally. The same statistics indicate there were 20.9 hospital beds for every 10,000 people in Saudi Arabia, compared to 12 hospital beds for every 10,000 people in the Eastern Mediterranean Region (EMR) and 30 hospital beds for each 10,000 people worldwide (MOH, 2012).

Between 2008 and 2012, among the health groups, the MOH was the highest in increasing the number of hospitals (12%), followed by the private sector (11.4%). Furthermore, there was an increase of 7,148 hospital beds (13% rise), with the private sector having the highest increase of beds (24.7%), followed by the MOH (13.0%). The rate of overall hospital beds for every 10,000 people decreased from 21.7 beds in 2008 to 20.9 beds in 2012 (MOH, 2012).

Health care manpower increased between all healthcare groups except pharmacists between 2008 and 2012 (MOH, 2012). Rises were as follows: allied health professionals (48.9%), nurses (37.9%), and physicians (33.9%). Moreover, during those

years, 42 new hospitals were built, leading to a rise of 10.7% in the number of hospitals as well as the addition of 7,148 beds to the Kingdom's hospital bed capacity. From 2008 to 2012, the percentage of Saudis in overall health manpower improved by 49.2% among pharmacists (13.0% to 19.4%), 24.4% among nurses (29.1% to 36.2%), 18.0% among allied health professionals (61.2% to 72.2%), and 14.4% among physicians (20.8% to 23.8%) (MOH, 2012). As these statistics indicate, the MOH nursing schools needs to take action to fill demand.

Challenges Confronting the Saudi Health Care System

The Saudi health care system is challenged by many factors. However, the quality of health services, administration issues, and workforce are the most important issues that need to be discussed.

Quality of Health Services

A number of prior studies have examined patient satisfaction concerning the quality of care offered and found that, typically, patients were satisfied with the quality of services (Mansour & Muneera, 1996). One possible reason for this is that individuals in Saudi Arabia are often reluctant to complain about services and are generally willing to accept minimal requirements of care (Mansour & Muneera, 1996). This could possibly be due to lack of clear guidelines and polices when it comes to patients' rights or how to deal with complaints and, consequently, complaining might be viewed as just a waste of time. Nevertheless, lately, local media and research clearly show an increase in patients' dissatisfaction with a number of issues with health services due to the rising knowledge of the community and, thus, the MOH is dealing with pressure to deliver better services (Al-Ahmadi & Roland, 2005).

Administration Issues

Another challenge is administration issues: the country's health policy and sectorial coordination. For the previous 80 years, the distribution of resources, selection of priorities, negotiations, creation of rules, organizing, as well as the establishing of health guidelines were all performed by the health service's higher administration staff of MOH (Al-Ahmadi & Roland, 2005; Al-Rabeeah, 2003). However, the MOH has lacked any alternative health care plans. The planning methods, vision, policies, rules and strategy in the Ministry are not clear and there is increasing evidence that the MOH is lacking knowledgeable administrators. The system is consequently becoming excessively centralized and bureaucratic (Al-Ahmadi & Roland, 2005).

The system does not have accountability and current financial strategies may result in additional possible challenges. Saudi Arabia rated 57th among 183 nations in the Corruption Perceptions index 2011 (Alghamdi, 2012). The countries were ranked using a scale of 0 (highly corrupt) to 10 (very clean). Saudi Arabia scored 4.4 (Alghamdi, 2012).

Although the system lacks sectorial coordination, the variety of health management systems that occurs in Saudi Arabia might be a source of enrichment. Nevertheless, health care administration by several organizations, realistically, has considerable negative effects for the health care plan in Saudi Arabia. Practically no coordination occurs between health provider organizations. Services are certainly not standardized and interaction among administrators and policy makers at the central, regional and local levels is inadequate (Al-Ahmadi & Roland, 2005; Al-Rabeeah, 2003; Aboul-Enein, 2002). The lack of a National Health Information System (NHIS) has an impact on reaching the correct data for policymaking and decision making (Al-Yousuf, et

al., 2002), which consequently leads to duplication of services and greater expense since, for example, costly equipment is not shared. Alghamdi (2012) claims the fact that there is more healthcare equipment in Riyadh than you can find in London, is an outcome of poor administration and inadequate coordination. Additionally, it is estimated that the expense of delivering health services per capita is greater than in the majority of developed nations due to the poor communication between health organizations (Alghamdi, 2012).

Workforce

Health care services in Saudi Arabia have developed quickly. Yet, this development in services has not been matched by an expansion in the national workforce (Tumulty, 2001; El-Gilany & Al-Wehady, 2001).

Saudi Arabia has a history of consistently very low rates of Saudi nationals as employees. The shortage is handled by hiring international expatriates of diverse nationalities, such as those from the United Kingdom, United States, Canada, and Australia. But the majority is hired from the Philippines, India, Malaysia, South Africa, and other Middle Eastern countries (Tumulty, 2001; Aboul-Enein, 2002; El-Gilany & Al-Wehady, 2001; Walston, et al, 2008). Aboul-Enein (2002) said 95% of the nurses at King Faisal Specialist Hospital and Research Centre, Riyadh (KFSH & RC), which has a 560-bed capacity, are foreigners who came from more than forty different countries.

Expatriate providers in the health sector are essential during the current period of Saudi Arabia's development. Nevertheless, from various perspectives, the presence of an extremely huge number of expatriate staff in the health professional services has unsatisfactory effects on the quality of care (Alghamdi, 2012).

A large number of expatriates never communicate in Arabic, the language of their patients, making interactions with patients difficult (Al-Yousuf, et al., 2002; Mansour & Muneera, 1996; Al-Ahmadi & Roland, 2005; El-Gilany & Al-Wehady, 2001; Aldossary, et al., 2008; Vidyasagar & Rea, 2004). Additionally, many adult Saudi patients, mainly females, are poorly educated and, therefore, there is a significant educational gap between them and the medical professional (Al-Ahmadi & Roland, 2005). A few also criticize the absence of communication between cultural work groups (Tumulty, 2001) and many expatriates come from developing countries in which the standard of care and study programs can be inadequate (Alghamdi, 2012).

The presence of a large number of expatriate employees also creates a work performance challenge; foreigners are at a disadvantage as care providers because of their relatively short-term stays (El-Gilany & Al-Wehady, 2001; Walston, et al, 2008). The common period for staying is just 2.3 years. Alghamdi (2012) points out that turnover among medical guest employees in Saudi Arabia is 37%. Locally, Asian health staff are already known to be applying to work in Saudi hospitals simply to use this period as a transitional phase to get sufficient experience working with patients and advanced equipment prior to going to work in Europe or Canada.

This rapid turnover generates two serious issues. First, the contribution and commitment to work during a limited stay continues to be questioned; expatriates are more likely to consider themselves as employed functionaries who are more unlikely to focus on their work or be concerned with improving care (El-Gilany & Al-Wehady, 2001). Second is the issue of resources within the hospitals. Costly outdated and unused

medication and equipment are left after their departure, as new physicians will usually need particular equipment as a condition of their contract (Walston, et al, 2008).

To summarize, the issues of having a typically international expatriate workforce are poor communication between the diverse professionals, cultural and language barriers, some foreign workers staying in the country for short periods, resulting in loss of resources and a lack of obligation, and the fact that many are from developing nations. Therefore, promoting Saudi nationals to work in the health sector is significant. The program of Saudization to replace expatriates is seen to be beneficial for both security and the economic balance of the Kingdom.

Saudization Program

Regardless of the initiatives of the Saudi governing administration, the number of Saudi nationals and foreigners has increased, which has produced considerable unemployment. In the late 1990s, the Saudi government became concerned over the significant rate of unemployment, which led to a change in efforts. The Saudization program was started in conjunction with institutions like the Human Resources Development Fund (HRDF), technical education, and vocational training in an attempt to overcome the huge rate of unemployment (Alotaibi, 2014).

The Saudization policy's primary aim is replacing overseas employees with national staff to reduce the unemployment rate. The Saudi government created sectors to accelerate the introduction of Saudization (Bosbait & Wilson, 2005) and programs to ensure job opportunities for national employees. These programs' aims were to attract foreign investors into the Saudi workplace and to build the Human Resources Development Fund (HRDF). The HRDF was implemented to contribute 50% of a

national private-sector worker's salary as a motivator for the private marketplace to employ more Saudi nationals. Moreover, the HRDF has provided 75% of the training fees for national employees in the private marketplace for two years (Al-Dosary & Rahman, 2009).

Saudization Development and Advantage

The Saudization plan was developed in the sixth development strategy of Saudi Arabia (1995-1999). The policy goals concentrated on the economy and reported that in every career, the slow replacement of international employees with competent residential workers would be 5% every year (Al-Dosary & Rahman, 2005). The guidelines also concentrated on restricting the increase of overseas employees in all occupations, including nursing. It focused on offering job options for all fresh entrant national staff, particularly in the private sector, and on expanding work opportunities for females, with regard to Islamic Sharia. It persists in raising the amount of skilled and competent national graduates with the needed requirements of the economy. It aimed to enhance the skills and education levels of Saudi staff prior to joining the labor sector. This improvement strategy insisted that the workplace should also develop a correct statistical data service (Al-Dosary & Rahman, 2009).

Since the seventh development strategy (2000-2004), the Saudization plan has focused on private business to offer additional jobs to Saudi nationals in order to raise the number of Saudi employees by 5% every year (Ministry of Economy and Planning, 2012). The primary goal of the Saudization plan in this progression stage was expanding the scope to incorporate small and medium organizations, in addition to offering rewards for organizations that utilized more Saudi workers. Second, the plan centered on ensuring

the education system matched market job needs, spending additional attention on technical and practical abilities. Third, it focused on expanding training facilities, including arranging evening training programs by private consulting companies. Fourth, it sought to increase Saudi nationals' awareness of jobs in various levels of the organizations mainly because some Saudis refuse to work in low job positions. Lastly, it evaluated the total expense of recruiting international employees on a routine basis, as well as penalizing illegal employment of foreigners, to be able to build funds for training Saudi nationals. These goals increased the Saudi domestic labor force from 7.23 million in 1999 to about 8.27 million in 2003 (Ministry of Economy and Planning (MOEAP), 2012).

In the eighth development strategy (2005-2009), the Saudization plan aimed to minimize dependence on overseas labor (MOEAP, 2012). The Saudization plan had encountered difficulties, like the ongoing importing of unskilled overseas workers with no clear advantage for the workforce. Furthermore, the HRDF was inadequate in helping the Saudization plan reach its aims within the previous development strategy. As a result, the eighth development strategy focused on improving Saudization by implementing policies and mechanisms to increase work opportunities for Saudi laborers in private businesses (MOEAP, 2012).

The Saudization plan looked into market competition. Because of the public need for Saudization development, in 2007 the Ministry of Labor generated 69,000 work opportunities for Saudi people in an effort to lower unemployment (Alotaibi, 2014). In 2005, the KSA government had started 75 training organizations to develop training programs for many jobs and projects. It was expected to train 300,000 young Saudis in

three years (Alotaibi, 2014). The implementation of the Saudization plan was significantly more effective in the public field than in private business. The education, civil servant, and medical provider sectors reached acceptable percentages of national employees in comparison to foreign ones, and the public sector attained roughly a 65% domestic labor force (Al-Dosary & Rahman, 2009).

Saudization has grown to be the main focus of the labor ministry in Saudi Arabia, particularly the move toward the nationalization of career categories and the need for better investments in the education of nationals (Al-Dosary & Rahman, 2005). Abdul Cader (2012) divided the goals of Saudization into the minimization of dependence on foreign employees, reinvestment of sources of income, and decreasing unemployment among locals. Numerous organizations undertook an education requirement effort to raise the qualifications of Saudi employees. This need has required a stronger emphasis on education (Al-Dosary & Rahman, 2005).

Higher Education in Saudi Arabia

Saudi Arabia is an Islamic country in which the Shari'ah (Islamic holy law) serves as both its structure and legal framework. The education system is different than any other country. Education is divided by gender and split into three independently administered systems: education for boys, education for girls, and Islamic education. Nursing education is organized in a way similar to the country's general education system.

The education system in Saudi Arabia, from elementary through secondary education, is cost-free to all, Saudis and non-Saudi students. In contrast, higher education is only for Saudi residents, and students are paid stipends for enrolling in higher education. Although students are paid to attend universities and institutes, the literacy

level, until three decades ago, was minimal in Saudi Arabia, particularly for females. The predicted amount of literacy in 2003 was 78.8%, 84.7% for males and 70.8% for females (Alamri, 2011).

Alamri (2011) indicates that higher education in Saudi Arabia has gone through a huge change during the last ten years. The higher education program, which is based on variation, has expanded to incorporate 23 government universities, 18 primary teacher's colleges for men, 80 primary teacher's colleges for women, 37 colleges and institutes for health, 12 technical colleges, and 33 private universities and colleges. Regardless of the fact that private institutions only began in the past decade, there are a great many private institutions that offer higher education, and their number is growing (Alamri, 2011).

Saudi Health Education System

MOH and Ministry of Higher Education

Following the first university (King Saud University) in the country, started in 1957, another six universities were started in Saudi Arabia during a period of 20 years (Alamri, 2011). When the number of universities increased to seven, it was necessary to create the Ministry of Higher Education (MOHE) to deal exclusively with higher education. The MOHE is a centralized authority accountable for guiding university education in respect to the implemented policy, supervising the development of university education in all areas, coordinating between universities, particularly in the field of scientific departments and degrees, promoting research, and formulating guidelines and polices for compliance by all institutions of higher education (Saudi Arabian Cultural Mission, 2011).

Saudi Arabia health education initiated the first health institute for boys in Riyadh in 1958, when MOH incorporated with the World Health Organization (WHO). They enrolled fifteen students with primary school certificates in this one-year program (Almalki, 2012, Aldossary, et al, 2008). In 1961, two-year women's nursing programs were opened in Riyadh and Jeddah, and the first group of 13 students graduated two years later (Almalki, 2012). In 1976, the MOE established the first bachelor degree in nursing at King Saud University (Tumulty, 2001). In 1978, the nursing college was under the Department of Applied Medical Sciences and became the Department of Nursing (Philips, 1989). In 2004, the Department of Nursing was moved to an independent nursing college again. In 1977, a branch of the King Saud University nursing program was started at King Abdulaziz University in Jeddah and another one started in 1987 at King Faisal University in Dammam (Tumulty, 2001). In 1987, a Master of Science in nursing was started in Applied Medical Sciences at King Saud University (Alamri, Rasheed & Alfawzan, 2006). Expansion in some universities for male nursing departments was started in 2004 (King Khalid University in Abha and Jazan University). In 1994, the first PhD program for female nurses who cannot travel abroad was started in King Abdulaziz University in alliance with British universities (Abu-Zinadah, 2004). However, this program no longer exists (MOE, 2014).

In 1967, MOH established the Department of Health Education and Training. The department aim was to supervise health institutes, including nursing schools. In 1979, the department asked the nursing schools to extend the program to three years and limit the enrolment to students with intermediate school preparation (ninth grade) (Miller-Rosser, et al, 2006). In 1982, the developed program graduated the first students. After this, many

nursing schools and health institutes opened in different regions of the country, resulting in 48 health institutes and branches spread out over many regions by 1992 (Almalki, 2012).

In 1992, expansion occurred to enroll post high school students (12^{th} grade) as well as previously graduated nurses to either post secondary health institutes or junior colleges (Abu-Zinadah, 2004). In 2006, there were 21 health institutes and 25 junior colleges (Almalki, 2012). In 2008, the MOH began to focus more on its primary role, to provide health care for the public and to improve the quality of nursing education; therefore, they transferred all education organizations to be under the Ministry of Higher Education (MOHE) since it had the facilities and the academic experience.

Other Government Agencies

Besides the MOH and the MOHE, nursing education is provided by other government agencies to meet their specific needs. For instance, National Guard Health Affairs, King Faisal Hospital and Research Center (KFSH&RC), Prince Sultan Cardiac Centre, and Medical Services of Army Forces have been providing diplomas since 2002 (Alamri, et al, 2006). These diploma programs are approximately two years, followed by six months of clinical training (Alamri, et al, 2006).

KFSH&RC established post-degree education, for Saudi nurses who are working only in this hospital and are unable to travel out of the country, with Monash University in Australia (Aldossary, et al, 2008).

Private Sector

The Saudi government has encouraged the private sector, by funding and accreditation of new institutions, to establish new health education institutions (Abu-

Zinadah, 2004). Consequently, institutions have sprung up in many different regions of the country, with the first private institute opening in 1999 and the first college in 2002 (Abu-Zinadah, 2007).

Private organizations can be categorized into three main types: private centers for health training, private institutes for health training, and private colleges for nursing education. By 2007, there were five private nursing colleges whose graduates earn a Bachelor Degree in Nursing Science and are accredited as professional nurses (Abu-Zinadah, 2007). The private institutes provide diplomas to post high school students and continued education programs for graduated health professionals (Almalki, 2012). Private centers for health training give certificates of success to trainees in a variety of courses ranging between one month and one year. In 2005, there were 44 private health institutes and five health training centers for nursing education and training programs (Almalki, 2012). License, evaluation, accreditation, and supervising of these institutions were led by SCFHS. Even though the WHO and Nursing Technical Committee at Gulf Countries recommend the Bachelor degree to be the minimum entry level to the nursing profession, these institutions are still graduating students every year (Abu-Zinadah & Banjar, 2006). Almalki (2012) reasons that private health institutes will continue graduating diploma nurses because of the shortage of nurses. Almalki, et al, (2011) believe that completing a Bachelor degree should be emphasized in future development plans for the majority of Saudi nurses. However, the shortage of nurses is a major national concern and, in 2006, there were only 28 Saudi graduates with a master's degree and seven graduates with a doctoral degree (Abu-Zinadah & Banjar, 2006).

Future Demand

Saudi Arabia's demographic characteristics are incomparable in the Gulf area. According to Hamdan (2013), the Saudi population's growth rate is 1.75% (2010 estimate) and, in 2009, this resulted in the number of Saudi citizens reaching 28,686,633, with the number of migrant employees reaching 5,576,076. This large population growth has resulted in a rapid rise in the number of young people, specifically, high school graduates. Hamdan (2013) indicates the percentage of Saudis who are less than 24 years old is more than 62% and the number of high school graduates increased by 443% from 1993 to 2008. This rise in high school graduates is having a major impact on Saudi post-secondary institutions. Several researchers have shown the higher education system in Saudi Arabia is incapable of satisfying the growing demand for higher education (Alkhazim, 2003). Through the 2000-2001 academic year, the approximately 60,000 high school graduates who applied to study in higher education in Saudi Arabia struggled to get a seat in different universities. In 2001, around 25,000 to 30,000 Saudi students studied overseas at their own personal expense, and an additional 6,000 studied overseas with government assistance (Alkhazim, 2003). These numbers have significantly risen since then, and the approximate number of students who are supported by the government with full scholarships for worldwide studies has now reached 150,000, with students spread over 75 countries. A few of these students obtain their education in Arab world countries such as United Arab Emirates, Qatar, and Bahrain. The rest are studying in the West, particularly in the US, United Kingdom, Australia, and Canada (Hamdan, 2013).

The Saudi government's system for higher education offers a considerable domestic component. The education authorities are aiming to address the need for post-secondary education by increasing the number of universities and colleges in the country (MOE, 2010). This requires the establishment of both public and private universities, a strategy that has required the partial privatization of higher education. Several private colleges and universities have been started since 2001, when there were only seven universities in the country, all of them public and run by MOE. In comparison, by 2010, this number increased to 25 public universities, eight private universities operated by private financiers, and 423 colleges of pure and applied sciences. Currently, there are now 20 privately operated colleges (Hamdan, 2013).

As part of its push to raise capacity, the MOHE provides 10,000 scholarships each year for local study. These include 50% of the tuition in most Saudi Arabian private universities. The plan is to increase the level of quality for private institutions of higher education and also to allow the most number of students to be accepted (MOE, 2008). Some Saudi experts have speculated that there will be a need to subsidize the private education market and therefore, the investors in these businesses, using public funds (Hamdan, 2013).

One of many results of the government's strategy to increase admission to higher education is that speedy financial progress has produced a group of middle-class families with not only the capability but also a strong need to spend to get a better education for their children (Hamdan, 2013).

Overseas Scholarship Program

An international scholarship program was introduced to meet the increasing demand for Saudi nurses by several organizations, for instance, the MOHE, the MOH and many Saudi hospitals such as KFSH&RC, military hospitals, and National Guard Health Affairs. The PhD nursing scholarship program was established in 1996 to graduate nursing educators and leaders (Aldossary, et al, 2008). Since 2006, sponsored nursing students have spread to study nursing programs in various countries worldwide (Almalki, 2012). Currently, there is a major emphasis from the MOHE to sponsor nursing students nationally and internationally (MOE, 2013).

The Nursing Shortage: Beyond the Baccalaureate Level

The role of nurses holding graduate degrees is significant. A study by Gorczyca (2013) indicated that, by the year 2022, the estimated nursing shortage could reach 60,000 full-time equivalent RNs if guidelines were not reformed to address the problem. Gorczyca (2013) highlighted the need for strengthening the retention of practicing RNs and improving the enrolment in RN entry programs. One of several strategies Gorczyca (2013) proposed was for nurses to have opportunities for continuing education and professional enhancement, which may incorporate support for pursuing graduate studies.

Kleinman (2004) and Dunham-Taylor (2000) contend that investment in encouraging and promoting the achievement of advanced studies for nursing leaders is essential for institutions, as it is a beneficial investment in comparison to the costs involved with staff nurse turnover. With the number of domains of nursing in which graduate nurses normally work (administration and leadership, advanced clinical practice, nursing education), nursing education is most commonly researched because of

the faculty shortage and concerns about low numbers of graduate prepared nurses. A large number of research papers found on the issue of preparing nurses for roles that involve higher education were focused on how to attract and maintain professional nurses, both in clinical placements and academic settings.

The shortage of graduate prepared nurses has a crucial impact on the future of nursing for all nursing domains. This is especially proven in the studies on replacement and retention of nursing faculty (Berent & Anderko, 2011). The number of nurses who are qualified (master's and doctoral graduates) to replace retiring university faculty is insufficient (Gorczyca, 2013). This is a concern when you think about global retirement rates of nursing educators. For example, of nursing faculty in Canada, 31% are above the age of 55 and 12% are over the age of 60 (Gorczyca, 2013). In some situations, this shortage results in rejection of qualified candidates to nursing schools, which may translate to lower numbers of fresh graduate nurses getting into the workforce, adding to the worldwide nursing shortage (Plunkett, Iwasiw & Kerr, 2010).

The issue of faculty shortages is complicated. Implications for future generations of nurses exist that will probably impact the supply of high quality patient care. This dilemma not only specifically impacts nursing students but also nursing research. Increases in student enrolments need to have an increase in qualified nurse educators. In 2012, the American Association of Colleges of Nursing (AACN) published data that confirmed nursing schools in the United States declined 75,587 qualified applications to baccalaureate and graduate nursing programs; more than 14,354 of the applications were for graduate studies. The study revealed that two-thirds of the schools indicated the main reason for the rejections was inadequate number of faculty (AACN, 2012). Having a

shortage of nurses with master's degrees implies a much smaller pool of those who can pursue a doctoral degree.

A small percentage of nurses will carry out innovative nursing roles within the domain of nursing, including conducting research, taking over faculty positions, or providing skilled leaders. All are essential to continue to advance nursing science.

Future Supply of Nurses as Indicated by High School Attitude and Intention, Current Admission and Nursing School Graduates

Ongoing initiatives have continued since the late 1950s to deliver training opportunities, domestically and overseas, to enable Saudi nationals to become healthcare experts. Preparation for male nurses started at the first Health Institute in 1958. Currently, there are a large number of private Health Institutes for high school graduates to obtain a diploma in nursing. At the same time, the MOHE has developed a number of Bachelor of Science in Nursing (BSN) and Master of Science in Nursing (MSN) programs. A study by Aldossary, et al (2008) showed that 67% of Saudi nurses were educated at a Health Institute and 30% graduated from a Junior College. Only 3% of Saudi nurses graduated from BSN programs. However, a number of private schools of nursing have developed in the last 10 to 15 years, with the total number of private and public colleges and universities reaching 32 in 2011. The latest statistics (MOE, 2011) indicate 1029 nursing students are enrolled in public and private colleges and universities. Unfortunately there is no data for the number of graduate nurses for the above mentioned higher education programs.

In order to estimate the supply of nurses, the intention of high school students toward the nursing profession needs to be determined. Only one study (Al-Omar, 2004) has looked at the intentions and factors influencing the Saudi high school students' choice

of nursing as a profession. The study concludes that high school students require more knowledge and positive attitudes toward nursing to be attracted to the profession. More study is required in this area to help nursing leaders predict the future supply of domestic nurses.

Importance of Higher Education for Saudi Nurses

Graduate-prepared nurses play an essential role in fulfilling leadership, administration, education, and enhanced practice roles within academic and clinical practice settings. In the US, the Bachelor of Science in Nursing (BSN) has been the recommended standard for entry into practice for nearly 40 years. There remain, however, many diploma prepared nurses in the workforce. It has been recommended that the percentage of nurses with BSNs in Saudi Arabia be increased from 50% to 80% by 2020 (Altmann, 2011). In contrast, it wasn't until 2006 that healthcare leaders in Saudi Arabia started to recognize and adopt the recommendations of the World Health Organization (WHO) and Nursing Technical Committee at the Gulf Countries Council to establish a bachelor degree as the minimum entry level to the nursing career (Abu-Zinadah & Banjar, 2006). This decision, however, created considerable unrest in the nursing community and raised the question of what career and professional opportunities were available for thousands of diploma nursing graduates. Due to the need to maintain the current healthcare delivery system and the inability to train sufficient BSN nurses, the MOH reversed its decision and began to accept thousands of diploma graduates for employment in nursing.

The rationale for the movement to increase BSN nurses in both the USA and SA is the same; research has highlighted reduced mortality, morbidity and inability-to-rescue

rates in hospitals that employ greater percentages of baccalaureate-prepared nurses (Altmann, 2011; Aiken, et. al, 2003). As a result, Saudi Arabia has started to reconsider the importance of the BSN (and graduate degrees) and how to fulfill the rising aspirations of Saudi nurses. The principle way has been through overseas scholarship programs provided by organizations such as universities, the MOHE, the MOH and larger Saudi hospitals like King Faisal Hospital & Research Center (KFSH&RC) and the National Guard Health Affairs. As stated by Aldossary, et al (2008), a PhD scholarship program was started in 1996 to allow Saudi nurse leaders and educators to study overseas. The latest international scholarship programs incorporate almost all education levels, starting with bachelor, and up to master's and PhD degrees. It is estimated there are 2,006 students studying at the bachelor level, 1,009 studying at the master's level, and 242 studying for a doctorate from all the health sectors of Saudi Arabia (MOE, 2013). Sponsored nursing students are studying in many different countries worldwide (Almalki, 2012).

The target of these programs is to prepare highly knowledgeable and qualified local nurses to lead the field of nursing in Saudi Arabia. Moreover, one of the vital targets of the government for sponsoring doctoral students of nursing is to fulfill the requirement of MOHE and allow for expanding the number of nursing schools in different regions of the country. The MOHE has a policy for increasing the number of nursing schools and opening new post-graduate programs. It has also stated that the ratio of lecturer to PhD prepared should not exceed 20% of the total number in each School of Nursing (MOE, 2010). It has, therefore, become essential to increase the number of

doctoral degree prepared nurses as the starting point for expanding the numbers of nursing schools in SA, and hence, the number of BSN graduates.

This presents a major challenge for the MOHE and the nursing leadership. If it is essential to have a more educated workforce working in hospitals and primary health centers, these nurses will need to be encouraged and assisted to return to school to pursue doctoral degrees. Therefore, it is vital to understand the motivations and challenges nurses face when considering PhD studies. To begin to address these complicated questions it is necessary to review the current thinking about human motivation as it effects individual decision-making about careers, professional development, economics and leadership in nursing from the Saudi perspective.

An Integrative Review of Motivations and Barriers for Nurses to Return for a Doctoral Degree

The review progresses as follows: problem identification, literature search, data evaluation, data analysis, presentation, and discussion. The synthesis of the studies highlights a research gap, which lays the foundation for the proposed dissertation study.

Search Strategies

This integrative review follows Cooper's (1989) "Five Stages of Integrative Research Review" According to Cooper, integrative reviews summarize previous studies by drawing general findings from many different research efforts that address relevant or similar hypotheses. There were many articles in nursing journals providing qualified ideas and recommendations on how to increase the number of postgraduate nursing education opportunities as well as how to increase the nursing workforce. This section is limited, however, to the published research on the motivations and barriers experienced by nurses as they moved toward doctoral degree studies.

An extensive literature search was conducted to identify articles on this subject published between 1986 and 2013. The online databases used in this search were Cumulative Index of Nursing and Allied Health Literature (CINAHL), Educational Resources Information Center (ERIC), EBSCO, and Pub Med. The following search terms were used alone and in combination: nursing, doctorate, doctoral, motivation, and barriers. Once a review was identified, the researcher included additional search phrases. More articles were discovered through a hand search of reference lists. This search technique produced 125 articles and reviews.

Titles and abstracts were evaluated to identify studies for inclusion in this paper based upon certain exclusionary criteria, i.e. studies that discussed postgraduate education without specifically defining the postgraduate programs. Because many articles did not specify the level of postgraduate education, it was difficult to distinguish between post-bachelor diplomas, master's, and doctorates. Articles that were not published in English were also excluded.

Inclusion Criterion

Empirical studies describing the motivations and barriers for postgraduate education (specifying doctoral degrees) and doctoral degree studies in nursing were included. Dissertations and theses were also included. In order to obtain a sufficiently large picture of the topic, any articles that included opinions of and experiences in doctoral degree studies were also included.

Cooper's Procedures for Evaluating Integrative Review

According to Cooper (1989) it is important to follow organized guidelines for the evaluation of research studies to guarantee a rigorous review and validity of results. The

first of the five steps in Cooper's methods for an integrative review step is problem formulation. For this evaluation, the main focus was the motivation and barriers experienced by nurses working toward doctoral degrees in nursing. The next step is data collection. Primary studies were gathered using the previously mentioned sources. For the third step, data evaluation, the author reviewed the findings from each qualified study for relevance and significance. In particular, all identified motivations and barriers were identified and tabulated and results were subsequently compared and discussed. The fourth step is data analysis and interpretation. Data were compared and consequently synthesized, with relevant concepts and ideas determined and classified into themes and subthemes. Consistent adherence to these steps in data evaluation and interpretation was preserved throughout the analysis of every article. Caution was exercised to avoid losing beneficial insights and alternative interpretations. The fifth and last step is public presentation for the dissemination of the review results.

Profile of Selected Studies

Of the 125 publications retrieved, 19 met the inclusion criteria (10 primary studies, five doctoral dissertations, one master's thesis, one review, and two narratives or personal experiences). These studies were conducted in the USA (13), the UK (3), Canada (1), South Africa (1), and Thailand (1). Research designs comprised qualitative, mixed methods, and quantitative descriptive approaches.

These 19 review studies were obtained from a growing body of research examining the motivations and barriers of nurses moving toward doctoral degrees. Boore (1996) described the integrated postgraduate program introduced by the University of Ulster, which includes the first Doctor of Nursing Science (DNSc) program in Europe.

Cohen (2011) addressed doctoral persistence and challenges faced by doctoral nursing students. Doucette (2007) assessed how two groups of important stakeholders, students and program directors, view doctoral education for nurse anesthetists. Holzemer (1986) evaluated indicators of the environments of doctoral programs in nursing for productivity. Loomis, Willard, and Cohen (2007) clarified what motivated nurses to pursue a DNP instead of a PhD. Manley, Garth, Byers and Ridley (2012) provided anticipatory guidance for nurses to make the transition to the student role easier and the doctoral journey smoother. Megginson (2010) identified current admission requirements in nursing doctoral education to better understand how doctoral students are admitted to Nursing PhD programs and he also identified performance outcomes in nursing PhD programs in the United States. Muecke and Srisuphan (1990) studied cultural self-consciousness among nurse scholars in Thailand to understand what they perceived had influenced their unprecedented achievements in nursing. Pederson (2012) looked at the many women who study for a doctorate after years away from academia, during which time they may have started careers as well as having had family and social needs. Plunkett, et al (2010) examined how generic BSN students' intentions to pursue graduate studies were affected by their assessment of and perceived self-efficacy for graduate studies in nursing. Raso (2013) postulated that motivated leaders in the practical area would help encourage nurses to advance their education, while Richards (2007) explored and described registered nurse's perceptions with regard to continuing formal education. Richardson (2011) examined the motivational orientations (intrinsic and extrinsic) of registered nurses who pursued a graduate degree, looking at differences in their demographic characteristics (age, income, and years of experience) and psychological

needs (competence, relatedness, and autonomy) and at the relationship between motivational orientations and psychological needs. Smith and Delmore (2007) used personal experience to identify key components to successfully completing a nursing doctoral program. Welhan (2000) identified student-generated factors that influence the decision to persist in a nursing education program and compared these factors across three levels of nursing education, baccalaureate, master's and doctorate. Yoon, Wolfe, Yucha and Tsai (2002) identified resources offered by colleges/schools of nursing with doctoral programs for research improvement.

Data Analysis of the Review

Innovatively, in this evaluation, qualitative content analysis was applied. This required reading and rereading the printed papers and preparing a short descriptive summary in the margin. Codes were created to enable the results to be compared within and between the papers. Each paper was analyzed and themes or categories were chosen after many repeated reviews and modifications.

Further reduction of data addressed the research question, "What are the motivations and barriers experienced by nurses heading toward doctoral degrees in nursing?" Seven motivation factors were identified: love of learning, appropriate and accessible educational programs, funding assistance and recent success in other programs of study, role models of professional development, potential promotion and remuneration, assistance with career pathways, and motivation from family and friends (Altmann (2011); Cleary, Bevill, Lacey & Nooney (2007); Cohen (2011); Delaney and Piscopo (2004); Megginson (2010); Pederson (2012); Plunkett, et al (2010); Richards (2007); and Richardson (2011). On the other hand, four barriers items were identified:

family responsibility, insufficient funding, work responsibility, and insufficient granting for study, according to Altmann (2011); Cleary, et al (2007); Cohen (2011); Delaney and Piscopo (2004); Megginson (2010); Pederson (2012); Plunkett, et al (2010); Richards (2007); and Richardson (2011).

Theme of Motivation Factors

There are various reasons why individuals choose a profession in nursing. The desire to help or care for others, and to contribute to society are known to be leading factors influencing this choice. Motivating nurses who have this view to advance their knowledge and keeping them in the field of nursing is vital. The following themes identify specific motivators of nurses who might consider a doctoral degree.

Love of Learning

The love of learning was highlighted by a large number of postgraduate students in Boore's study (1996). The author said the students identified their love for the clinical element as a very important influence in their decision to return to further studies. Several, including a number of tutors, identified the desire to become nurse practitioners or lecturers/practitioners, combining clinical, research and educational roles as the most influential, motivating factor for them. Raso (2013) indicated the strongest reason for nurses who have leadership positions to move toward a master's or doctoral degree was likely to be the desire for advancing their leadership skills, or, alternatively, simply love of the continuous pursuit of knowledge. Richardson (2011) stated that nurses were more likely to pursue higher education for the pleasure of knowing something new, the advantages of obtaining an advanced education, and the satisfaction of achieving something new. Welhan (2000) indicated that major, persistent motivational patterns

across baccalaureate, master's, and doctoral educational levels were identified as advancement, goal commitment, internal motivation, search for knowledge, and support.

Potential Promotion

As Richards (2007) declared, the possibility of real prospects for promotion and remuneration is a strong motivating factor for nurses who may continue with formal education or a doctoral degree. Doucette (2007) stated that possible promotion was the second most important motivating factor for participants with a master's degree who were considering a more advanced degree. Richardson (2011) also ranked potential promotion as a strong motivating factor for nurses who were thinking about pursuing advanced education.

Assistance for Career Pathways

Nurses should have clear career plans because, as Raso (2013) indicated, nurses will consider furthering their education if their career goals require a nursing doctorate. Effken (2008) reported that nurses who may desire a doctoral education are almost all employed either as faculty, staff or administrators, and often cannot or do not want to leave their jobs. Exploring advantages of the different doctoral degrees, Loomis, et al (2007) found that career advancement was ranked second among the motivators for attaining a doctorate in nursing. The respondents in Richards' study (2007) rated assistance with working out a career pathway as a strong motivating factor for continuing with formal education and Plunkett, et al (2010) discovered that the decision to pursue a post-RN program is heavily influenced by a combination of personal and professional factors, one of which is career and/or professional advancement. Smith and Delmore (2007) emphasized the importance of selecting the doctoral program that matches the

student's individual and career goals, as the fit of the program to the student's goals is essential to successfully earning a nursing doctoral degree. Jolley (2007) determined that nurses normally pursue their academic 'careers' in parallel with the practice areas of their jobs.

Role Model

Being role models is very important because, as Cohen (2011) reported, in obtaining a doctoral degree, especially for those students who are parents, they serve as a role model for lifelong learning for their children. Boore (1996) found that a large number of postgraduate students at the University of Ulster identified their desire to become nurse practitioners or lecturer/ practitioners, combining clinical, research and educational roles, as a desire to provide a role model for other nurses. Doucette (2007) reported that having faculty members obtain doctorate degrees demonstrates to present students the necessity for a doctorate-level education, with faculty serving as role models for those students. Richards (2007) showed that the perceived lack of role models within the workplace becomes a barrier to continuing formal education. Lastly, Richardson (2011) said one of the strong motivators for nurses to pursue continued formal education was good professional role models.

Funding Assistance

Funding is another motivational factor. Students generally struggle financially and find it hard to balance studies, work and care of their families. Students will more likely be retained when they have a significant amount of outside support (Cohen, 2011). Manley, et al (2012) stated that funding sources need to be addressed early on in planning for a doctoral education, as there is a range of funding sources for graduate

nursing education on national, state, and local levels. Richards (2007) said the most important of the five motivational factors he identified for continued formal education was funding assistance. Pederson (2012) reported that student grants, scholarships and additional funding sources were important and, for some, the only way the cost of a doctoral education could be handled. Since financial support is crucial to most students, it is always necessary to determine early on in the process all potential scholarships, fellowships and financial aid (Smith & Delmore, 2007).

Right and Accessible Educational Program

Determining the right, best-suited and accessible program of study was also found to be an important motivational factor. Effken (2008) stated that doctoral education is probably the most appropriate level of study for distance education since the online format requires that students have a significant degree of self-motivation. Choosing among a variety of doctoral programs is another motivational concern. Loomis, et al (2007) looked at two groups of doctoral students in both PhD and DNP programs to investigate motivations to study and found the most common reason for not considering a PhD was that students were not interested in a research-intensive degree or a research-focused career. Rather, students reported their primary interest was excellence in clinical practice. Manley, et al (2012) said the nurse who is seriously thinking of entering a doctoral program must look objectively at a wide range of educational programs. Discussing the philosophy and objectives of the program with directors and faculty will help in determining which program is the best match for the nurse. Questions addressing course accessibility and teaching of courses are crucial to those discussions. Pederson (2012) reported that, for most of his research participants, the availability of a program

and the distance of the program were both essential factors. Decisions to enroll in local programs were based on both the location and the type of degree provided at the local university. Smith and Delmore (2007) said that to achieve a degree successfully, potential doctoral students have to identify their own rationale for pursuing a particular program and degree, one that is suitable for their chosen professional goals. Finding the programs that match the students' aims is a vital factor in successful degree completion.

Motivation From Family, Relatives, and Friends

Support and motivation for doctoral students are major factors in engaging new students or in maintaining students who are already in a program. Pederson (2012) pointed out that social support included assistance or willingness to help from significant people, family and friends. Particular types of social support are linked with a reduction in the negative effects of stress. Smith and Delmore (2007) indicated that families' and significant others' support is always important throughout the program of study. Other students can offer the best sympathetic support throughout the highs and lows of doctoral study. Richards (2007) specified that peer encouragement and encouragement from management were strong motivating factors for engaging in continuing formal education. Pederson (2012) reported that family support is mostly delivered by words of encouragement or by providing household help and that friends, coworkers and other people outside the family are additional sources of support.

Theme of Barriers

A number of barriers were also identified as having an influence on nurses' decisions to pursue a doctoral degree.

Family Responsibility

The family is a strong barriers factor that needs to be considered when thinking about doctoral study. As Doucette (2007) indicated, students who are attracted to doctoral programs in nursing anesthesia are those who do not have family responsibilities. Effken (2008) pointed out that one of the barriers to nurses continuing their studies was family obligations that prevented them from engaging in full time study. Ellis (2007) observed that one factor preventing nurses from studying for doctoral degrees was the effect of a long educational journey on the family. Doctoral study lasting four to six years is likely to have an impact on family life and personal relationships. Manley, et al (2012) said family was the initial and foremost group impacted by the doctoral study experience. Honest family discussions about the length of a doctoral education are needed before starting the program. Plunkett, et al (2010) indicated that BSN students were mainly under the age of 25 and single, which meant they likely had fewer family and career responsibilities than did nurses who were seeking a post-RN program.

Insufficient Funding

Funding is an important issue, as Boore (1996) reported. He stated that chances of finding funding for nurses to undertake postgraduate education study on a full time schedule are extremely limited and, in several areas of the United Kingdom (for instance Northern Ireland), are almost non-existent. Cohen (2011) pointed out that students who do persist in their doctoral studies usually struggle financially and find it hard to balance their studies with their jobs. Plunkett, et al (2010) indicated one of the largest barriers for BSN students in pursuit of post-RN programs was the financial concern. Doucette (2007)

showed that a significant reduction in federal funding and grants, via a variety of mechanisms, has dramatically lowered the number of anesthesia programs, putting high financial demands on students, with adverse effects. Manley, et al (2012) urged that funding sources for educational fees and dissertation costs should be addressed early in planning a doctoral education in order to achieve the goal. Insufficient funding is really a contentious concern as it relates to continuing formal education (Richards, 2007). Yoon, et al (2002) said limited available resources for funding nursing research is a major concern of several nurse educators and scientists in doctoral-granting colleges and schools of nursing.

Work Responsibility

Working and studying can be taxing for both the students and the organization because, as Richards (2007) claimed, nurses who might participate in continuing professional education would feel responsible for keeping their colleagues under a lot of pressure while attending courses if there is inadequate staff to handle the workload in the nursing unit. Pederson (2012) stated that female nurses enrolled in PhD programs later on in their careers usually had several challenging issues, including job responsibility, children, and/or aging parents. Plunkett, et al (2010) identified one of the barriers to the pursuit of post-RN programs as work responsibilities, and Jolley (2007) indicated that most nurses normally pursue education simultaneously with their work.

Insufficient Granting for Study

Obtaining grant funding is a big issue, as Richards (2007) pointed out. He reported that more than 50% of the participants in his study identified lack of grants to fund studies as a repeated barrier to continuing formal education. Pederson (2012)

mentioned that funding, scholarships, and grants to support tuition payments, as well as other costs, need to be accessible to all potential students, including late-career nurses. Cohen, (2011) suggested that efforts be made to motivate doctoral students to obtain grant funding, as this can be an excellent support to them throughout their study, as well as afterwards in their careers as they apply for grants.

Theories of Motivation

While there have been many theories of motivation, there have been only a few relevant to the higher education environment. Before determining a theory to use in this study, a better knowledge of the most prominent ideas was needed. The literature was divided into five broad categories of motivation theories: 1) those focused on expectancies for success, such as self-efficacy theory and control theory; 2) task value such as self-determination and flow theory; 3) those that incorporated both expectancies and values, for example, attribution theory and self-worth theory; 4) integrating motivation and cognition, for instance, social cognitive theories of self-regulation and motivation, and 5) theories based on human needs, such as Maslow's Hierarchy of Needs, Herzberg's Two-Factor Theory, and McClelland's Need Theory.

Theories Focused on Expectancy

Many theories have centered on people's values concerning their competence and effectiveness, expectations for failure or success, and sense of control over outcomes. Essentially, these values come directly from the question, "Can I actually do this?" When individuals clarified this affirmatively, they were better motivated to take part in the task (Eccles & Wigfield, 2002).

Self-Efficacy Theory

Bandura (1997) presented a social cognitive model of motivation focused on the duty of perceptions of efficacy and human agency. He identified self-efficacy as an individuals' confidence in their capability to handle and perform a provided course of action to fix a problem or accomplish a job, a multidimensional construct that varies in strength, generality and degree (or difficulty). Bandura's self-efficacy theory concentrates on expectations for achievement. Eccles and Wigfield (2002) said Bandura distinguished among two types of expectancy beliefs: outcome expectations, beliefs that particular behaviors can result in specific outcomes, and efficacy expectations, beliefs about whether one can effectively perform behaviors needed to achieve the outcome. Both of these kinds of expectancy beliefs are unique since persons can think that a specific behavior will generate a certain outcome, but may not think they can carry out that behavior. Bandura indicated that individuals' efficacy expectations are definitely the main determinant of goal setting, activity choice, willingness to expend effort, and persistence.

Control Theories

A different sort of expectancy-based theory was the idea of control, based on the belief that an individual should anticipate succeeding to the stage of feeling in charge of one’s achievements and failures. Thus, you have an in-depth or internal requirement for control (Eccles & Wigfield, 2002). Connell and Wellborn (1991) integrated control values into a larger theoretical framework in which they recommended three fundamental mental needs: competence, autonomy and relatedness. Skinner and Zimmer-Gembeck (1998) proposed a more sophisticated model of perceived control. Concentrating on

knowing goal-directed action, they specified three essential beliefs: means-ends beliefs, control beliefs, and organization beliefs.

Theories Focused on Reasons for Engagement

Theories connected with competence, expectancy, and control values offer valuable information about individuals' performances on various achievement tasks; however, these ideas do not explore the reasons why people participate in various achievement tasks. Although people may believe they can execute a particular task, they may not have any compelling reason to get it done. The theories within this section focused mainly around the question of why (Eccles & Wigfield, 2002).

Self-Determination Theory

Self-determination theory centers on the difference between intrinsic and extrinsic motivation. In 1985, Deci and Ryan suggested a self-determination theory in which they incorporated two beliefs on human motivation: 1) humans were mainly motivated to keep an ideal degree of stimulation and 2) people have fundamental needs for competence and self-determination. They strongly believed that people look for challenging activities and find these activities inherently motivating because there is a fundamental requirement for competence. Furthermore, they thought intrinsic motivation was maintained only if people felt competent and self-determined. They maintained that fundamental needs for competence and self-determination (autonomy) play a vital role in additional extrinsically motivated behavior (Deci & Ryan, 1985; Eccles & Wigfield, 2002).

Flow Theory

Mihaly Csikszentmihalyi (1988) defined intrinsically motivated behavior as the personal expertise that happened when people were involved in a specific activity.

Basketball players, ballroom dancers, chess players and composers described their experiences, when fully engaged, as a psychological condition known as flow. This was characterized by 1) a natural sense of becoming involved in, and maintained by, a task; 2) an incorporation of action and consciousness; 3) concentration of interest on a restricted area, i.e., one involved in the activity had the opportunity to concentrate and to look seriously into it; 4) lack of self-consciousness, the merging of action and consciousness; and 5) a sense of self-control over the activity. According to Csikszentmihalyi, the condition of flow happened when one felt completely engaged in an activity, in control, capable of mastering any challenge, with a complete lack of self-consciousness.

Theories on Expectancy and Values

Attribution Theory

Attribution theories state that an individual's interpretation of their achievement outcomes, rather than motivational dispositions, determines the next achievement strivings. Attribution theory involves how people construe (understand) occasions and just how they are associated with thinking and behavior. Attribution theories believe people attempt to find out why they do the things they do by interpretation of causes associated with an event or behavior. Bernard Weiner created a theoretical framework that has become an essential theory of motivation for over 30 years (Weiner, 1985). Weiner maintained that one's causal attributions (explanations) for fulfillment outcomes determine succeeding achievement strivings and, therefore, were primary motivation values. According to Weiner (1992), the most important factors affecting attributions were ability, effort, task difficulty, and luck.

Self-Worth Theory

Covington (1992), in his self-worth theory, defined the motive for self-worth as the tendency to produce and keep an optimistic self-image, or a feeling of self-worth. Self-worth motivation theory describes the fundamentals of, and also the processes involved with, protecting ones self-worth. In this particular framework, the search for self-acceptance is the very best human priority and, in schools, self-acceptance was found to be contingent upon one's capability to achieve well (Eccles & Wigfield, 2002).

Theories Integrating Motivation and Cognition

Generally, motivation advocates consider the ways that motivation and cognition interact. One group of theories focused on how individuals controlled their behavior to satisfy their learning goals (Schunk & Zimmerman, 1994). Others, for example, Pintrich, Marx and Boyle (1993), have evaluated associations among motivation and the effective use of different cognitive methods. Corno (1993) argued for the detachment of motivation and volition, with motivation leading a person's options regarding engagement in particular hobbies, and decisions leading to actions used to achieve the goal. In essence, these theories focus on two primary issues: how motivation gets converted into regulated behavior and how motivation and cognition are related (Eccles & Wigfield, 2002).

Self-Regulation and Motivation

In this theory, motivation is linked to self-regulation. Zimmerman (1990) described self-regulated students as metacognitively, behaviorally, and motivationally active participants in their own individual learning processes as well as in achieving their personal goals. Essentially, self-regulated learning involves how students grow to

become experts of their own learning. Self-regulated students plan, set goals, manage, self-monitor, and self-evaluate at different points throughout the process (Corno, 1989). Zimmerman confirmed that proximal, specific, and challenging goals were best for motivating students' behavior and improving their feelings of self-effectiveness (Zimmerman, 1990).

Social Cognitive Theory

In 1941, Miller and Dollard introduced the theory of social learning. In 1963, Bandura and Walters expanded the social learning theory with concepts of observational learning and vicarious encouragement. Bandura presented his concept of self-efficacy in 1977. Social cognitive theory works with cognitive and emotional aspects and factors of behavior for understanding behavioral modification (Bandura, 2001). The theory describes how individuals obtain and maintain particular behavioral patterns, as well as giving the basis for intervention techniques. Assessing behavioral change relies upon factors of environment, people and behavior (Bandura, 2001).

Need Theories

Need theories refer to why the needs of people keep altering with time, thus, concentrating on the particular factors that motivate them. Basically, they describe what drives behavior in humans. Needs are inadequacies that trigger actions to fulfill individual needs. Generally, unfulfilled needs produce a tension that makes one want to figure out ways to fulfill or meet those needs. The more powerful an individual's need, the more motivated one ends up being to satisfy them. In comparison, a satisfied need doesn't motivate. The theories within this section placed their focus on what motivates people (Hendriks, 1999).

Maslow's Hierarchy of Needs

In 1954, Maslow first introduced "Motivation and Personality", which presented his theory about how individuals satisfy needs within the context of their work (Gawel, 1997). He assumed, based primarily on his observations as a humanistic psychologist, there is a common pattern of needs recognition and satisfaction that people frequently follow in the same sequence. He also theorized that a person could not realize or pursue the following greater need in the hierarchy until his or her present need was totally satisfied, a concept named prepotency. Maslow's hierarchy of needs is frequently illustrated as a pyramid, with survival needs at the broad-based bottom and self-actualization needs at the small top (Gawel, 1997).

Herzberg's Two-Factor Theory

Herzberg's Two-Factor Theory separated motivation and job satisfaction into two unique types he identified as motivation factors and hygiene factors. He proposed that motivating factors would be job content factors that incorporated achievement, recognition, work itself, responsibility, advancement, and private growth. The hygiene factors were the task context factors, for example, supervision, relationship with boss, work conditions, relationship with co-workers, salary, employment, job status, and private life (Ruthankoon & Ogunlana, 2003). Essentially, Herzberg's theory differentiates between intrinsic motivators and extrinsic motivators. The intrinsic motivators, or job content factors, were connected with individual things people actually did within their work, including individual responsibility and accomplishments. These elements were the motivators that could possibly lead to the highest stage of job satisfaction a staff member might feel on their job. The task context factors, or extrinsic

factors, that a worker did not have a great deal of control over, related more to the environment in which people work as opposed to the character of the work itself. These factors were considered a source of dissatisfaction for workers in their jobs. Herzberg understood the factors leading to satisfaction were not the same as those leading to dissatisfaction; the two factors weren't opposites of one another. The fundamental premise of Herzberg's theory is, if managers wish to increase job satisfaction performance of a worker, they need to address the individual factors that affect one's job satisfaction (Schermerhorn, Hunt & Osborn, 2003).

McClelland's Need Theory

McClelland's Need Theory investigated the concept that there are three primary needs a person obtains over their lifetime as a result of experiences within their careers or in their personal existence. McClelland believes that to be able to understand human behavior and just how one can be motivated, you have to first understand their demands and habits. McClelland's theory states that human behavior is impacted by three different needs, power, achievement and affiliation. The need for achievement is the need to do better, to resolve problems and to master complex tasks. The need for affiliation is the desire for friendly and warm relationships with other people. Individuals motivated by affiliation were frequently passive people who attempted to prevent conflict, generally because they need to be loved by others. The need for power is the need to manage and influence the behavior of others. McClelland thought that an individual's motivation and effectiveness in job functions are affected by the individual's needs (Schermerhorn, Hunt & Osborn, 2003).

Selection of Theory

The significance of motivation and barriers in the educational field is unquestionable. For many years, research in educational settings has stressed that motivation is a persistent and essential cause of students' functioning and performance (Good & Brophy, 2000) and many models and theories have been developed to explain and understand the motivators and barriers for pursuing education (Boshier, 1973; Miller, 1967; Rubenson, 1977). Most of these frameworks stem from the discipline of adult education rather than healthcare. Studies in nurses' participation in education have paralleled studies of participation in adult education by examining the demographic characteristics of participants, motivators and barriers. The nurses' studies, however, looked through the theoretical lens of general adult education (Thompson, 1992). In this study, the problem was to be examined from the perspective of adult nursing education and, to do this, Cross's chain-of-response model (Cross, 1981) was used. This model is an appropriate framework for investigating nurses' motivations for and barriers to pursuing advanced education, as it focuses on motivational theory in learning and, particularly, the individual's perceptions of barriers and opportunities.

Cross's Chain-of-Response Model

Cross's (1981) chain-of-response model is a conceptualization of the intrinsic and extrinsic factors that motivate adult participation in learning activities. According to Cross, these factors are interrelated. The motivation to participate in adult learning activities is based on the strength of factors that assist engagement compared to the strength of factors that prevent participation. Cross's model represents a cycle, and the

seven steps all have their own impact on the decision-making process regarding whether to participate and continue in adult education (see Figure 2) (Cross, K.P., 1981, p.124).

Interactions between different aspects of life are reflected by connecting arrows within the model. Cross (1981) believes that “participation in a learning activity, whether in organized classes or self-directed, is not a single act but the result of a chain of responses, each based on an evaluation of the position of the individual in his or her environment" (Cross, 1981, p. 125).

Although participation in education can provide many opportunities, such as a new or promoted position at work or an increase in income, certain barriers can block a learner from having a chance at these opportunities. Barriers to participation are a central concept in Cross’s work, which is why the model was valuable in examining the barriers to advanced education as perceived by nurses.

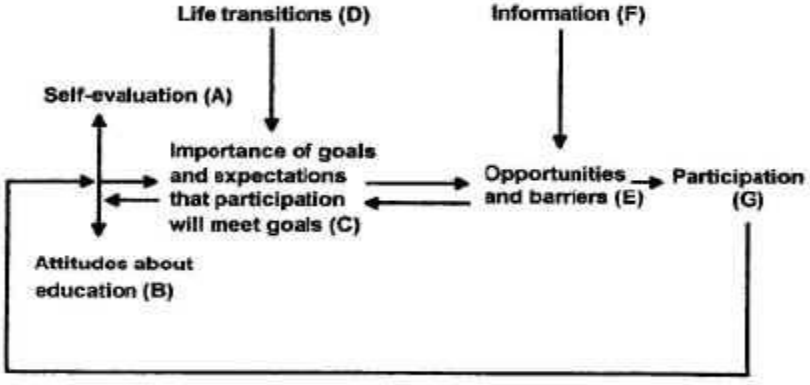

Figure 2. Chain-of-response Model for Understanding Participation in Adult Learning Activities

Barriers are divided into three main categories: situational barriers, institutional barriers, and dispositional barriers. Situational barriers are personal life barriers such as lack of money, time, or pressure from family, which deter the nurse from returning to

graduate school. Institutional barriers stem from difficulties related to the institution that provides the education, such as the school being geographically far, classes being held at inconvenient times, admission requirements being stringent, or the school lacking student services. They relate to how much the potential learner knows about the educational program (Cross, 1981). In the case of graduate nursing education, an institutional barrier could relate to a misunderstanding of the purpose of a doctorate in nursing and the opportunities this qualification can provide for a nurse's career. Lastly, dispositional barriers are those that relate to the learner's self-esteem and attitude toward learning and being a student. They include lacking confidence to succeed, feeling too old, or being discouraged by a previous negative experience as a student.

Cross (1981) asserted that participation in a learning activity is the result of a chain of responses to both psychological and environmental aspects. The chain of response is started by the individual. Self-evaluation (A) is an evaluation of the potential for accomplishment in an educational task. If the learner has a positive attitude, depending on previous learning activities, s/he is more likely to join an educational program. This self-evaluation combines together with the learner's attitudes about adult education (B).

Cross's response on connecting points is that "there is a relatively stable and characteristic stance toward learning that makes some people eager to seek out new experiences with a potential for growth while others avoid challenges to their accustomed ways of thinking or behaving" (p. 126). Factor C is correlation, incorporating valence, the necessity of the aim to the person, and expectation of the individual's subjective judgment that the goal will be successful and will result in the expected reward. If the

aim that is essential to the individual is probably going to be accomplished via further education, then motivation at point C is strong. If the goal is not significant or the probability of achievement is uncertain, motivation decreases accordingly (Cross, 1981).

Cross includes life episodes and transitions in her model. Life transitions (D) are incidents experienced by adults as they progress through the lifespan cycle. Events like graduation and marriage can motivate adults to participate in further education. Obstacles might be overcome and chances taken advantage of if a person bas the information to proceed (F). Without correct information, point E is weak, since opportunities are not identified and barriers appear large. Positive responses over the chain will lead to participation (G). Cross's model is not as linear as these steps suggest. It can also be a two way model in that participation in adult education (G) can influence how one feels about education (B) and oneself as a learner (A).

This model has been used in nursing education to examine motivators and barriers to pursuing advanced education. The framework focuses on motivational theory in learning and, particularly, the individual's perceptions of barriers and opportunities; therefore, it was the appropriate model to guide this study.

How Cross's Model Will be Used in This Study

As previously indicated, participation in a learning activity is the result of a chain of responses to both psychological and environmental aspects. The model starts with self evaluation, the key element in the model for the current study. Just by receiving the invitation to participate in the study of motivations and barriers for a doctoral degree, participants will be psychologically prepared and start thinking about the topic internally. By the time they start to fill out the survey, they are ready to evaluate the motivation and

barriers items in the survey according to their personal experiences. This self evaluation (Factor A in the model) is coupled with the person's attitude (B). If the person thinks achievement of the degree is possible, his positive attitude increases, and the idea of pursuing the goal will lead to strong motivation (C). However, if the doctoral degree is not the goal or the likelihood of success is in doubt, motivation decreases accordingly and barriers became strong. Life transitions (D) are introduced in the scale, which help the person find ways to overcome the obstacles. Participants who experience these events will have enough information (F) about the process, the policy, the potential institutions that offer scholarships, and what barriers may be faced when they make the decision to study overseas. Without accurate information, barriers became strong (E), but a positive response from the participant means participation will occur (Factor G).

Previous Studies From the Nursing Field That Use a Chain-of-Response Model

This model has been adapted and used by nursing researchers in many studies, for instance, Scott (1989), Hammill (1994) and Gorczyca (2013). The first study by Scott (1989) was done to determine whether motivational factors**,** vocational personalities**,** barriers to enrollment, and enabling factors of re-entry women nursing majors were different from those of women nursing majors of traditional college age. Participants were female nursing majors in all four grade levels of a baccalaureate program at a Midwestern university. The sample consisted of 46 re-entry women and 73 traditional college age women nursing majors**.** Additionally, interviews with 10 re-entry and 10 traditional age women nursing majors were used to strengthen the study by triangulation with the quantitative data. The main findings of the study showed barriers to enrollment that were more significant to the re-entry women: cost of college, other responsibilities,

fear of failure, arranging for child care, attitudes toward education by family of origin and significant others. Barriers that were of greater importance to the traditional age women included leaving home and friends and being tired of attending school (Scott, 1989).

The study by Hammill (1994) determined factors that Baccalaureate prepared practicing CRNAs perceived as barriers to studying for a master's degree, and also determined the relationship between CRNA's perceptions of work-related barriers to their participation in master's degree programs. The study included 166 randomly selected members of the American Association of Nurse Anesthetists. The investigator identified five situational factors that were perceived by respondents as major barriers to studying for a master's degree: no time to attend class, work role/income will not change, work/school scheduling problems, family responsibilities, and no time to complete assignments. Additionally, statistical analyses with multiple t-tests determined no significant relationships between CRNAs' perceptions of barriers and their participation in master's degree programs (Hammill, 1994).

The qualitative phenomenological study by Gorczyca (2013), looked at perceived motivation and barriers for nurses who never enrolled in graduate studies. The study consisted of a convenience sample of eight registered nurses, divided into two focus groups based on their years of nursing experience. The major themes that emerged were categorized as motivators, barriers, perceptions and attitudes. The findings highlighted that additional work was required to promote the different opportunities and roles available for graduate-prepared nurses and to increase the resources available within both the academic and healthcare employment settings.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this mixed method research study is to identify the motivators and barriers to Saudi nurses wanting a doctoral degree in nursing. The study will also explore the reasons why some Saudi nurses do not intend to seek this degree.

Theoretical Foundation

The model by Cross (1981) will be used to guide the theoretical and methodological aspects of this study. A detailed review of this model can be found in Chapter 2. To recap, however, Cross uses a chain-of-response model to identify how individuals react to internal and external variables associated with participation in learning activities. She identifies three main barriers to adult participation: situational barriers develop from one's circumstance or environment at a specific time, institutional barriers are those practices and techniques that exclude or discourage adults from engaging in organized learning activities, and dispositional barriers are associated with attitudes and self-perceptions about oneself as a learner.

Studying these barriers in a sample of Saudi nurses will, as Cross maintains, help our understanding of motivational factors that can influence the decision to study for a doctoral degree.

Methodological Approach

This study will use a mixed method design using a concurrent triangulation strategy to examine the motivations and barriers Saudi nurse experience in making the decision to study for a doctoral degree. Mixed method design was chosen primarily because of a paucity of information about Saudi nurses' perceptions of motivations and

barriers to studying for a doctoral degree. An online survey will be used to collect both qualitative and quantitative data and the design will provide the opportunity to cross-validate findings derived from the study (Östlund, Kidd, Wengström & Rowa-Dewar, 2011). Participants will be invited to select answers from multiple choice questions and have the opportunity to respond to narrative questions about any factors they believe have contributed to their decision making about pursuing a doctoral degree. This approach will allow the collection of quantitative data to assess and analyze responses, and also enable a more 'personalized' response to the real-life decisions many students have taken or are considering taking with respect to further nursing study. Hayes, Bonner and Douglas (2013) indicate that mixed method designs lead to gaining a more rounded and complete understanding of the phenomena. Therefore, using this type of method in the current study can be expected to increase our understanding about the factors that prevent Saudi nurses from going forward to study for a doctoral degree.

Instrumentation

This study used an instrument developed by Kimmel, Gaylor, Grubbs and Hayes (2012) (See Appendix A). For the approval to use this instrument, see Appendix B. The instrument was originally developed to assess the employment, income, motivations and barriers of adult learners, and used a self-rating on variables using a 31 item Likert scale. The items contained in the instrument were created as a result of comparing information obtained from the outcomes of a 2004-2005 and a 2010 study of nontraditional students (age 25 and above) who made the decision to begin studies at four-year colleges that offered programs designed for working adults. The study compared responses collected from a convenience sample of face-to-face learners (n=683) in five private institutions

and one public university in 2004-2005 with those from a convenience sample of face-to-face and online learners (n=530) in three private institutions in 2010.

The principle findings of the study showed "significant differences existed between the two groups on all items: part-time employment, full-time employment, household income, desire for pay increase, desire to keep a current job, desire to begin a new career, concern about repaying student loans, and lack of availability of scholarships (Kimmel, et.al, 2012, p.23). However, the hypotheses regarding the relationship between part-time and full time employment and return to education were not supported.

The strengths of this study include, for instance, the application of the study across countries (USA and Canada), the scale items were developed from an extensive review of the literature, and the sample was potentially large enough to make generalizations from. The study was not, however, informed by theory, and no attempt was made to describe reliability or validity within the design.

While the Kimmel, et al., instrument has been used to study students and some of the motivations and barriers they experience, it was decided the instrument could not be used without some modifications. This was because the original Kimmel, et al., instrument, while capturing data relevant to the purpose of this study, did not focus on the needs of doctoral students. Furthermore, following an extensive review of the literature, it became apparent that other motivators and barriers might be more relevant to the study of nurses, in general, and doctoral students, in particular. Moving beyond the issue of modifying the rubric of the questions to focus on nurses and the decision to study the terminal degree, there is the issue of aligning the items with Cross's Chain of Response model (see Figure 2 in Chapter 2).

To use the Chain of Response Model, it was necessary to group the items from the Kimmel, et al., instrument to represent the underlying theoretical structure of this model. The items were arranged as follows (See Appendix A to map the question number to the questions).

1. Situational barriers were assessed using item numbers 43,44,45,46,47,48,52, and 55.
2. Institutional barriers were assessed using item numbers 49,50,51,53, and 54.
3. Dispositional barriers were assessed using item numbers 40, 41, and 42.

In addition to this approach of aligning questions with the theoretical model being used to guide this study, was the fundamental need to develop a deep as possible understanding of motivators and barriers in this group of nurses and their future study plans. To develop this idea further, it was proposed to use questions that were both open and close-ended. Keough and Tanabe (2011) and Kelley, Clark, Brown and Sitzia (2003) described survey items as being open-form or forced-choice (closed form) and suggested the decision regarding which approach to use should be made based on the type of data needed to answer the research questions. Kelley, et al. (2003) recommended using open form items when little is known about a phenomenon and closed form items when options are difficult to identify. The challenge of open-ended items lies in the methods and accuracy of analyzing the data collected. Given there is no published data examining the motivations and barriers affecting Saudi nurses' choices about studying for a doctoral degree, it was proposed to include open-ended questions in the instrument. (See Appendix C). Kelley, et al., (2003) recommended keeping the survey as short as possible as a means of increasing the return-rate and quality (completeness) of the final data set.

The closed-ended Likert scale questions in the survey remained at 31 items, with 8 open-ended questions.

The quantitative questions were scored in a positive direction, that is, higher numbers indicate a greater amount of the factor being measured. This was the approach adopted in the Kimmel instrument and McCoach, Gable and Madura (2013) argued it was important for ease in the interpretation of findings. While there is debate in the literature about the scoring methods used with Likert scales, Sauro and Lewis (2011) indicated the two main disadvantages of including questions with both positive and negative wording were respondents unintentionally agreeing with negative items (mistakes) and researchers forgetting to reverse the scales (miscoding).

The development of the open-ended questions was guided by the lack of identification or discussion of potential motivational factors from the literature review. What became evident was the need for more understanding of the time, events and barriers the participants faced, or believed they may face, in order to make the decision to return for further education.

A review was made of the internal organization of the instrument. The original Kimmel, et al., questionnaire included four sections: demographic information; fifteen questions related to motivators, sixteen questions about barriers and an open-ended section offering respondents an opportunity to enter responses to the question, “Are there any additional motivations you had or barriers you faced (or currently face) in your decision to enroll in college for the degree you currently seek? If so, please tell us in the space provided” (Kimmel, et.al, 2012, p. 38).

After reviewing the original instrument, some changes were made for this study. The scale was changed to five sections as follows:

Section 1: The first proposed change was to the initial section that asks for demographic information. These changes included questions directed specifically to the Saudi nursing population. This was deemed necessary as the original demographic questions were focused on people living in the Americas. This study required questions to be aligned to potential respondents originating from Saudi Arabia. In this study, the following questions were included in the first section:

Name of education institution, country, state for overseas students/ region for participants in SA (middle, south, east, west, north), place (City), current enrolment as a master's or doctoral student, enrolment date, expected date of graduation, gender, age, marital status, nursing educational qualification, professional status, sector, years of study or experience, family members, working family members, type of work, average family income, family members or relatives working as nurses, and tribal affiliation.

Section 2: The second section contained the original 15 questions, but they were not labeled as "Motivating Factors". The reason for modifying the headings in the scale was to ensure respondents were not influenced to answer questions in a particular way and to avoid the phenomenon of response set.

Section 3: Section three contained six narrative questions focusing on the respondent and their decision making about studying for a nursing doctoral degree, as follows:

- For how long did you seriously consider studying for a doctoral degree? _____ Months, _____ years.
- What was, or is, the single most important reason for returning to school for a doctoral degree?
- Did any one person encourage you to continue your education? Yes _____

  No _____ if yes, what is the relationship of that person to you?
- Was there a single event that influenced your decision to consider/continue your doctoral degree in nursing? Yes _____ No _____ If yes, what was that?
- What was, or is, the most important barrier you faced or are currently facing that may or will prevent you from returning to school for a doctoral degree?
- Are there any other comments you would like to make?

The reason for asking these specific qualitative questions was based on the need to know more about the time period between thinking about starting a degree program and actually doing so. It gave respondents the chance to give more details about the barriers they faced to begin further study in nursing. These items were also consistent with Cross's Model, because the first part of the model is concerned with self-evaluation, how a decision is made. The intention was that all the narrative questions would fit under the broad headings of situational, institutional, or dispositional barriers and would also enhance our understanding of those factors not specified in the quantitative section.

Section 4: The fourth section followed a similar format to section 2, in that it contained the original Kimmel, et al., scale of 16 barriers factors, but with no heading to indicate the questions refer specifically to barriers.

Sections 5: The fifth and final section included a narrative question asking respondents to indicate any additional motivations or barriers they thought was important, but was not included elsewhere in the survey instrument.

Pilot Study

It was proposed that a pilot study be conducted, using the modified Kimmel, et al., instrument, prior to conducting the main study. This decision was made for a number of reasons. First, the original Kimmel, et al., instrument did not assess or report any reliability or validity data. While this omission might be considered a weakness, the instrument does, nevertheless, have considerable merit in its relevance to assessing motivations to beginning or continuing education. The second reason was that a number of modifications were proposed to the instrument to make the items and the demographic variables more applicable to Saudi Arabian culture and respondents. Conducting a pilot would enable the assessment of the participant's understanding of the questions and the timing required to complete the survey. According to Kimmel, the instrument could be expected to take about 15 minutes. The addition of a more extensive narrative section could be expected to increase this time (personal communication, Aug 26, 2014). This pilot study would provide the means to assess some of the psychometric properties of the instrument, including a measure of internal consistency (Coefficient alpha) (Hertzog, 2008). It was important to obtain some measure of reliability and validity before discussing the findings of this study and generalizing them to other groups or populations of nurses, and this proposal would develop a measure of both reliability and validity for the modified Kimmel, et al., instrument.

The pilot study included two groups of participants. The first group was recruited from current PhD Saudi nursing students in the US and the second group was recruited from practicing registered nurses in Saudi Arabia. These two groups were expected to have differences in their motivation and barriers, which would allow for assessing the

reliability and validity of the instrument. For the purpose of this study, reliability was considered to be the extent to which the modified Kimmel, et al., instrument produced similar results in different situations, assuming nothing else had changed (Roberts, Priest & Traynor, 2006). Internal consistency reliability (Chronbach alpha) would be determined for the instrument used in this pilot study. This determination is most regularly used for cognitive measures when a determination needs to be made about the consistency of performance of one group of people across the items on a single measure. To estimate the internal consistency of the scale, it was administered to a representative group on one event. Internal consistency measures of individual items in a questionnaire can be measured using statistical procedures such as Cronbach's alpha (Waltz, Strickland & Lenz, 2005; DeVon, Block, Moyle-Wright, Ernst, Hayden, Lazzara, et al, 2007; Roberts, Priest & Traynor, 2006). "The alpha coefficient is the preferred index of internal consistency reliability because it (1) has a single value for any given set of data, and (2) is equal in value to the mean of the distribution of all possible spilt-half coefficients associated with particular set of data. Alpha represent the extent to which performance on any one item on an instrument is a good indicator of performance on any other item in the same instrument" (Waltz, Strickland, & Lenz, 2005, p. 140).

This pilot study would also be used to estimate a measure of the validity of the modified instrument. For the purposes of this study, validity is defined as the extent to which a measure achieves the purpose for which it was intended (Waltz, Strickland & Lenz, 2005).

Administration

The pilot study was conducted after obtaining IRB approval from the University of Massachusetts. Determining the size of a sample for a pilot study is often difficult to quantify, as there is frequently little, if any, prior data to guide decision-making. Hertzog (2008) offers some general sample size guidelines. If pilot data is used to evaluate whether the reliability of a measurement is consistent with reported values or to assist an instrument's use in a particular population, the researcher should consider whether the pilot sample exhibits representative variability and apply that in the new population. It was proposed that data from a minimum of 30 participants per group be collected to examine the motivations and barriers of participants.

Group 1 was recruited from PhD Saudi nursing students in the US from an estimated 65 PhD students currently enrolled in different universities throughout the world.

Group 2 was a sample of BSN prepared registered nurses from Saudi Arabia, working in clinical practice. There were an estimated 500 such nurses available to participate in this study.

These two groups were chosen because the PhD students were anticipated to exhibit 'highly motivated' responses, since they had already traversed the challenges that can be faced by students considering a doctoral degree, while the practicing clinical nurses in Saudi Arabia were expected to be 'less motivated'. The plan for recruiting participants was as follows. The PhD students were contacted by the individual at the Saudi office who had earlier approved contact (appendix F) with other graduate students worldwide. The RN group was recruited by the researcher from the email list that was

supplied by SCFHS. For the RN group, emails were taken out of the list of possible respondents when conducting the main study, while the PhD students could opt to complete both the pilot and the main study.

The survey was chosen as a method for this study because Keough, and Tanabe (2011) and Kelley, et.al, (2003) indicated survey methodology is a common and flexible way to gain data from large populations. They also indicated that using surveys has many advantages. For instance, the research is based on real world observation; if representative, the survey data can be used to generalize findings; and it is possible to collect a large amount of data in a relatively short period of time and at low cost. When using survey methodology it must be recognized that the data may lack details of the interested phenomenon because respondents are forced to reply, typically, on a numerical scale.

Individuals participating in this study were surveyed using an electronic portal offered by Qualtrics. This methodology has been used in over 1,300 colleges and universities internationally, including every major university in the US (Qualtrics, 2014). A survey account was created on October 7, 2014 to generate the survey and distribute it to the selected sample. Qualtrics Survey is an online service chosen because it has been proven to be more effective in academic research than other programs, for instance Survey Monkey (Brandon, Long, Loraas, Mueller-Phillips & Vansant, 2014). Qualtrics enables researchers to create and deliver online research instruments with minimal time and effort, and with no in-depth programming experience. It helps researchers easily, and simply, create and deliver study instruments to participants in a wide geographical area. Qualtrics provides simple tools to assist in a range of question formats (e.g., forced

ranking, multiple choice, open text, scale rating), easily allowing for various design choices (e.g., question randomization, skip logic, response piping, data validation, and IP address tracking or blocking). Additionally, Qualtrics keeps the data for an unlimited time, even once an account is closed, until the researcher asks for deletion (Brandon, et al, 2014).

Participants were contacted to participate in the web survey via an e-mail invitation (see Appendix D). The invitation included a brief description of the study and the potential impact the results could achieve, as well as the web link for accessing the survey. The survey was available for two weeks and a follow-up e-mail reminder was sent to all identified participants.

Pilot Data Analysis

It was proposed that this pilot study would be used to further examine the reliability and validity of the instrument, but also to assess congruence with the Cross Model that forms the theoretical basis of this study. Exploratory factor analysis is a statistical method to increase the reliability of the scale by eliminating redundancy in data items and to determine the dimensionality of constructs by evaluating relationships among items and factors when the information of the dimensionality is limited (Richardson & Yu, 2015). Item analysis for reliability was conducted. Descriptive statistics were used to assess the relevance of the 32 items by calculating the means of all responses and standard deviations per item. The internal consistency reliability was tested using Cronbach's Alpha for each competency. If the Alpha value is higher than 0.9, the internal consistency is excellent and if it is at least higher than 0.7, the internal

consistency will be acceptable (Richardson & Yu, 2015). The two groups' differences were assessed by t-test (Waltz, Strickland, & Lenz, 2005).

Main Study

The procedures identified in the main study have taken into account findings and lessons learned from the pilot study. This included issues surrounding sampling and the recruitment of respondents, quantitative analysis strategies, as well as the wording, structure and analysis of the qualitative aspects of this study.

Sample and Sampling Procedure

The goal of developing the sampling methodology was to identify those registered nurses of Saudi Arabian nationality who, by virtue of their clinical and educational experiences or expectations, could identify and comment on potential motivating factors and barriers to pursuing a PhD in nursing. The study population included not only Saudi nurses who were currently working in Saudi Arabia, but also those who were studying, or preparing to study, for higher education outside of the kingdom. It was decided to include students who were in the English preparatory stage, as this was taken as an indicator of intent to study for a PhD and, as such, would include students who had taken significant steps in planning for further education. The following criteria were adopted for selecting nurses to be included in this study.

Inclusion criteria

Group 1: Any Saudi nurse with a bachelor or master's degree in nursing, working in clinical practice in Saudi Arabia in either the government or private health care sectors.

Group 2: Any Saudi nurse with a bachelor or master's degree in nursing, working in nursing education in Saudi Arabia in either a government or private college.

Group 3: Any Saudi nurse enrolled in a master's degree program outside of Saudi Arabia or still in the English preparation phase that is required for any international student to be accepted into a graduate nursing program.

Group 4: Any Saudi nurse enrolled in a doctoral degree program outside of Saudi Arabia or still in the English preparation phase that is required for any international student to be accepted into a graduate nursing program.

Sampling Methodology

It was proposed that a snowball sampling approach be used. This method is useful when seeking to study hidden populations for which adequate lists of potential respondents and, as a result, sampling frames, are not accessible. Snowball sampling is usually established as the only technique to reach hidden populations (Vashistha, Cutrell & Thies, 2015). Researchers also support using snowball sampling in social computing research, where a worldwide directory of all end users is generally inaccessible. Under these circumstances, snowball sampling methodologies are the only possible techniques available. Snowball methods are used as an informal approach to reach a population and as a more formal technique intended to make inferences with regard to a population of individuals (Faugier & Sargeant, 1997). It is considered as a type of convenience sample (Bernstein, Ackerman, Chi & Miller, 2011). Other advantages of this type of sampling are cost-effectiveness and ease of administration (Atkinson & Flint, 2001). Snowball sampling methodology is not without disadvantages. Atkinson & Flint (2001) advise that a researcher has little control over the sample being generated because subjects are

obtained from subjects already in the sample. New respondents are, in effect, referrals from existing participants. This raises issues about the representativeness of the sample. The type of bias that snowball sampling can generate is the possibility that respondents self-select on traits or characteristics not central to this study, and this raises issues when discussing the generalizability of findings.

The Internet and Sampling Strategy

The arrival of the Internet has significantly changed communication and information distribution styles between individuals as well as society in general. Internet services like websites, email, newsgroups and blogs are offering new and effective ways of distributing and gathering information. Scientists have been aware of the extensive potential of the Internet (Laporte, 1994), viewing it as a media for educating and studying, research communications, and distribution of healthcare information (Koo and Skinner, 2005). Lately, development in web-based technology has fostered the utilization of the Internet in research, including data collection, online intervention programs and experimental studies (Reips, 2002).

The advantages of Internet surveys, as Gosling and Mason (2015) state, include the ability to obtain a large sample, minimizing the use of physical resources (e.g., paper), preventing the need for data entry, and allowing scientists to benefit from dynamic features that include, for example, automatic checks for item completion, adaptive testing, and the ability to produce quick feedback to participants. There are, however, challenges to using the Internet as a data collection tool. Wright (2005) acknowledged that sampling problems could occur since little may be known about the characteristics of people in online communities. This may result in further problems

when generalizing findings. Furthermore, there are Internet etiquette issues where, in some online communities, soliciting for participation is considered an undesirable behavior and one likely to lead to a decision not to participate in a study.

That being said, Tess (2013) acknowledged that the Internet and social media are increasingly being used in higher education settings as faculty are looking to technology to connect and improve their instruction methods and engage students in active learning situations. Given this background, it is considered appropriate to use the Internet as the primary vehicle for engaging students or potential students to participate in this study. The plan was to ensure that the initial group of people contacted was as close as possible to the sampling needs of this study. Respondents were asked to assist in the recruitment of other potential respondents by forwarding a pre-scripted text. This helped ensure that the intent of this study was communicated clearly as was the message asking for participation. The wording of this text can be found in Appendix E.

In order to determine the sample size, there were three elements to be considered. First was the power (B), which means the probability of rejecting the null hypothesis, normally 0.80. Second was the Alpha (α), the level of probability of type I error, normally 0.05. Third was the effect size, which means the effect of the independent variable to the dependent variable, usually determined from the results of previous studies (Polit, 2010). The challenge for this study was that there were no comparable studies in which to set the effect size. The decision to adjust any one of these depends on both the nature of the study and how the results will be used. As this study was non-interventional and the potential impact on the participant was minimal, the following parameters were set: (B) to be 0.95, (α) 0.05, and odd ratio (2.3). This odd ratio indicates

the probability of a respondent being in one group relative to the likelihood of being in a different group (Polit, 2010).

The target population of this study was 280 participants. The sample was calculated using G*Power software for one way ANOVA where α is 0.05, the power (B) is (0.95), and medium effect size is 0.25. This meant there would be 70 participants in each of the groups included in this study.

Data Collection Procedures

The study required data collected from four different groups. The first group included nurses working in the Saudi Arabian health care system (group 1), and the second included nurses working in Saudi schools of nursing (group 2). The other two groups included nurses working outside the Kingdom, to include any country where Saudi nursing students were studying for a master's (group 3) or doctoral degree (group 4). Since the Saudi Arabian health system uses the English language as the formal language for communication in both clinical and educational settings, it was decided that there was no need to translate the study into Arabic.

The initial list of individuals invited to participate in this study (Group 1), those working in clinical practice, were identified from a list of emails provided by the Saudi Commission for Health Specialties (SCFHS). This group is responsible for supervising and evaluating training programs, as well as setting controls and standards for the practice of health professions (SCFHS, 2014). Participants from Saudi Arabia who work in the education setting (group 2) were accessed by sending the survey link to an email list of nursing school deans, which was collected from each school website listed under the MOE website. The nursing school deans were requested to forward the survey link to

the target participants in their school. A follow-up email was sent to the deans after a two-week period to ensure the invitation email was sent out. Students were also invited to participate through the school's Facebook and WhatsApp accounts.

Groups three and four were overseas students invited to participate in the study in a variety of ways, including email, Facebook and WhatsApp. Facebook is considered one of the most powerful social media platforms for identifying and contacting people (Davis, Deil-Amen, Rios-Aguilar & Gonzalez Canche, 2012). The survey link was sent to Saudi nurses' email addresses and posted on student and School of Nursing Facebook and WhatsApp accounts. These social media programs were chosen because most Saudi nursing students outside of the kingdom frequently use them to discuss nursing issues and exchange ideas.

All participants were asked to send the link to the questionnaire to other individuals using the same Facebook or WhatsApp groups. The link would have an embedded code that identified if the data came from a respondent that was on the original list or one who was recruited by virtue of receiving a forwarded link. While individuals could not be identified with the methodology used, it was possible to identify sub-groups of respondents based upon the source of their invitation. This information was used to determine whether it was credible to pool all the data from all sources into the four distinct groups.

Data Analysis Strategy

Factor Analysis and Internal Consistency

Exploratory factor analysis (EFA) was conducted to examine the congruence between the data obtained from the surveys and Cross's model using SPSS 17 software.

EFA is a statistical method that can also be used to increase the reliability of the scale by indicating items that are outliers in a questionnaire and to determine the dimensionality of constructs by evaluating relations among items and factors (Richardson and Yu, 2015). Item analysis for reliability was conducted. Descriptive statistics were used to assess the relevance of the 32 items by calculating the means of all responses and standard deviations per item. In addition, the instrument's internal reliability was assessed using Cronbach's Alpha. If the Alpha value is higher than 0.9, internal consistency is considered 'excellent' and if it is at least higher than 0.7, internal consistency is described as 'acceptable' (Richardson & Yu, 2015).

Research Questions Analysis Strategy

Quantitative Research Questions

Research Question #1: What are the perceived motivators and barriers to study for those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it'?).

To analyze the data from Question 1, descriptive statistics was used with mean and standard deviations (SD) being calculated.

Research Question #2: What motivators/barriers are 'strongest' in these groups?

Frequency distributions were used to analyze the data from Question 2. The data is presented in tables that illustrate the relative importance of motivation and barriers factors.

Research Question #3: Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to situational barriers?

Research Question #4: Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to institutional barriers?

Research Question #5: Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to dispositional barriers?

Research Question #6: What are the differences in motivations and barriers with relation to gender?

Research Question #7: What are the differences in motivations and barriers due to practice/experience issues?

To analyze the data from Questions 3, 4, 5, 6 and 7, it was anticipated that ANOVA and ANCOVA approaches would be used. This is based on the fact that there was categorical data for nursing group membership (1-4) and the other variables could be re-coded into categorical data from ratio, e.g. age. Statistical differences within and between items were determined based upon group membership.

Qualitative Research Questions

Research Question #1: For how long did you seriously consider studying for a doctoral degree and what are the important reasons for that?

Research Question #2: Did any one person encourage you or was there any event that influenced your decision to continue your education?

Research Question #3: What was, or is, the most important barriers you faced or are currently facing that may or will prevent you from returning to school for a doctoral degree?

Research Question #4: What additional remarks on motivations and barriers are highlighted by Saudi nurses who are interested in going forward to study for a doctoral degree?

The analysis of the qualitative data involved identifying themes within the responses. This process was started by creating qualitative codes and themes, and then counting the number of times they occurred in the text data. This quantification of qualitative data enables comparison of both quantitative data and qualitative data (West, 2011).

Presentation of Findings

Managing data is an essential part of the research process. Microsoft Excel was used for data entry. This is the preferred program of the Qualtrics survey methodology. All data was secured with password and encryption. Data was analyzed with the Statistical Program for Social Sciences (SPSS, Version 17); it was imported via the excel program and checked for errors. Data analysis started with some basic data investigation, such as the management of missing data, identifying outliers, and any other data cleaning required. Graphs for distribution of all obtained measures were visually inspected for any abnormalities.

Ethical Consideration

Approval was obtained from the Institutional Review Board of The University of Massachusetts, Amherst, prior to beginning the study. Participation in the study was voluntary and participants remain anonymous. The survey page indicated the purpose and importance of the survey, and clearly stated that the data would be reported only as group data. The participants were informed that the information they gave would not be used to identify individuals. Further, any publication of reports or articles would not include any personal information. The participants were unlikely to be at risk of physical or psychological harm or physical discomfort. The participants had the opportunity to contact the researcher for the research findings. Participants were informed in the first online page about the procedure for logging into the survey and how to respond. The act of completing the survey was taken as evidence of voluntary consent to participate in this research study (see Appendix D).

CHAPTER 4

RESULTS

The purpose of this study was to identify motivators for nurses wanting to earn a doctoral degree in nursing and to explore the barriers experienced by those nurses not interested in studying for this degree at the time of this study. To explore these issues, the researcher designed an online survey that was distributed to four groups:

Group 1: Any Saudi nurse who had earned a bachelor or master's degree in nursing and was working in clinical practice in Saudi Arabia in either the government or private health care sectors.

Group 2: Any Saudi nurse who had earned a bachelor or master's degree in nursing and was working in nursing education in Saudi Arabia in either a government or private college.

Group 3: Any Saudi nurse who had already enrolled in a master's degree outside of Saudi Arabia or was still in the English language preparation phase of their studies, required for an international student to be accepted into a graduate nursing program.

Group 4: Any Saudi nurse who had already enrolled in a doctoral degree outside of Saudi Arabia or was still in the English language preparation phase of their studies, required for an international student to be accepted into a graduate nursing program.

The Statistical Package for Social Sciences Version 23 was used to calculate frequencies and perform cross tabulation distributions, ANOVA, ANCOVA and paired t-tests. This chapter begins with a description of the sample, results of the pilot study, main study and the qualitative component of this research. The results are organized by research question. The chapter concludes with a summary of the survey findings.

Pilot Study

A pilot study was conducted after obtaining IRB approval from the University of Massachusetts, Amherst (UMass Amherst). The purpose of the pilot study was to determine reliability and validity estimates for the modified Kimmel, et al., instrument used for the main study, addressing the research questions identified earlier, as a number of modifications to the instrument were proposed to make items and demographic variables more applicable for Saudi Arabian culture and potential respondents. Further, the pilot study aimed to assess the participants' understanding of the instrument and calculate the time required to complete the survey. It was planned that the pilot study would include two groups, each having 30 participants. Group one would include any Saudi nurse with a bachelor or master's degree in nursing, working in clinical practice in Saudi Arabia in either the government or private health care sectors. The second group would include any Saudi nurse already enrolled in a doctoral degree outside of Saudi Arabia or still in the English preparation phase.

Pilot Study Recruitment Issues

The pilot study was conducted between May 30 and June 13 of 2015. Recruitment was done for the first group (RNs in Saudi Arabia) by the researcher sending an email invitation, along with the survey link, to the first 30 participants on the list provided by the Saudi Commission for Health Specialties (SCFHS) prior to the data collection phase. The 2nd group (PhD students) was contacted through the Saudi Arabian Cultural Mission (SACM) in the USA. In order to produce a data collection plan prior to the data collection, the researcher sent a request to SACM for a list of email addresses for any Saudi nursing students in a master's or doctoral degree program or in the English

preparation phase prior to these two degrees. This request was rejected, on the grounds that it would violate the current student privacy policy. However, the medical residency program department in SACM was willing to send the survey link to the target participants through their student email communication system, so the invitation letter, along with the survey link, was emailed to them. A phone call was made by the researcher to make sure they received it and to request they send it to 30 PhD students and to encourage participation. The participants were chosen from the alphabetical listing of students on the SACM email system. There was no reason to believe there was any inherent bias by selecting students in this manner, and any adverse effect due to ordering effects on student placement on the SACM list was considered minimal.

The pilot study was conducted using the online Qualtrics system to collect data, after the Qualtrics team and the researcher tested the program. The pretest of the Qualtrics online system included a friend participants group created by the researcher. The survey link was sent to this group with an explanation of how to visit the link, answer each question and report any technical issues. The researcher contacted the Qualtrics team support office by phone and asked them to go over the survey and give suggestions on how to resolve some issues or concerns that were reported by the friends who took the survey, for example, the use of virus scanning methods. The Qualtrics team support office was also asked to go through the survey, evaluate it and make any technical changes that might attract participants more. These changes included the color, font, page appearance, organization of the question numbers, etc. After all the changes were made, and as a final review, the survey was examined by another PhD prepared

Saudi nurse to ensure the questions could be understood by a person whose second language was English. No further changes were recommended.

The researcher sent invitations to 30 RNs, from a total email list of 545 RNs provided by the SCFHS, and also to the SACM PhD nursing students advisor, who was assigned by SACAM to distribute the survey to all Saudi students participating in this pilot and main study from the USA. The researcher instructed the Saudi nursing students advisor to send the survey to 30 PhD students from their alphabetical email address list of a total of 65 PhD students in the USA (personal communication with Dr. Bashatah, Director of Medical and Health Sciences Programs in SACAM). There were no inherent issues with ordering effects by using this approach to sampling. The survey link, along with the investigator written invitation letter, was provided to SACM by email and, as stated previously, a follow-up phone call by the researcher was done to request the Saudi nursing students' advisor to encourage participation at the time they sent it to the students. Participants were invited to participate in the study by email (Appendix D). Specifically, they were asked to participate in the study within 15 days by completing the whole questionnaire.

The study was launched on May 30 and resulted in a total of 40 responses. The progress of receiving responses was as follows: The first three days, only two participants (5% of the total respondents) replied from both groups. As a result, the researcher emailed the invitation letter and the survey link to another 60 RNs from the email list of 545 RNs, making a total of 90 participants who received the invitation. The reason for the immediate increase in participants was because, as Al-Saggaf and Williamson (2004) indicated, the majority of Saudi participants in their study attempt

ignored messages received by email, perhaps because the participants were concerned about downloading and spreading computer viruses from email messages received from an unknown sender or because they chose not to participate in a study conducted by someone they did not know. As a result, the researcher contacted the Qualtrics support team and confirmed that emails would be sent after virus checking.

Another reason the number of participants was increased immediately after further reminders was because the researcher knew that becoming involved in research is something relatively new to many Saudi nurses, and potential respondents may not have appreciated the importance of, and the culture surrounding, participation in nursing research.

Following this first increase in the number of invitations for participants, sent on June 2, 15 respondents finished the survey by June 4th (37.5% of the total sample for both groups). On June 5th there was no participation, but there were two participants on June 6th and two participants on June 7th. By the end of the day on June 7th, the researcher sent a second invitation to another 150 RNs to participate (Appendix D), sent a reminder (Appendix G) to the RNs who had already received the invitation, and asked SACM to also send a reminder to that group (Appendix G) and send an invitation to another 10 participants (Appendix D) from the USA student group, making a total of 40 invitations for this group. On June 9th and 10th, there were eight respondents on each day, followed by five participants on June 11th, making a total of 39 participants, or 97.5% of the needed total responses. One participant completed the survey without choosing a group, which was a compulsory question (the participant should not have been able to start the first question in the survey without answering this question, which indicates an error in

the online system) but the participant was included with the responses, which gave a total of 40 participants or 100% of the total responses needed for the pilot study. At the end of the day on June 11th, another reminder was sent to both groups, but no more responses were received. On June 15th the decision was made to stop the pilot study in order to keep the rest of the participants for the main study, as the low response rate indicated the researcher might be facing a difficult time getting a large enough sample for the main study.

During the waiting time between the first email and the second reminder, some participants, who thought the invitation to participate in research might be a fake or scam email, asked the researcher to communicate with them directly by phone or social media to make sure the link was genuine and had been virus checked. Following social media interaction, those participants completed the survey. Some participants finished the survey, and then requested no further contact from the researcher. Requests to be excluded from further follow-up requests were also received. Table 1 reports the sample size for the pilot study.

Table 1: Total Responses for the Pilot Study

Select the group to which you belong		Frequency	Percent	Valid %	Cumulative%
Valid	RN with bachelor or master's degree in the practical area	26	65.0%	66.7%	66.7%
	Doctoral student or in the English preparation phase	13	32.5%	33.3%	100.0%
	Total	39	97.5%	100.0%	
Missing		1	2.5%		
Total		40	100.0		

Pilot Study Results

There were multiple reasons for conducting a pilot study for this research, including estimating the reliability (internal consistency) of the instrument,

understanding the factor structure of the instrument as it relates to current theoretical understanding of motivation and barriers to pursuing a PhD degree, and to examine in detail the working of the questionnaire and its administration. The total sample for the pilot study was only 40 participants, 20 participants less than what was planned. The original goal was to have 30 RNs and 30 doctoral students. However, only 26 RNs working in Saudi Arabia and 13 PhD students in the USA (or in the English preparation phase for this degree) completed the pilot study. The data obtained from these respondents was considered sufficient to address the aims of the study, with the exception of further understanding the factor structure of the instrument.

An important data analysis consideration for both the pilot and main study is the management of missing data. An assumption was made that respondents would complete, in full, all questions on the instrument. This request was included in the information to prospective respondents. There were, however, 10 responses (25% of returned questionnaires) containing missing data. A review of the responses containing missing data showed no obvious pattern. Some contained missing demographic data, while others were missing motivation and barrier scores. To manage missing data in the motivation and barriers subscales it was decided to use imputed data (mean scores) to replace non-responses to items.

Descriptive analysis was done by calculating the mean (M) and standard deviation (SD) for each item with missing data (Table 2), and with imputed data (Table 3). The motivational factors M and SD with missing data ranged between M=3.86, SD=0.76 to M=3.08, SD=1.32 and between M=3.29, SD=1.35 to M=2.03 and SD=1.07 for the barriers factors.

Table 2: Pilot Study M and SD With Missing Data

Item		n		M	SD	Item		n		M	SD
		Valid	Missing					Valid	Missing		
Motivational factors	Q20	40	0	3.60	.63	Barriers factors	Q42	40	0	2.03	1.07
	Q21	39	1	3.44	1.41		Q43	37	3	2.11	1.26
	Q22	40	0	3.55	.81		Q44	40	0	2.10	1.32
	Q23	37	3	3.51	.99		Q45	36	4	2.64	1.31
	Q24	40	0	3.15	1.05		Q46	40	0	3.08	1.44
	Q25	40	0	3.40	.87		Q47	37	3	2.97	1.54
	Q26	40	0	3.30	1.20		Q48	36	4	2.50	1.40
	Q27	40	0	3.53	1.09		Q49	40	0	2.30	1.42
	Q28	36	4	3.53	.77		Q50	36	4	2.22	1.29
	Q29	39	1	3.46	1.45		Q51	39	1	2.33	1.36
	Q30	40	0	3.25	1.10		Q52	37	3	2.86	1.21
	Q31	37	3	3.08	1.32		Q53	40	0	3.00	1.40
	Q32	39	1	3.26	1.07		Q54	38	2	3.29	1.35
	Q33	36	4	3.86	.76		Q55	36	4	2.92	1.59
	Q34	40	0	3.30	1.09		Q56	40	0	2.53	1.32
							Q57	37	3	2.54	1.24

Table 3: Pilot Study M and SD With Imputed Data

Item		**n**	**M**	**SD**	Item		**n**	**M**	**SD**
Motivational factors	Q20	40	3.60	0.63	Barriers factors	Q42	40	2.03	1.07
	Q21	40	3.46	1.40		Q43	40	2.09	1.23
	Q22	40	3.55	0.81		Q44	40	2.10	1.32
	Q23	40	3.45	0.99		Q45	40	2.61	1.25
	Q24	40	3.15	1.05		Q46	40	3.08	1.44
	Q25	40	3.40	0.87		Q47	40	3.01	1.48
	Q26	40	3.25	1.17		Q48	40	2.45	1.39
	Q27	40	3.53	1.09		Q49	40	2.30	1.42
	Q28	40	3.53	0.83		Q50	40	2.24	1.31
	Q29	40	3.48	1.43		Q51	40	2.34	1.35
	Q30	40	3.25	1.10		Q52	40	2.80	1.20
	Q31	40	3.02	1.29		Q53	40	3.00	1.40
	Q32	40	3.21	1.09		Q54	40	3.24	1.34
	Q33	40	3.89	0.74		Q55	40	2.98	1.63
	Q34	40	3.30	1.09		Q56	40	2.53	1.32
						Q57	40	2.47	1.22

The motivational factors M and SD with the imputed data ranged between M=3.02, SD=1.29 to M=3.89, SD=0.74 and barriers factors ranged from M=2.03,

SD=1.07 to M=3.24, SD=1.34. In reviewing the imputed mean scores, as was expected, the mean scores increased.

It was anticipated that exploratory factor analysis methods would be used to gain a better understanding of the structure of the data responses and the theoretical aspects of the motivation and barriers subscales. However, this analysis was not performed because of the relatively small sample size. There are many different perspectives on how large a sample needs to be in order to use factor analysis as a means of understanding data structures and relationships. Typical among these is Williams, Brown and Onsman (2012) who suggest that a sample size of 100 is poor, 200 is fair, 300 is good, 500 is very good, and 1000 is excellent. In this study, other analyses were performed, including calculating Cronbach alpha of the instrument (.83). An alpha in this range is considered an acceptable measure of internal consistency for instruments being used in social science research.

Participants were asked to comment on whether they understood the questions in the instrument, if they were clear, and if they would recommend any changes. Responses suggested the instrument was easy to understand and follow. As a result of comments however, changes were made to three questions. First, the word 'monthly' was added to the demographic question, 'Average family income in Saudi Riyal', because income in Saudi Arabia is calculated monthly, not yearly as in the USA. Second, the last demographic question, 'Tribal Affiliation', was changed to 'Preferred city for working in Saudi Arabia for the next 10 years from now' because the use of the term 'Tribal Affiliation' could be viewed as being discriminatory. The last change was to remove the final qualitative question in part 3 of the survey to make it shorter ('Are there any other

comments you would like to make?') as this information could be obtained in part 5 of the survey, which asked the very same question (see Appendix H).

Pilot Study: Lessons Learned

A number of important lessons were learned from this pilot study. Despite careful planning, collection of data using email, social media and other electronic methods was problematic, especially when attempting to meet a specific sample size with a limited population to choose from. There would need to be a considerable effort to over sample to meet data analysis assumptions required by exploratory factor analysis, and much more time would need to be spent on creating a robust participation reminder system without becoming unduly burdensome and ultimately a hindrance to data collection. It was evident from the pilot study results that not all respondents understood or followed the instructions to complete all items and, ultimately, the lack of sample size contributed to the decision not to use factor analysis methods.

The pilot study enabled the researcher to ensure the technical aspects of administering an instrument were tested in advance of the main study. The pilot also enabled the researcher to receive important feedback on the instrument before administering it to a larger group of people. In the case of this study, a number of changes were made as a direct result of comments made in the pilot study. An interesting finding from the pilot was the importance of enabling respondents to contact the researcher directly. In five cases, the ability to respond to specific questions or concerns was instrumental in obtaining data from respondents. Valuable lessons were learned about how best to manage missing data by the use of imputed scores to ensure the

maximum number of participant responses were entered into the pilot, and ultimately, the main study.

Main Study

Participants in the main study were recruited from the same categories as the pilot study, and the same recruitment strategy and online Qualtrics system was used. Data collection occurred between June 25 and July 15, 2015. Participant scores were entered into the SPSS database as they were received. A total of 161 respondents completed the survey after the initial invitation and follow-up reminder. Data from the pilot study respondents were merged into the main study. Eight respondents entered the survey through the email link but did not log into the survey using the 'disagree' button to exit the survey. A total of 312 respondents clicked the email link, logged onto the survey, but did not participate beyond answering either the first question or some demographic information. None of these respondents completed the motivation and barriers questions and they were not included in this study.

The first survey reminder was emailed to respondents on June 30, with the second sent on July 7, 2015 (Appendix G). Reminders were sent to the RNs and school of nursing deans in Saudi Arabia via email, Facebook and WhatsApp. Reminders to Saudi students studying in the US were emailed from the SACM office in Saudi Arabia. Prior to analyzing the demographic data, it was examined to ensure there were no out of expected range responses. Table 4 shows the number of completed responses in each of the four groups, Table 5 shows participants by geographical region, with only 147 of the 161 respondents included this information, and Table 6 shows the demographic data of the respondents.

Table 4: Total Study Sample by Group (n=169)

		Frequency	Percent	Valid Percent	Cumulative Percent
	RNs in practice	80	47.3	49.7	49.7
	Faculty holding bachelor or master's	15	8.9	9.3	59
	Master's students or in English period	34	20.1	21.1	80.1
	Doctoral students or in English period	32	18.9	19.9	100
	Total	161	95.3	100	
Disagree	(Opted-out of the study)	8	4.7		
Missing	(Logged on but not completed)	312			

Table 5: Participants by Countries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	0.70%	0.7	0.70%
	New Zealand	1	0.70%	0.7	1.40%
	Australia	7	4.80%	4.8	6.10%
	Canada	1	0.70%	0.7	6.80%
	Saudi Arabia	86	58.50%	58.5	65.30%
	UK	2	1.40%	1.4	66.70%
	USA	49	33.30%	33.3	100.00%
	Total	147	100.00%	100	

Table 6: Frequencies and Percentages of Demographics Variables

Demographic Variables			Frequency	Percent
Gender	Male		55	34.4
	Female		105	65.6
		Total	160	100
Age	24 or under		10	6.3
	25-34		110	68.8
	35-44		39	24.4
	45-54		1	0.6
	55 or over		0	0
		Total	160	100
Marital status	Single		58	36.6
	Married		97	60.6
	Divorced		4	2.5
	Widow		1	0.6
		Total	160	100

Table 6 Continued

Demographic variables			Frequency	Percent
Nursing educational qualification	Bachelor		90	56.3
	Diploma after bachelor		6	3.8
	Master		57	35.6
	Doctorate		7	4.4
		Total	160	100
Professional status	Students nurse		36	22.6
	Clinical nurse		31	19.5
	Nurse manager		30	18.9
	Faculty		40	25.2
	Other		19	11.9
	None		3	1.9
		Total	159	100
Sector	Government		118	75.2
	Semi-government		27	17.2
	Private		12	7.6
		Total	157	100
For overseas students, number of years in your current program of study. For working RNs, number of years experience.	1st or 2nd year		62	43.1
	Thesis or internship		9	6.3
	3-5 years		41	28.5
	6-8 years		12	8.3
	≥9 years		20	13.9
		Total	144	100
Family members	≤ 2		23	14.5
	3-5		81	50.9
	6-8		37	23.3
	≥ 9		18	11.3
		Total	159	100
Average family income in Saudi *Riyal* (Monthly)	≤4000		4	2.5
	5000-7000		20	12.5
	8000-10.000		32	20
	11.000-13.000		32	20
	≥14.000		72	45
		Total	160	100
Family members or relatives working as nurses	Yes		77	48.1
	No		83	51.9
		Total	160	100

It is difficult to make any informed decision about whether this data is representative of the population of Saudi nurses, primarily because there is relatively little workforce data publicly available. It is not possible to estimate, for example, the percentage of female nurses working as RNs in Saudi Arabia. Results did show that a very small percentage of PhD prepared nurses responded to the survey but a much higher percentage of faculty (nearly 25%) responded. One explanation may be that faculty are more interested in pursuing a PhD for professional, career or personal reasons.

Explanatory Factor Analysis

Table 7: Correlation Matrix for Exploratory Factor Analysis

Imputed Item	Factor		
	1	2	3
Q48	.763		
Q55	.755		
Q47	.732		
Q46	.724		
Q54	.722		
Q45	.719		
Q41	.677		
Q53	.676		
Q40	.622		
Q42	.609		
Q49	.595		
Q52			
Q43			
Q50			

Imputed Item	Factor		
	1	2	3
Q24		.766	
Q23		.607	
Q27		.589	
Q25		.559	
Q32			
Q26			
Q31			
Q34			.607
Q28			.561
Q29			.538
Q30			
Q33			
Q22			
Q20			

An explanatory factor analysis (EFA) technique was used to identify the underlying structure of the data, using the approach suggested by Williams, Brown and Onsman (2012). The first step was to determine if the data set was appropriate for using factor analysis. The data set was assessed using the Kaiser-Meyer-Olkin (KMO)

methodology, which examined the degree of co-linearity among variables and produced a measure of sampling adequacy (.589). A correlation greater that .50 indicates data is suitable for factor analysis. EFA was performed and three factors were extracted using principle axis factoring (PAF). The correlation of the individual motivation and barrier items to the three factors is shown in Table 7. It should be noted that these correlations are between .5 and .7, above the .3 that is considered a minimum correlation. Factors were extracted and visualized using a scree test (Figure 3) of factors vs. eigenvalues. Finally a varimax rotation with Kaiser normalization was performed to examine the correlation of individual items to proposed factors.

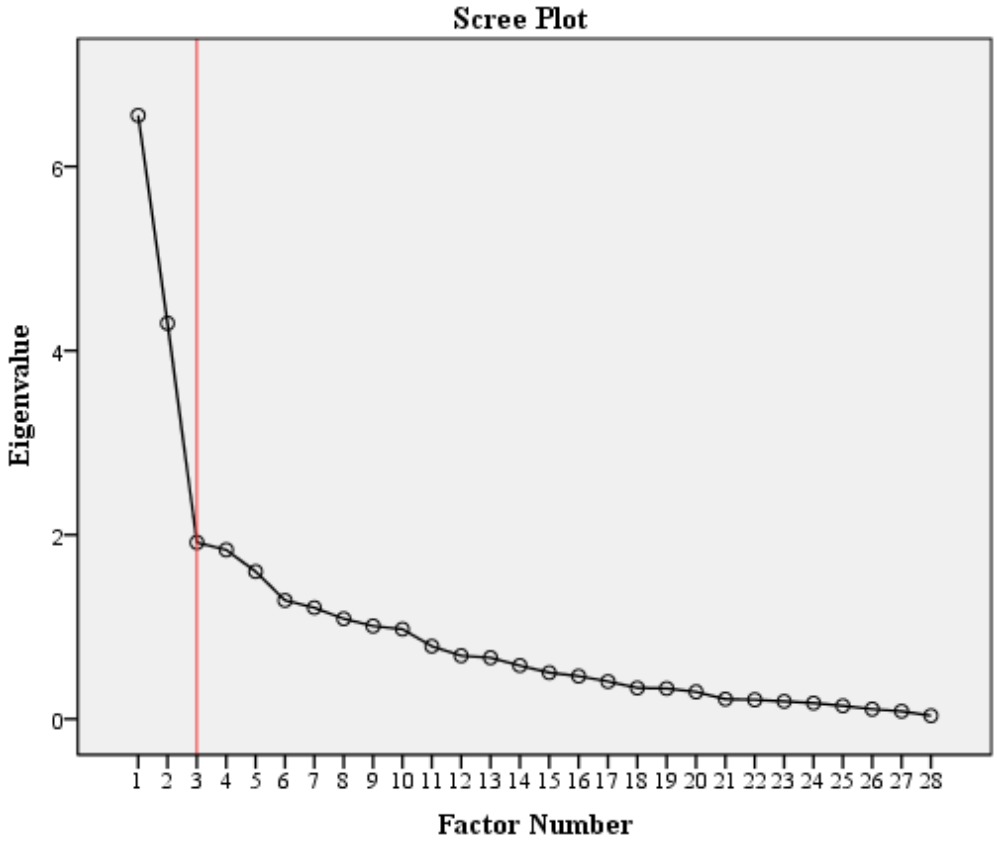

Figure 3: Explanatory Factor Analysis

The first factor contains survey items Q48, Q55, Q47, Q46, Q54, Q45, Q41, Q53, Q40, Q42, and Q49 and has the general theme of lack of confidence, derived from ability or technology (Q40, Q42), lack of scholarship or funds (Q43, Q44, Q45), discouragement (Q46, Q47, Q48), timing issues (Q49, Q50, Q55), and educational institutional issues (Q41, Q54). These questions were all included on the barriers scale and embrace a wide range of issues considered to be an impediment to nurses in their quest to pursue higher education. The second factor contains items Q25, Q24, Q23 and Q27 with the theme of job promotion, payment, or career advancement. These questions all correlate with the second factor, include only motivational questions, and might be seen as suggesting a professional and career-orientated theme. The third factor contains the items Q34, Q28 and Q29 and the themes are desire for respect (Q34) and encouragement from family (Q28, Q29). These questions also come from the motivation scale and can be thought of as representing a more inward looking, self-actualizing theme with family-centeredness.

As is common in factor analysis, there were a number of items that were not correlated with the major factors. In this study they included a range of questions including questions Q52 and Q43, relating to lack of funds, Q50 time away from family, Q32, Q31 and Q30 related to encouragement, Q33 related to role model, Q26 job requirement, and Q22 and Q20 were related to desire for accomplishment and knowledge.

These were all motivational questions with the exception of Q53 and Q43, which were situational barriers, and Q50, an institutional barrier. There were also two factors deleted during the extraction method: motivational factor Q31 (parental encouragement) and situational barrier Q52 (lack of funds).

The identification of this first factor, typically including questions that had the highest correlation to the factor, is an important finding. All the above questions are found in the barriers section of the instrument and strongly suggest commonalities exist between these items and how people responded. These questions do seem to suggest the instrument does have a subscale that responds, to some degree, as predicted. A challenge occurs in that there appears to be a single barrier score rather than the three suggested, both theoretically and designed in the instrument. There may be many reasons for this, in addition to the relatively small sample size. The instrument may not be specific enough to discriminate between the proposed three types of barriers, suggesting that more psychometric work may be needed on the instrument to increase its sensitivity to the proposed barrier subscales. The instrument, designed for students in the USA, may not perform as predicted with Saudi Arabian nursing students. And lastly, it remains a possibility that the proposed distinction between barrier scores is not borne out in the data because the theoretical foundations need to be evaluated further.

Using EFA to examine the structure of the instrument, two main factors emerged related to motivation; these were previously considered to represent a professional/career orientation and self-actualization factor. This differs from the one-dimensional approach to motivation suggested both theoretically and designed into the instrument. This is an important deviation from what was expected and may reflect the views of individuals early in their careers, who are ambitious and without family ties or children. There may also be respondents motivated by the desire to improve nursing as a profession and a career. Understanding more about motivation will need to be the focus of further theoretical and instrument development. It is probably safe to say that many of the

methodological and structural issues described in the discussion of the single barrier factor are relevant to the interpretation of the motivation factor analysis data.

Results of Research Questions

For purposes of consistency in reporting the findings of this study, when 'decided' or 'undecided' groups are mentioned, the decided group includes PhD students or those who are in the English preparation phase for this degree, while the undecided group includes RNs, faculty members, and master's students or those who are in the English preparation phase for this degree.

A number of statistical techniques were used to calculate the findings from the survey data. Findings are presented in a question-by-question format.

Results for Research Question 1

Research Question 1*:* What are the perceived motivators and barriers to study for those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it'?

Descriptive statistics were used to describe motivations and barriers for those who had decided to study for a doctorate and those who 'have not' or are 'thinking about it' (Table 8). Descriptive statistics relating to the barriers scales (situational, institutional and dispositional) are shown in Table 9. In order to gain more information about the differences between the decided and undecided groups in relation to the three barriers types, each group was looked at separately (Figure 4).

Table 8: Motivational Scale Data for Decided (N=32) and Undecided (N=129)

Item	Decided Mean	Decided SD	Undecided Mean	Undecided SD
20	3.92	0.26	3.36	0.72
21	2.35	1.29	2.80	0.85
22	3.77	0.62	3.23	0.90
23	3.50	0.79	3.11	0.90
24	3.21	1.01	3.02	0.95
25	3.27	0.94	3.15	0.84
26	3.04	1.08	2.99	0.89
27	3.21	0.96	3.15	0.80
28	3.40	0.78	3.04	0.81
29	2.71	1.10	2.65	0.89
30	3.27	0.94	3.03	0.96
31	3.15	1.12	2.83	0.96
32	2.96	1.06	3.16	0.83
33	3.79	0.41	3.35	0.82
34	3.03	1.05	3.05	0.91

Table 9: Barriers Scale Data for Decided and Undecided

Decided group (n=32)				**Undecided group** (n=129)			
	Item	Decided Mean	SD		Item	Undecided Mean	SD
Situational Barriers	Q52	2.91	1.23	Situational Barriers	Q43	2.53	1.02
	Q43	2.02	1.13		Q44	2.51	1.08
	Q44	1.96	1.21		Q52	2.46	0.95
	Q55	1.86	1.06		Q45	2.37	1.04
	Q45	1.61	0.84		Q55	2.17	0.90
	Q46	1.56	0.82		Q46	2.00	0.89
	Q47	1.54	0.92		Q48	1.96	0.92
	Q48	1.54	0.88		Q47	1.89	0.90
Institutional Barriers	Q50	2.52	1.19	Institutional Barriers	Q50	2.62	1.00
	Q51	2.45	1.26		Q51	2.45	1.01
	Q49	1.78	1.19		Q54	2.15	0.88
	Q53	1.75	1.02		Q53	2.15	0.86
	Q54	1.58	0.81		Q49	2.09	0.88
Dispositional Barriers	Q40	1.48	0.68	Dispositional Barriers	Q40	1.92	0.82
	Q41	1.40	0.67		Q42	1.84	0.83
	Q42	1.31	0.47		Q41	1.82	0.79

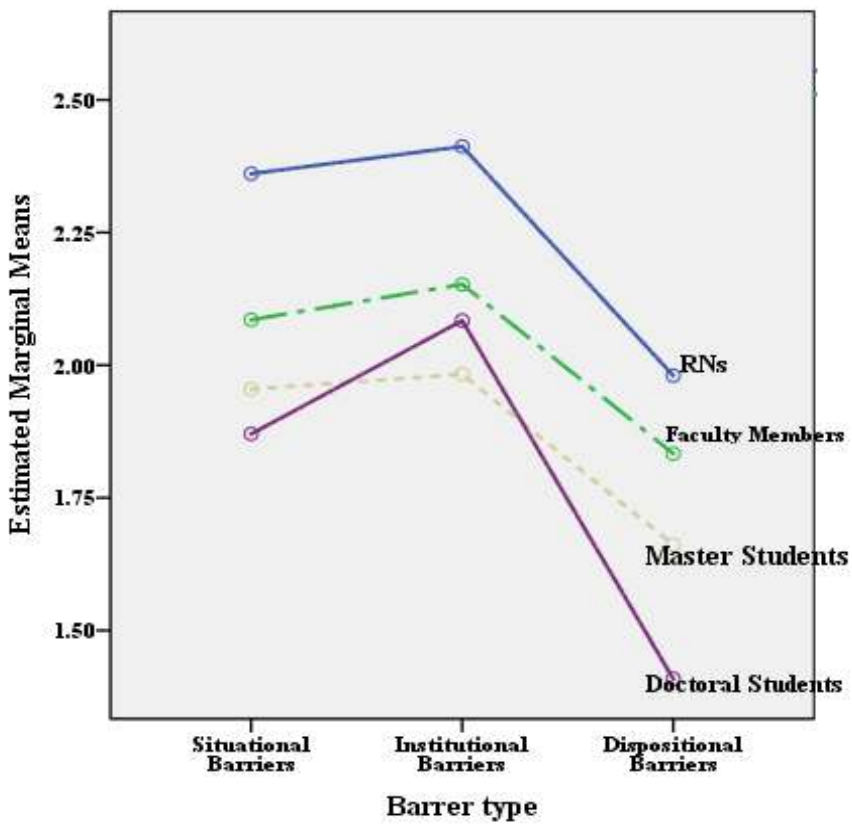

Figure 4: Relationship Between Decided and Undecided in Relation to The Three Barriers

Doctoral students showed the lowest dispositional and situational barriers but they had higher institutional barriers scores than the master's students. The master's students, on the other hand, had higher situational and dispositional barriers than the doctoral students, but lower institutional barriers. The nursing school faculty members had higher situational, institutional and dispositional barriers than either the master's or doctoral students, but they were lower than the RNs in all three barriers. The RNs were the highest group for all three barriers. An explanation of this finding might be due to experience in managing institutional and organizational workplace issues. The RN respondents working in healthcare organizations are faced with day-to-day institutional issues, as are the faculty. Both of these groups have full-time jobs and must invest

considerable personal effort to earn a place in a graduate program. The doctoral and master's respondents are already students and may not think about the situational and dispositional barriers as an issue as they do with the institutional barriers. Both groups had higher scores on the institutional barriers subscales compared to situational and dispositional barriers.

Results for Research Question 2

Research Question #2: What motivators/barriers are 'strongest' in these groups?

In order to determine which motivation and barrier factors are strongest, means and standard deviations for each motivator and barrier factor in the instrument were calculated. The possible range of scores for each factor was 1 to 4, with a total of 15 motivational factors in the instrument.

Motivational Factors (Decided and Undecided Groups)

The means and standard deviations of motivation scores for those who decided to pursue higher education are presented in Table 10. The highest scores were found to relate to a combination of a desire for personal accomplishment, more knowledge and a family-orientated response.

Table 11 shows similar data for the undecided group and also illustrates the important role that families and the support and acceptance of children can have in influencing the pursuit of higher education. There were also higher mean scores for those questions related to personal and professional advancement.

Table 10: Motivational Questions for the Decided Group

Item	Item Name	Mean	SD
Q20	A desire for personal accomplishment	3.92	0.26
Q33	A desire to be a role model for my children	3.79	0.41
Q22	A desire for knowledge/skills in this degree field	3.77	0.62
Q23	Reports that people with this degree have greater opportunity for advancement	3.50	0.79
Q28	Encouragement from my spouse or significant other	3.40	0.78
Q25	The assurance of a promotion at work	3.27	0.94
Q30	Encouragement from my parent/s.	3.27	0.94
Q24	The assurance of a pay increase at work	3.21	1.01
Q27	The desire to begin a new career	3.21	0.96
Q31	Encouragement from my supervisor or employer	3.15	1.12
Q26	The need to keep my current job	3.04	1.08
Q34	A desire for more respect from my	3.03	1.05
Q32	Encouragement from friends who have their degrees	2.96	1.06
Q29	Encouragement from my children	2.71	1.10
Q21	A desire to finish a degree that I began but did not complete earlier	2.35	1.29

Table 11: Motivational Questions for the Undecided Group

Item	Item Name	Mean	SD
Q20	A desire for personal accomplishment	3.36	0.72
Q33	A desire to be a role model for my	3.35	0.28
Q22	A desire for knowledge/skills in this degree	3.23	0.90
Q32	Encouragement from friends who have their degrees	3.16	0.83
Q25	The assurance of a promotion at	3.15	0.84
Q27	The desire to begin a new career	3.15	0.80
Q23	Reports that people with this degree have greater opportunity for advancement	3.11	0.90
Q34	A desire for more respect from my peers	3.05	0.91
Q28	Encouragement from my spouse or significant other	3.04	0.81
Q30	Encouragement from my parent/s	3.30	0.96
Q24	The assurance of a pay increase at work	3.02	0.95
Q26	The need to keep my current job	2.99	0.89
Q31	Encouragement from my supervisor or employer	2.83	0.96
Q21	A desire to finish a degree that I began but did not complete earlier	2.80	0.85
Q29	Encouragement from my children	2.65	0.89

In examining motivation to pursue higher education in the Saudi Arabian nursing population, the issue of gender is important. Female Saudi nurses cannot travel overseas, for example, unless accompanied by a close male relative (father, brother, husband). The relationship between motivational factors for the decided and undecided groups in relation to gender is shown in Figure 5.

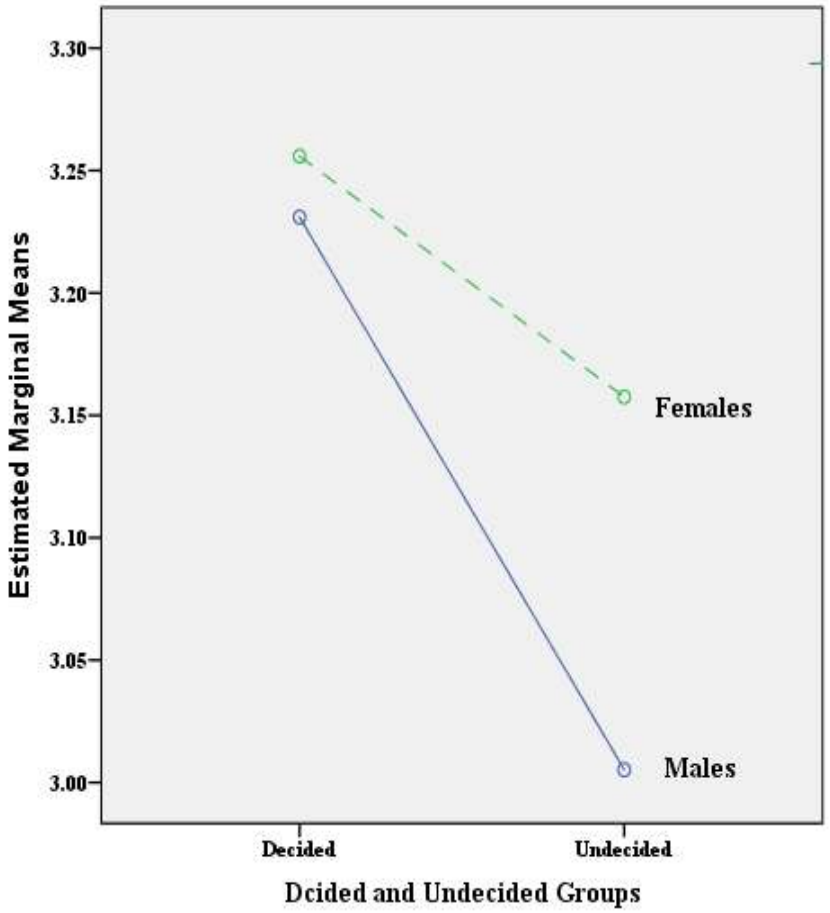

Figure 5: Relationship Between Motivational Factors for Decided and Undecided Saudi Nurses and Gender

Female nurses in both the decided and undecided groups reported having greater motivation to study for a PhD than their male counterparts. The interpretation of this finding is not immediately obvious given the additional travel considerations that women

must prepare for. That said, the opportunity for both genders to advance their careers in Saudi Arabia is favorable at this time. Of interest is that men in the undecided group were the least motivated to study for a PhD. This too may be a feature of the international travel requirements to study overseas and, in some cases, have families accompany them for several years. Understanding this relative lack of motivation to study for a PhD warrants further investigation as part of a comprehensive workforce plan. Further analysis of gender and motivation will be analyzed under research question 6.

Situational Barriers (Decided and Undecided Groups)

Situational barriers arise from one's situation or environment at a given point. Table 12 shows the strength of the situational barriers ranked by question mean score. The strong situational barriers for the undecided group are shown ranked in Table 13. In reviewing the means scores of the situational barriers, many similarities in the ordering of responses were observed. Both groups, for example, report childcare, scholarship, and personal finances as their highest barriers.

Table 12: Situational Barriers for Decided Group

Item	Item Name	M	SD
Q52	Lack of funds for childcare for my minor child/children	2.91	1.23
Q43	Lack of grants and scholarships for education	2.02	1.13
Q44	Lack of personal funds to pay for college	1.96	1.21
Q55	Lack of personal time	1.86	1.06
Q45	Concern about paying back student loans	1.61	0.84
Q46	Discouragement by a spouse/significant other	1.56	0.82
Q47	Discouragement by a parent/s	1.54	0.92
Q48	Discouragement by my employer	1.54	0.88

Table: 13: Situational Barriers for Undecided Group

Item	Item Name	M	SD
Q43	Lack of grants and scholarships for education	2.53	1.02
Q44	Lack of personal funds to pay for college	2.51	1.08
Q52	Lack of funds for childcare for minor child/children	2.46	0.95
Q45	Concern about paying back student loans	2.37	1.04
Q55	Lack of personal time	2.17	0.90
Q46	Discouragement by a spouse/significant other	2.00	0.89
Q48	Discouragement by my employer	1.96	0.92
Q47	Discouragement by a parent/s	1.89	0.90

Institutional Barriers (Decided and Undecided Groups)

When the mean institutional barriers scores of the two groups were examined, similar concerns were observed (Table 14). In fact, when ranked, the mean scores appear higher in the undecided group. However, both groups have similar concerns when it comes to institutional barriers such as child, family, and elder care.

Table 14: Institutional Barriers for Decided and Undecided Groups

Item	Item Name	Decided		Undecided	
		M	SD	M	SD
Q50	Time away from my family	2.52	1.19	2.62	1.00
Q51	Lack of childcare for my minor child/children	2.45	1.26	2.45	1.01
Q49	Time away from my job	1.78	1.19	2.15	0.88
Q53	My role as primary caregiver for an elder	1.75	1.02	2.15	0.86
Q54	Lack of classes at a convenient time	1.58	0.81	2.09	0.88

Dispositional Barriers (Decided and Undecided Groups)

Dispositional barriers, as Cross indicates, are related to attitudes and self-perceptions about oneself as a learner (Table 15). In keeping with the findings from the previous comparisons, the ranking of motivation item score means were identical between the two groups. The mean scores of the dispositional barriers were quite small,

and this may indicate that these issues, while important, were not as important to the respondents as other barriers.

Table 15: Dispositional Barriers for the Decided and Undecided Groups

Item	Item Name	Decided		Undecided	
		M	SD	M	SD
Q40	Lack of confidence in my ability	1.48	0.68	1.92	0.82
Q41	Concern about attending school with younger or older students	1.40	0.67	1.82	0.79
Q42	Lack of technological skills	1.31	0.47	1.84	0.83

Results for Research Questions 3, 4, and 5

Research Question #3: Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to situational barriers?

Research Question #4: Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to institutional barriers?

Research Question #5: Is there a relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' in relation to dispositional barriers?

These three research questions focus on the relationship between the two groups (decided and undecided) and the three different barriers. Descriptive statistics were calculated for the average situational, institutional and dispositional barriers (Table16)**.** The average mean for situational barriers was 2.15 and the SD was 0.70, the institutional barriers mean was 2.23 and SD was 0.73, and the dispositional barriers mean was 1.78 with a SD of 0.71.

A two-way mixed ANOVA was conducted to examine the effect of group membership (decided, undecided) in relation to situational, institutional and dispositional barriers. The two-way ANOVA results are shown in Table 17. The Greenhouse-Geisser

method was used to correct for the violation of sphericity assumption. The results show statistical significance for barriers types, F (1.88, 287.12) = 30.47, p = 0.00, but no statistical significance between barrier type and group membership F (1.88, 287.12) = 2.04, p = 0.14.

Table 16: Average Situational, Institutional, and Dispositional Barriers

Groups	Situational barriers			Institutional barriers			Dispositional barriers		
	n	M	SD	n	M	SD	n	M	SD
RNs	80	2.36	0.62	80	2.41	0.66	80	1.98	0.73
Faculty members	15	2.09	0.85	15	2.15	0.67	15	1.83	0.76
Master's students	34	1.95	0.71	34	1.98	0.67	34	1.66	0.62
Doctoral students	32	1.87	0.69	32	2.08	0.88	32	1.41	0.54
Total	161	2.15	0.70	161	2.23	0.73	161	1.78	0.71

Table 17: Two-way ANOVA Within and Between Subjects

Source	Correction type	Type III Sum of Squares	df	Mean Square	F	Sig.
Barrier type	Greenhouse-Geisser	42.80	1.73	24.78	64.03	.00
Barrier type by group	Greenhouse-Geisser	5.47	5.18	1.06	2.73	.02
Error (Barrier type)	Greenhouse-Geisser	104.95	271.19	.39		
Group		11.10	3	3.70	2.05	.11
Error		283.96	157	1.81		

Following the two-way ANOVA, a post-hoc paired samples t-test was conducted to compare group membership (decided, undecided) with the three barriers (Tables 18 and 19). The results indicate there was no significant difference in situational barriers scores for the decided group (M= 2.44, SD=1.10) or undecided group (M=2.62, SD=0.85); t(159) = -1.00, p =.32. Furthermore, there was no significant difference in institutional barriers scores for the decided group (M= 2.67, SD=1.06) or undecided group (M=2.81, SD=0.88); t(159) = -0.76, p =0.45. The results did show a statistically

significant difference in dispositional barriers scores for both the decided group (M=1.63, SD=0.94) and undecided group (M=2.04, SD=0.93); t(159) = -2.25, p =0.03.

Table 18: Descriptive Analysis for Decided and Undecided Groups with Independent Samples Test for the Three Barriers

	Group	n	Mean	Std. Deviation	Std. Error Mean
Situational Barriers	Decided	32	2.44	1.10	0.19
	Undecided	129	2.62	0.85	0.07
Institutional Barriers	Decided	32	2.67	1.06	0.19
	Undecided	129	2.81	0.88	0.08
Dispositional Barriers	Decided	32	1.63	0.94	0.17
	Undecided	129	2.04	0.93	0.08

Table 19: Decided and Undecided Groups with Independent Samples Test for the Three Barriers

	Levene's Test for Equality of Variances			t-test for Equality of Means						
									95% Confidence Interval of the Difference	
	Equal Variances	F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
Situational Barriers	Assumed	3.46	0.07	-1.00	159	0.32	-0.18	0.18	-0.53	0.17
	Not assumed			-0.85	40.56	0.40	-0.18	0.21	-0.60	0.24
Institutional Barriers	Assumed	1.45	0.23	-0.76	159	0.45	-0.14	0.18	-0.50	0.22
	Not assumed			-0.68	42.30	0.50	-0.14	0.20	-0.55	0.27
Dispositional Barriers	Assumed	0.02	.88	-2.25	159	0.03	-0.41	0.18	-0.77	-0.05
	Not Assumed			-2.23	47.12	0.03	-0.41	0.18	-0.78	-0.04

In reviewing these findings, what emerged was a statistically significant difference between group membership and dispositional barriers. This suggests that issues of technological skills and confidence were different between the two groups. This may be due to different levels of social support, encouragement or experiences with

education. In any event, the mean scores of the dispositional barriers questions were lower than the other barriers, making it difficult to draw firm conclusions.

Results for Research Question 6

Research Question #6: What are the differences in motivations and barriers with relation to gender?

The doctoral degree in nursing, as mentioned previously, is not offered in Saudi Arabia, so interested students must travel overseas to study for this degree. Female students must, however, have a male relative traveling with them to be eligible for a scholarship by the government. This can create a major obstacle for female Saudi nurses since the opportunity is limited to those who have a relative who is able to travel with them. Figures 6 and 7 show the barrier types with relation to gender for both the decided and undecided groups.

Figure 6 (decided group) shows female Saudi nurses had less situational, institutional, and dispositional barriers than male Saudi nurses. It is not clear why Saudi females reported fewer barriers than males. One possible answer is that they were either not married, did not have childcare issues and/or were not responsible for the care of elderly parents or relatives. The reverse is also a possibility, that male nurses might already be more senior in an organization or have a family to provide for, making the prospect of international travel for a PhD daunting, yet still possible. What is remarkable with this data is that the plot of perceived barriers between genders for the decided groups suggests that both view institutional barriers as their greatest concerns. Further research is needed to understand more about this barrier.

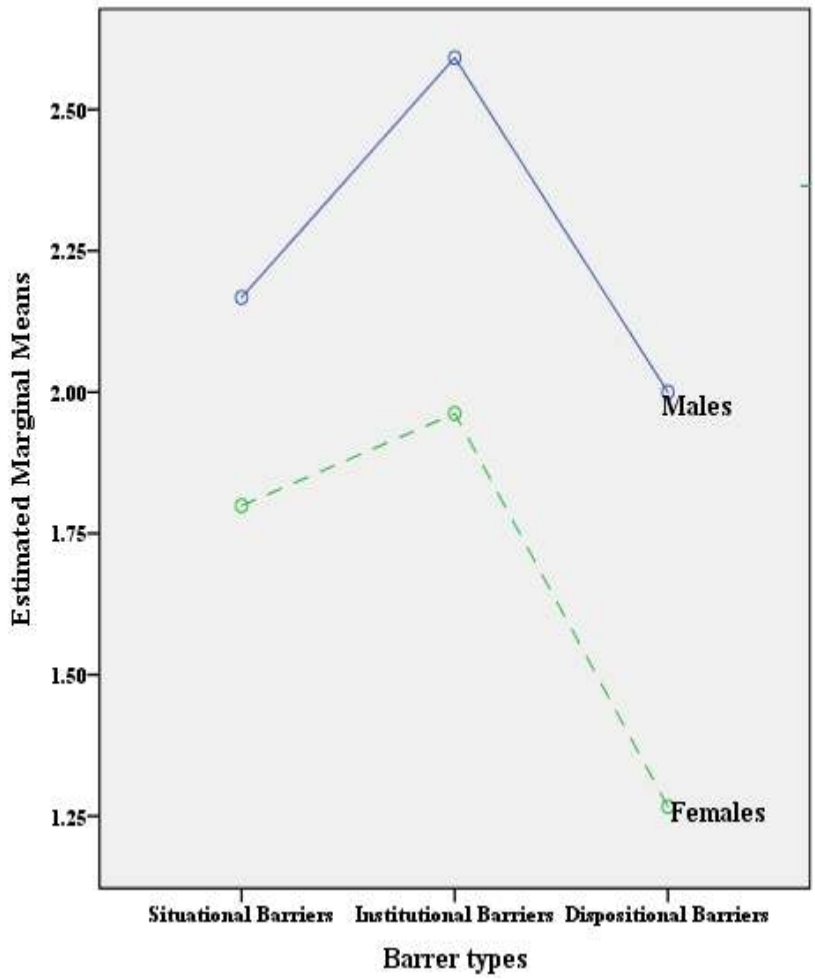

Figure 6: Differences in Barriers with Relation to Gender for Decided Group

Figure 7 (undecided group) shows male and female nurses presented with high situational and institutional barriers but both had low dispositional barriers. This suggests challenges reported by both genders were similar across all employment groups and that dispositional barriers were seen as potentially having less importance than either situational or institutional barriers in the decision to study for a graduate degree. The shape of these plots is striking; the dispositional barriers being at a much lower level that the other barriers. One explanation of this is that having not yet committed to study for a PhD, the full impact of the dispositional barriers has not become apparent. It is also

conceivable that, until the barriers surrounding situational and institutional barriers are resolved, the full implication and the magnitude of potential dispositional barriers do not become evident.

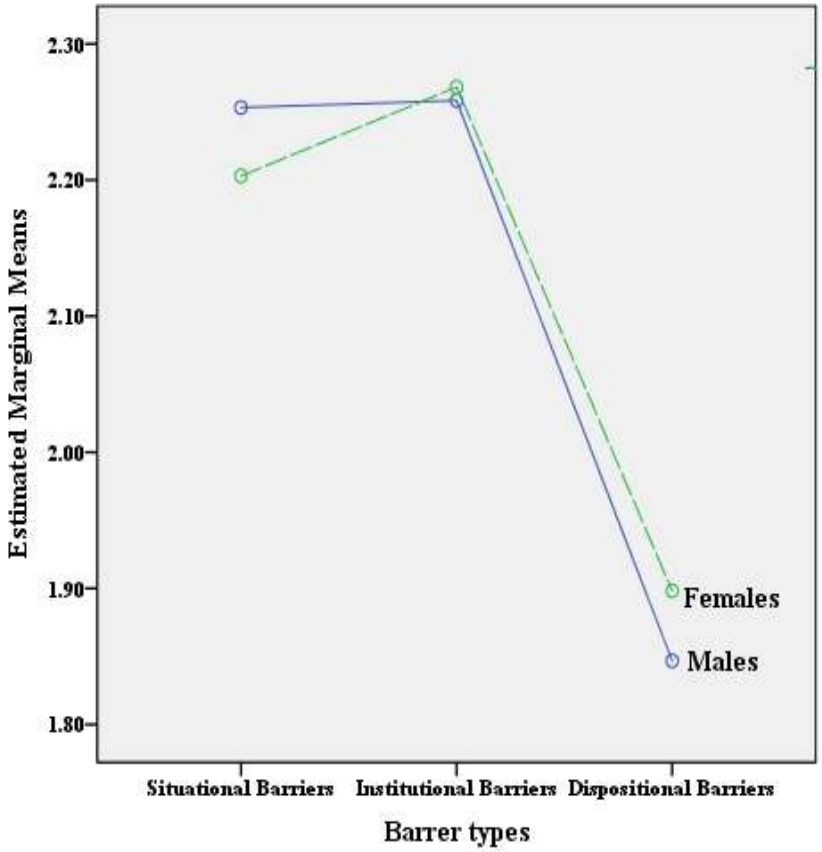

Figure 7: Differences in Barriers with Relation to Gender for Undecided Group

Descriptive statistics analyses were performed on the two groups (decided, undecided) and the scores for the situational, institutional, and dispositional barriers subscales in relation to gender (Table 20). There were 159 participants in this analysis; the majority (n=127) was from those who were not decided or were thinking about it and 32 were already studying. There were 104 females and 55 males.

Table 20: Descriptive Statistics for Gender and Barriers

	Decision status	Gender	Mean	SD	N
Situational barriers	Decided	M	2.17	0.80	6
		F	1.80	0.66	26
		Total	1.87	0.69	32
	Undecided	M	2.25	0.70	49
		F	2.20	0.69	78
		Total	2.22	0.69	127
	Total	M	2.24	0.71	55
		F	2.10	0.70	104
		Total	2.15	0.71	159
Dispositional barriers	Decided	M	2.59	0.94	6
		F	1.96	0.84	26
		Total	2.08	0.88	32
	Undecided	M	2.26	0.74	49
		F	2.27	0.67	78
		Total	2.26	0.96	127
	Total	M	2.30	0.76	55
		F	2.19	0.72	104
		Total	2.23	0.74	159
Institutional barriers	Decided	M	2.00	0.63	6
		F	1.27	0.42	26
		Total	1.41	0.54	32
	Undecided	M	1.85	0.75	49
		F	1.90	0.70	78
		Total	1.88	0.72	127
	Total	M	1.86	0.73	55
		F	1.74	0.70	104
		Total	1.78	0.71	159

Motivation, Group Membership and Gender

A two-way ANOVA was performed to analyze this question in relation to motivational factors (Table 21). The results indicated no statistical difference between motivation scores and gender for either the decided or undecided groups; $F(1, 152) = 0.32$, $p = 0.57$.

Table 21: Two-Way ANOVA for Motivational Factors

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	0.13	1	0.13	0.61	0.44
Decided And Undecided	0.44	1	0.44	2.05	0.15
Gender * Decided And Undecided	0.68	1	0.68	0.32	0.57
Error	32.55	152	0.21		
Total	1561.08	156			
a. R Squared = .085 (Adjusted R Squared = .067)					

A three-way ANOVA was performed to analyze the differences between group membership (decided, undecided), barrier sub-scale scores (situational, institutional, and dispositional), and gender. The results of this analysis are shown in Table 22.

Table 22: Three-Way ANOVA Within and Between Subjects

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Barrier type	Greenhouse-Geisser	9.25	1.87	4.94	18.10	0.00	0.11
Barrier type * Gender	Greenhouse-Geisser	0.16	1.87	0.08	0.31	0.72	0.00
Barrier type * Decided Status	Greenhouse-Geisser	0.72	1.87	0.39	1.41	0.25	0.01
Barrier type * Gender * Decided Status	Greenhouse-Geisser	0.47	1.87	0.25	0.92	0.39	0.00
Error (Barrier type)	Greenhouse-Geisser	76.13	278.96	0.27			
Gender		4.08	1	4.08	4.22	0.04	0.03
Decided Status		1.22	1	1.22	1.26	0.26	0.00
Gender * Decided Status		4.19	1	4.19	4.34	0.04	0.02
Error		143.89	149	0.97			

A statistically significant main effect of the barriers type, F (1.87, 278.96) = 18.10, p = 0.00 was found. There was, however, no significant interaction between the average barriers type and the decided status, F (1.87, 278.96) = 1.41, p = 0.25 and no statistical significant interaction between the barriers type and gender, F (1.87, 278.96) =

0.31, p = 0.72. Three-way ANOVA showed no statistical significant effect for the three-way interaction of barrier types with gender for the decided group, F (1.87, 278.96) = 0.92, p = 0.39. Table 22 indicates a statistical significant main effect of gender, F (1, 149) = 4.22, p = 0.04 and three-way ANOVA showed statistical significant interaction between decided status and gender, F (1, 149) = 4.34, p = 0.04. The major finding from this analysis was a statistically significant difference between barrier scores and gender and between barrier scores and group membership (decided, undecided). This supports the data presented in Figures 6 and 7 and suggests the differences found between the scores based on gender are more likely to be due to real differences in barrier scores than by chance alone.

Post-hoc paired samples t-tests were performed (Tables 23 and 24) to examine which type of barrier had the greatest impact on male Saudi nurses who wanted a doctoral degree.

Table 23: Descriptive Analysis for Barriers Types with Paired Samples Test for Males

		Mean	n	Std. Deviation	Std. Error Mean
Pair 1	Situational Barriers	2.24	55	0.71	0.10
	Institutional Barriers	2.30	55	0.76	0.11
Pair 2	Situational Barriers	2.30	55	0.76	0.11
	Dispositional Barriers	1.86	55	0.73	0.10
Pair 3	Institutional Barriers	2.24	55	0.71	0.10
	Dispositional Barriers	1.86	55	0.73	0.10

The results indicated no significant difference in scores for situational barriers (M= 2.24, SD= 0.71) and institutional barriers (M=2.30, SD=0.76) t(51)= -0.60, p = 0.55". There was a statistically significant difference in t scores for situational barriers (M=2.30, SD= 0.76) and dispositional barriers (M = 1.86, SD = 0.73) t(51) = 3.42, p =

0.00", and a statistically significant difference in scores for institutional barriers (M=2.30, SD=.0.76) and dispositional barriers (M=1.86, SD=0.73) t(51)= 3.00, p=0.00".

Table 24: Barriers Type with Paired Samples Test for Males

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Situational Barriers – Institutional Barriers	-0.05	0.64	0.09	-0.23	0.13	-0.60	51	0.55
Pair 2	Situational Barriers – Dispositional Barriers	0.43	0.91	0.13	0.18	0.69	3.42	51	0.00
Pair 3	Institutional Barriers – Dispositional Barriers	0.38	0.91	0.13	0.13	0.63	3.00	51	0.00

Interpreting multiple two-way post-hoc tests can be problematic. What can be said is that, for male respondents, institutional barriers appeared to play a less important role in the overall barrier score determination when compared to situational or dispositional barriers.

A similar analysis was performed comparing barrier scores and female respondent data. Post-hoc paired samples t-test was conducted (Tables 25 and 26) to examine what type of barrier sub-scales had the greatest impact on female Saudi nurses who wanted to study for a doctoral degree.

The results indicated no statistical significant difference between the scores for situational barriers (M= 2.10, SD= 0.70) and institutional barriers (M=2.19, SD= 0.72); t(100)= -1.46, p = 0.15. The results did indicate statistical significant t scores for

institutional barriers (M= 2.19, SD= 0.72) and dispositional barriers (M=1.74, SD=0.70); t(100)= 6.28, p =.00, and also for situational barriers (M=2.11, SD= 0.71) and dispositional barriers (M=1.74, SD=0.70); t(101)= 6.08, p =0 .00.

The multiple t-test indicated that situational barriers were less significant for female Saudi nurses when compared to institutional and dispositional barriers. The post-hoc tests showed that situational barriers were less significant for both genders in considering pursuing higher education. This result is different from that shown in Figure 7 and supports the conclusion that the difference is related to the unequal sample size of both genders.

Table 25: Descriptive Analysis for Barrier Types with Paired Samples Test for Females

		Mean	n	Std. Deviation	Std. Error Mean
Pair 1	Situational Barriers	2.10	101	0.70	0.07
	Institutional Barriers	2.19	101	0.72	0.07
Pair 2	Situational Barriers	2.19	101	0.72	0.07
	Dispositional Barriers	1.74	101	0.70	0.07
Pair 3	Institutional Barriers	2.11	102	0.71	0.07
	Dispositional Barriers	1.74	102	0.70	0.07

Table 26: Barriers Type with Paired Samples Test for Females

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Situational Barriers – Institutional Barriers	-0.09	0.62	0.06	-0.21	0.03	-1.46	100	0.15
Pair 2	Situational Barriers – Dispositional Barriers	0.45	0.72	0.07	0.31	0.59	6.28	100	0.00
Pair 3	Institutional Barriers – Dispositional Barriers	0.37	0.62	0.06	0.25	0.50	6.08	101	0.00

Results for Research Question 7

Research Question #7: Are there differences in motivation and barriers scores between the groups (decided, undecided) when practice/experience is controlled for?

It is not uncommon for nurses to return to study later in life after spending time in practice. Given this, identifying whether practice and experience influence motivation and barriers to pursing further graduate education is an important issue. Descriptive statistics analysis was performed comparing group membership, years of study/experience, and motivational and barriers factors (Table 27).

Table 27: Descriptive Statistics for Years of Study/ Experience and Motivational Factors

Group	Mean	Std. Dev.	n
Decided	3.25	0.45	32
Undecided	3.09	0.49	111
Total	3.13	0.49	143

An ANCOVA was conducted for the motivational factors to determine the effect of group membership (decided, undecided) when practice/experience was controlled for (Table 28). The results of this analysis identified a marginally statistically significant effect for years of study or experience $F(1,140) = 3.42$, $p = 0.07$, but no statistical significance between the decided and undecided groups $F(1,140) = 2.62$, $p = 0.11$..

Table 28: ANCOVA for Decided and Undecided Motivation Factors and Years of Study or Experience

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Years Study/ Experience	0.79	1	0.79	3.42	0.07
Decided And Undecided	0.60	1	0.60	2.62	0.11
Error	31.51	137	0.23		
Total	1403.20	140			

a. R Squared = .04 (Adjusted R Squared = 0.03)

A Post-hoc independent samples t-test was conducted (Tables 29 and 30). This identified no statistical significant difference between the motivation scores for the decided group (M= 3.25, SD=0.45) and the undecided group (M=3.09, SD=0.48); t(156)= -1.76, p = 0.61. This result may suggest that both the decided and undecided groups have good intentions to study for a PhD but other factors come into play that ultimately influence the decision to commence studies or not. One of these might be years of experience in nursing.

Table 29: Descriptive Analysis for Mean of Motivation Scores

	Decided status	n	Mean	Std. Deviation	Std. Error Mean
Motivation Average	Decided	32	3.25	0.45	0.08
	Undecided	129	3.09	0.48	0.04

Table 30: Independent Samples Test for Average Motivation

Levene's Test for Equality of Variances				t-test for Equality of Means						
	Equal Variances	F	Sig	t	df	Significance (2-tailed)	Mean Difference	Std Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Motivation Average	Assumed	0.27	0.61	-1.76	156	0.08	-0.16	0.09	-0.35	0.02
	Not Assumed			-1.82	50.38	0.07	-0.16	0.09	-0.34	0.02

An ANCOVA analysis was performed to determine the effects of group membership (decided, undecided), motivational barrier scores, and years of practice/experience (Table 31). The results show marginal statistical significant difference for barrier scores based on group membership after controlling for practice/experience, F (1.90, 257.98) = 2.97, p = 0.06. Table 31 also shows a statistically significant interaction effect for barrier type and years of study or practice, F (1.90,

257.98) = 3.77, p = 0.03. There was no statistical significant interaction effect for barrier type and group membership (decided, undecided), F (1.90, 257.98) = 1.70, p = 0.19. However, statistical significant differences for group membership after controlling for practice/experience was found, F (1, 136) = 9.22, p = 0.00.

These results suggest there is a statistically significant interaction effect between barrier types and years of experience/study. This is interesting as it opens the possibility that different barrier scores might be influenced by experience and, therefore, opens the possibility that interventions can reduce the effect of barriers on the decision to pursue a PhD.

Table 31: ANCOVA for Barriers to Doctorate Due to Practice/Experience Issues

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Barriers type	Greenhouse-Geisser	1.50	1.90	0.79	2.97	0.06
Barriers type * Years Study /Experience	Greenhouse-Geisser	1.89	1.90	1.00	3.77	0.03
Barriers type * Decided	Greenhouse-Geisser	0.86	1.90	0.45	1.70	0.19
Error (Barriers type)	Greenhouse-Geisser	68.43	257.98	0.27		
Years study/Experience		2.01	1	2.01	1.99	0.16
Decided		9.35	1	9.35	9.22	0.00
Error		137.83	136	1.01		

Summary of Quantitative Findings

What emerged from this data was a number of important findings about the motivations and barriers to pursuing a PhD from a variety of nursing groups in Saudi Arabia. The principle findings suggest that dispositional barriers were the least concern for all four groups of participants. Findings also suggest that female nurses had a higher

average motivation score than their male counterparts in both the decided and undecided groups. When the barrier scores of men and women in the decided group were compared, women had the lowest scores on all barriers, with both genders reporting that institutional barriers were of most concern to them. With the undecided group, institutional barriers were of greatest concern and dispositional scores were consistently reported as the least concerning. For this sample of Saudi Nurses, the factor analysis method used on the study data suggested the possibility of a different theoretical structure to what was expected, that two motivation factors and a single barrier score may be the underlying structure of the instrument. Further theoretical work may need to be completed in order to refine our understanding of what motivates students. It is likely that more research is also needed to improve the psychometric properties of the instrument. Given these findings, care must be taken before generalizing these findings beyond the groups of respondents used in this study.

Qualitative Data Analysis

Applying a combination of qualitative and quantitative data can enhance the outcome of a study by ensuring the limitations of one type of data are balanced by the strengths of another and ensuring improved understanding by adding different approaches to knowledge. Therefore, qualitative data was collected to help increase the researcher's knowledge about the motivations and barriers for Saudi nurses to study for a doctoral degree. Between all four groups, there was a range in the number of respondents from 100 to 151 for answers to the six qualitative questions. Seventy-one respondents in the RN group (from a total of 80 who agreed to participate in the study) answered the qualitative questions. All the participants from the other three groups (faculty members,

master's, and doctoral students) answered all the questions, both quantitative and qualitative.

Narrative responses were coded according to researcher-defined category definitions. The process adopted for this involved the researcher reading each response and coding it, wherever possible, into mutually exclusive categories and subcategories. This was a highly iterative process requiring the researcher to continually refine the categories as new data became available from respondents. Each of the following tables will present these categories, their definitions, and the number of comments that were assigned to each of them.

Qualitative Research Question 1: For how long did you seriously consider studying for a doctoral degree? and what are the important reasons for that?

This question was answered in item 35 in the scale: for how long were you seriously thinking about going forward to study a doctoral degree? The analysis of this question was divided into five categories, from A-E, (Table 32) that focus on the amount of time the participants spent, or were spending, thinking about going back to study for a doctoral degree.

Table 32: Qualitative Category Definitions and Frequencies for Q35

Category	Definition	Number and % of Comments in Category
A	Any comment expressing 1-2 years as time spent thinking seriously about studying for a doctoral degree	45 participants or 31.25%
B	Any comment expressing 2-5 years as time spent thinking seriously about studying for a doctoral degree	45 participants or 31.25%
C	Any comment expressing 6-10 years as time spent thinking seriously about studying for a doctoral degree	11 participants or 7.63%
D	Any comment expressing 11-15 years as time spent thinking seriously about studying for a doctoral degree	3 participants or 2.08%
E	Does not belong to any of the previous ranges or answered the question in a different way	40 participants or 27.77%

The first category (A) included any opinion expressed by any of the four groups' that indicated seriously thinking about studying for a doctoral degree for a period of 1-2 years. One respondent explained the amount of time he spent thinking about going back to study, "I have been thinking about that for almost one year". Another participant said, "I am thinking about it since I came to the USA and started the preparation of my master's degree two years ago".

The second category (B) included any participants who had been thinking about studying for a doctorate for 2-5 years. Comments included, "it took me almost three years", "it took me five years, and "it took me four years to start the application process". Most participants were in category A or B, with 45 participants in each category (90 participants/ 62.5% of the total responses for this question).

Those who spent 6-10 years thinking about doctoral study were included in Category C. Participants said, "It took me 8 years thinking about it"; " It took me 7 years"; and still another said " I have been thinking about it since 2005".

Category D participants thought about it for 11-15 years. One participant said, "Since I started my undergraduate studies, about 15 years. Though, I hope to finish my program as soon as possible".

Category E was for participants who did not belong to any of the previous categories or answered the question in different way. Comments were, "Until I get it"; and "I haven't thought about it".

This question was also answered by item 36 in the scale, What was, or is, the single most important reason that led you or will lead you to return to school for a doctoral degree? The analysis resulted in seven categories from A-G (Table 33).

The first category (A) focused on any comments from the four groups that indicated knowledge as a reason to return to study for a doctorate and 14 participants (10.07% of the total response for his question) revealed knowledge as their most important reason. Comments included, “the knowledge that I want to have when I return to school will give me more expertise in my field and help me deliver the message to other nursing students to value the meaning of being future nurses” and “the reason that drives me is to increase my knowledge”.

Category B looked for respondents that indicated personal challenge, improvement, or dream as the reason to go back to study for a doctorate, and 35 participants (25.17% of the respondents for this question) cited one of these as the most important motivator. Remarks included, “The reason for doing the doctoral degree is self-improvement”, and “It is my dream to do a doctoral degree”.

The third category (C) specifically looked for any phrase that indicated work requirement, more prestige and respect, or looking for a new position and more income as a reason to go back to study. Forty participants (28.77% of the total responses for this question) stated one of these as a reason to go back to study. Comments included, “the reason for doing a doctoral degree is because I need it for getting a job in teaching”, “I am seeking it for a good social status” and “ I am looking to increase my income”.

In category D, 21 participants (15.10%) expressed having a strong belief or feelings of being responsible to improve nursing in the country as their reason to go back to study for a doctorate. One participant said, “The reason for doing a doctoral degree is because I want to be qualified to participate in improving the nursing education in Saudi Arabia”.

The fifth category (E) looked for comments expressing becoming motivated after success in study or work as the reason that led the person to study for a doctorate and included two participants (1.43% of the total responses for this question). One participant said, “my reason for studying for a doctorate is because I am successfully working as a nurse educator”, and the other said, “Because I started my master and I’ll not stop till I graduate with a PhD”.

Category F was for any comments that indicated an interest in an educational position more than practice as the reason to go back to study and had 11 participants (7.91% of the total number of participants who answered this question). One participant said “I tried to work in the hospital and I don’t like it so I became interested in education and now I am in nursing school”.

Any comments that did not fit in any of the previous categories went in Category G (16 participants or 11.51% of the total responses for this question). One participant said, ”to be a good model to my children and be independent to impress myself”.

Table 33: Qualitative Category Definitions and Frequencies for Q36

Category	Definition	No. of Comments in Category
A	Any comment that expresses knowledge as reason to return to study for a doctorate	14
B	Any comment related to personal challenge, improvement, or dream as reason to study for a doctorate	35
C	A comment that expresses requirement, more prestige and respect, or looking for new position and more income	40
D	Any comment expressing strong beliefs or feelings of being responsible to improve nursing in the country	21
E	Any comment expressing becoming motivated after success in study or work as a reason to go back to study for a doctorate	2
F	Any comment expressing interest in an education position more than practice as a reason to go back to study	11
G	Any comment not fitting into any of the previous categories	16

Qualitative Research Question 2: What was, or is, the most important barriers you faced or are currently facing that may or will prevent you from returning to school for a doctoral degree?

This research question was answered in item 40 in the scale, 'What was, or is, the most important barriers you faced or are currently facing that may or will prevent you from returning to school for a doctoral degree?' and resulted in six categories from A-F that focused on identified barriers (Table 34).

Table 34: Qualitative Category Definitions and Frequencies for Q40

Category	Definition	No. and % of Comments in Category
A	Any comment that expresses limited position after graduation as the most important barrier	4 participants or 3.03%
B	Any comment that long time for admission to the program, English, and/or the difference or difficulty in the education system was the most important barrier	21 participants or 16.00%
C	Any comment expressing lack of doctoral programs in the country as the most important barrier	14 participants or 10.60%
D	Any comment indicating lack of funds or scholarship issues as the most important barrier	45 participants or 34.10%
E	Any comment citing life circumstances or personal life priorities for now (having old parents, house, new baby, etc.) as the most important barrier	30 participants or 23.01%
F	Anyone who did not answer the question, the answer is different from the question, or anything else not belonging in any other category	18 participants or 14.01%

Category A consisted of four participants (3.03% of the total responses for this question) whose comments suggested a limited position after graduation was the most important barrier they faced or were currently facing. One participant said, "The biggest barrier will be the reality of a job offer in a health care institute" and another said, "It is sad because even if we get our doctoral degrees, there are limited positions for Saudi

nurses. Except if you want the educational sector and, if you don't, you would only go back to be a bedside nurse if you don't have much experience."

Twenty-one participants were in Category B (16% of the total responses for this question) with comments regarding length of time for admission to the program, English, and/or the difference or difficulty in the education system as the most important barrier they faced or were currently facing. Participants remarked, "English barrier or education system overseas is a challenge" and "The most important barrier is finding acceptance in a highly ranked university".

Category C consisted of 14 participants (10.6% of the total responses for this question) and focused on comments identifying the lack of doctoral programs in the country as the most important barrier to continuing their education. Comments included, "the most important barrier is the inability of qualified nursing schools in our country to offer PhD degrees" and "We do not have a PhD degree in nursing in any local university. If we want to study we have to study abroad which I consider the most important barrier to a doctoral degree".

The fourth category (D) had 45 participants (34.1% of the total responses for this question) and included any comment indicating lack of funding or issues of the scholarship as the most important barrier they faced or were currently facing that may or will prevent returning to school. One participant said, "the recent change in the scholarship rules where you can't upgrade to study the next degree".

Category E consisted of 30 participants (23.01% of the total responses for this question and included circumstances of personal life as a priority for now (having elderly parents, house, new baby, etc.) as the most important barrier they faced or were currently

facing that may or will prevent pursing further education. Comments included, “the most important barrier is having to stay far from my husband and children” and “my family dependence on me, which I see as the biggest barrier to study a doctoral degree”.

The sixth category (F) had 18 participants (14.01% of the total responses for this question) and focused on anyone who did not answer the question, gave an answer different from the question, or anything else not belong to any category. One participant said, “the most important barrier is favoritism, which will not let me study”.

Qualitative Research Question 3: Did any one person encourage you or any event influence your decision to continue your education?

This question, asked in item 37 in the scale, “is there anyone encouraging you to continue your education?”, resulted in five categories from A-E (Table 35) that focus on the person who encouraged the participant to study for a doctoral degree.

Category A contained 94 participants (62.25%) who mentioned a close family member (father, mother, sibling, husband, wife) as the person who encouraged them to continue their education. One participant said, “I was encouraged by my mother”; another participant said, “I was encouraged by my father, mother and sibling”; and another participant said, “I was encouraged by my husband”.

Category B included 18 participants (11.92%) and focused on any comment that identified previous or current colleagues in school or in the work place, role model, leader, or professor in the university as the person who encouraged the participant to continue their education. Comments included, “The person who encouraged me to go forward for a doctoral degree is my supervisor at my University in Saudi Arabia, and in the USA at the University of Pennsylvania”, “ My friend who studied a PhD in the USA

always encouraged me to do that", and " My family and my work colleague encouraged me to do this degree".

Category (C) included three participants (1.98%) and all three participants said they were encouraged by themselves. The last category, D, with 36 participants or 23.84%, focused on anyone who did not answer the question, gave an answer different from the question, or anything else not belonging to any of the other categories. One participant said, "the education will strengthen me and it will improve patient outcomes".

Table 35: Qualitative Category Definitions and Frequencies for Q37

Category	Definition	Number and % of Comments in Category
A	Any comment that identifies a close family member (father, mother, sibling, husband, wife) as the person who encouraged you to continue your education	94 participants or 62.25%
B	A comment that identifies previous or current colleagues in school or in work place, role model, leader, or professor in the university as the person who encouraged you to continue your education	18 participants or 11.92%
C	Any comment that indicates the participant became encouraged by himself	3 participants or 1.98%
D	Anyone who did not answer the question, gave an answer unrelated to the question, or anything else not belonging to another category	36 participants or 23.84%

Qualitative Research Question 4: What additional remarks on motivations and barriers are highlighted by Saudi nurses who are interested in going forward to study for a doctoral degree?

This question was asked in item 38 in the scale, 'Was there a single event that influenced your decision to consider/or think about studying for a doctoral degree in nursing', and resulted in five categories (A-E) that focused on the event that encouraged participants to study for a doctorate or to think about it (Table 36).

Table 36: Qualitative Category Definitions and Frequencies for Q38

Category	Definition	Number and % of Comments in Category
A	Comments suggesting meeting or seeing successful friends or people around was the first event that encouraged them to continue their education	10 participants or 6.62%
B	Comments identifying weaknesses of nursing, nursing leaders, or social stigma toward nurses as an event that encouraged them to continue their education	7 participants or 4.63 %
C	Comments about lack of enough Saudi doctorate holders, or wanting to make changes in Saudi nursing was an event that encouraged continuing education	24 participants or 15.89 %
D	Comments identifying the availability of scholarships, escaping from the routine or need for a better job was an event that encouraged continuing their education	7 participants or 4.63%
E	Anyone who did not answer the question, the answer is unrelated to the question, or anything else not belonging to any other category	104 participants or 68.87%

The first category (A) included 10 participants, or 6.62% of the total respondents to this question and focused on any comments regarding meeting or seeing successful friends or people around me as the first event that encourage me to continue my education or think about it. One participant said, “The event that lead me to study is meeting a previous colleague who is doing his PhD in nursing. If he could do it then I can!” Another participant said “the event that lead me to study is because all my family study and work in the medical field”.

Category B contained seven participants, or 4.63 % of the total responses for this question, and included comments that expressed weakness of nursing, nursing leaders, or social stigma toward nurses as an event that encouraged them to continue or think about a doctoral degree. One participant said “the event that lead me to study is the weakness of nursing rights” another participant said “the event that lead me to think about a doctoral degree is the social stigma toward nurses”.

Category C consisted of 24 participants (15.89 % of the total responses for this question) and focused on any comments expressing lack of enough Saudi doctorate holders, or wanting to make changes in Saudi nursing as an event that encouraged continued education. One participant said, “the event that lead me to think about a doctorate in nursing is there are only a few Saudis who have doctoral degrees in nursing”. Another participant remarked, “the weakness of nursing stakeholders in Saudi Arabia was the event that lead me to think about a doctoral degree”.

Seven participants were included in category D (4.63% of the total responses for this question), which focused on any comment regarding the availability of scholarships, escaping from the routine or a need for better job as an event that encouraged continued education. One participant said “the event that lead me to think about a doctorate is that I am looking for professional development” and another said, “the payment scale lead me to think about a doctoral degree”.

The fifth category (E) included 104 participants (68.87% of the total responses for this question) and focused on anyone who did not answer the question, gave an answer unrelated to the question, or anything else not belonging to any categories. One participant said, “My father`s dream during his life was to see me with a doctoral degree”.

In order to have a complete and holistic view of any additional motivations and barriers, item 56 in the scale also answered this last qualitative question. The analysis for this question included five categories, A-E, which addressed any additional motivations and barriers not included elsewhere in the survey (Table 37).

Table 37: Qualitative Category Definitions and Frequencies for Q56

Category	Definition	No. and % of Comments in Category
A	Any comment that expresses limited position after graduation as the most important barrier they faced or are currently facing that may or will prevent returning to school	4 participants or 3.03%
B	A comment that long time for admission to the program, English, and/or the difference or difficulty in the education system is the most important barrier they faced or currently face that may or will prevent returning to school	21 participants or 16.00%
C	Any comment expressing lack of doctoral programs in the country as the most important barrier they faced or currently face that may or will prevent returning to school	14 participants or 10.60%
D	Any comment indicating lack of funds or scholarship issues as the most important barrier they faced or are currently facing that may or will prevent returning to school	45 participants or 34.10%
E	Any comment citing life circumstances or personal life priorities for now (having old parents, house, new baby, etc.) as the most important barriers they faced or are currently facing that may or will prevent returning to school	30 participants or 23.01%
F	Anyone who did not answer the question, the answer is different from the question, or anything else not belonging in any other category	18 participants or 14.01%

Category A included 11 participants, 11% of the total responses for this question. It focused on comments expressing improving nursing practice, policy, and/or image as additional factors that may increase motivation or work as a barrier to going back to study for a doctorate. One participant said, “Promoting and enhancing the nursing profession in Saudi and making it as equal to Medicine will motivate me to further my education”. Another comment regarding the need of policy change was “what motivates me is when I show people that doctors in nursing do exist and they do things other than taking care of patients. We need nurse clinics in Saudi. People will start knowing the value of nurses”.

Seven participants were in Category B (7% of the total responses for this question), which focused on comments indicating a need for starting more doctoral degree programs in the country and offering more online classes as a motivator or barrier to going back to study. One participant said “there are many motivations and barriers and here are some of them: Availability of PHD programs in Saudi, employer sponsorship, A culture that mandates PhD only for academic professions, however it is important for hospitals seeking to do evidence based practice, Hiring incompetent expats has influenced decision makers by misleading them about the importance of Saudization and PhD holders value”. Another participant said, “Having on-line classes will motivate more students to pursue doctoral degrees”.

The third category (C) included 11 participants (11% of the total responses for this question) and focused on any comments expressing the need to change the scholarship policy and increase research funds. One participant said “I am 35 years old now which means I won't be eligible for government sponsorship, so my chances to study for a PhD are very low”. Other comments were “Offering scholarships becomes more difficult than before”, and “funding nursing research is significant”.

Category D included 11 participants, 11% of the total responses for this question. This category looked for the need of Saudi nurses for a preparation program for overseas universities’ admission requirements and making contracts with nursing schools as something that may motivate or be a barrier to going back to study for a doctorate. Comments included, “I am having a hard time with the school acceptance and admission process”, “NCLEX-RN exam is one of the biggest barriers” and “The main barrier is the long process to get the American nursing license. Starting with the process to have the

accreditation from the Commission on Graduates of Foreign Nursing Schools (CGFNS) that took me almost one year, then the approval from the Board of nursing, then the experience of having the NCLEX test, and our scholarship won't last long enough to finish all these".

The fifth category (E) included 60 participants, or 60% of the total responses to this question. It focused on anyone who said "no additional comments", did not answer the question, gave an answer unrelated to the question, or anything else not belonging to any category. All the participants in this category said they did not have any additional comments and the majority of them did not answer the question.

In reviewing the qualitative data, as part the overall analysis strategy, a number of important observations need to be made. The advantage of using a mixed-model of research methodologies has been borne out in this study in both amplifying and clarifying responses obtained by the quantitative data analysis. Some of the important areas emerging from the qualitative data include the time period that respondents were taking to make a decision whether to study for a PhD and, for those who were as yet undecided, what some of their timeframes were. For this sample, nearly 40% of respondents identified a time frame of between 2-10 years to decide to study for a PhD. It is unclear how this time period relates to international comparisons, but for a country embarking on an ambitious policy of developing self-sufficiency for PhD nurses, this issue warrants further investigation A more in-depth understanding of the impact of the current government travel policy for female nurses was gained; this is a subject that remains a very important issue to be discussed and resolved at the national level. The length of initial sponsorship and the process for extending this time emerged as important points

from both the quantitative and the qualitative responses. The initial length of sponsorship, usually three years is, in many cases, insufficient to complete both the English language requirement of the international universities and the academic work required for a PhD. The uncertainty of whether extensions will be made, and for how long, remains an important policy issue at the national level in Saudi Arabia, but it is also a major concern for those wishing to advance their academic education.

CHAPTER 5

DISCUSSION

The findings from this study represent an original and important contribution to our understanding of the perceived motivators and barriers to Saudi Arabian nurses studying for a doctoral degree in nursing. This research is the first of its kind to have investigated this subject and included respondents who were doctoral students, those aspiring to become doctoral students, and those who had not yet made that decision. It involved nurses from a wide range of practice and education settings and has had a global scope to its aims. Given the comprehensiveness of responses, both in terms of geography and professional working environments, the findings will have major implications for higher education policy and practice for Saudi nurses.

Methodological Issues

The use of quantitative and qualitative methodologies was an approach that could attract respondents and obtain a broad perspective on the subject of Saudi nurses studying for a PhD. The primary methodology used, an instrument delivered by the Qualtrics survey system, was successful in getting information to potential respondents. Using this system was essential to distributing the survey to participants in many different countries. It also kept track of the participants' progress, allowing reminders to be sent to any of the four study group participants. A new feature, added just before collecting this study data, allowed participants to access the survey by mobile phone and had a positive impact on increasing the number of participants. It was expected that RNs working in clinical areas in Saudi Arabia would have limited time to access the survey through hospital computers during working hours. They were expected to participate after working hours through

their personal computers, which could affect their motivation to keep participating. This, however, was not the case, as they had the highest response numbers in this study. Tracking time for all participants' showed most of the RNs started the survey during working hours and some put the survey on hold for a couple of hours and then got back to it. They were allowed to access the survey through their mobile at a more convenient time, resulting in more respondents from this group than the other groups.

In keeping with many surveys of this kind, return rates were disappointing low given the potential number of nursing respondents, yet meaningful analysis could be performed on the data. There were a number of potential respondents who opened the questionnaire but never went on to complete it. Future design of the instrument and introduction will need to find ways to encourage completing the survey once it has been started. Despite requests to complete the whole questionnaire, there remains the issue of missing data. Future administration of this tool might need to include ways of ensuring one section is completed in full before moving to the next. This way of guiding respondents may assist in obtaining a better return rate. Another important point to discuss is the use of social media applications in the conduct of research. While it cannot be expected that potential respondents have access to smart phone technologies and the Internet, the sample obtained in this study did. The advantage was that respondents, or potential respondents, could establish the verity of the research directly with the researcher, to clarify issues, or to ensure that current anti-virus checking methods were being employed. As has been reported earlier, a number of respondents only completed the survey based upon contact with the researcher who could provide detailed answers to questions. The use of social media in research is already an important topic, and as

nursing moves increasingly into the homes and lives of patients and clients, it is expected to take a progressively more important role in data collecting, monitoring and reporting of findings. Given this was a global study of Saudi Arabian students, or potential students, the use of survey and social media were found to overcome some of the issues with people being in different time zones and working different shifts.

The data analysis methods chosen were appropriate for the measurement level of data. The use of imputed data ensured the maximum number of useable questions were available for analysis and, in looking at the data, had the effect of increasing the mean scores for some questions. This did not have any adverse affect on the data analysis methods, results, or their interpretation.

The qualitative method added valuable information, which can be seen to support the quantitative data. The open-ended questions allowed the participants to express their feelings and thoughts on barriers or motivators that may affect future students. They provided subjective data, as each participant described what s/he thought might be helpful for future doctoral students. Combining these two research methods provided a better understanding of the research problems. On a more fundamental level, the use of both quantitative and qualitative methods was appropriate given this was the first study of its kind and, as such, will lay the groundwork for future studies of motivation and barriers to studying a PhD.

Instrument and Theoretical Issues

This study relied heavily on data collected from an instrument by Kimmel, Gaylor, Grubbs and Hayes (2012). It was developed after a thorough review of the literature, theoretical models and similar instruments. There has been a dearth of

psychometric analysis performed on motivation and barrier measurement instruments; the Kimmel, et al., instrument was no exception. The main advantage of using it was, however, that it was based on a theoretical model (Cross), considered relevant to the understanding of motivation and barriers to pursuing higher education. In completing this study, a measure of reliability of the instrument was established, Cronbach alpha of .83. This can be interpreted as an acceptable level for social science instruments from which to draw meaningful conclusions. As could be expected, in examining the responses to the questions in detail, some were found to have low correlations with each other, suggesting the need for further work to refine either the wording or the assumptions used to include the question in the first place.

An analysis of the factor structure of the instrument revealed a number of unanticipated issues with the instrument. The factor analysis showed there were three main factors emerging from the data. The most important finding was that only one barrier factor was identified instead of the situational, institutional and dispositional barriers proposed by the theory, and two motivation factors emerged instead of the one predicted by the theory. The Kimmel, et al., instrument was based on a comprehensive literature review and the data used to design their tool was collected from students in the USA. The possibility must exist that there may be differences in the motivation and barriers between these students and Saudi nurses, some of whom are dispersed around the world. Furthermore, the sample size used to run factor analysis for this study was comparatively small, yet acceptably large to make interpretation of data meaningful. There are also instrumentation issues. A number of questions did not load on the factors that were expected, i.e. a barrier score loaded onto a motivation score. This suggests that

more work needs to be done on the design of the questions. In addition, some questions were dropped from the factor analysis altogether. While this is not unusual in analysis of this nature, it does help focus on where issues may arise with the instrument and can identify specific questions that need further investigation.

Cross's (1981) chain-of-response model was used as the theoretical underpinning of this study. There is some evidence that the assumptions of this study are borne out with this data. The model indicates that internal and external effects of both motivators and barriers to pursuing education are interrelated and cyclical. Certainly, the findings from this study suggest that motivation and barrier factors impacting the Saudi Arabian nurses in this study are interrelated. This is seen from the factor analysis results. What is not clear is whether the impact of motivation and barriers are cyclical or not. Examining this aspect of Cross's model was not a specific outcome of this research and warrants further investigation.

In the context of this study being the first to focus on Saudi Arabian students who are, or may be considering, studying for a PhD, the analysis of this instrument raises some interesting opportunities for further research. While there are issues with both the theoretical and measurement aspects of this study, the findings show that motivation and barrier factors are very important to understand for future research, policy practice and education. While these findings are important in the context of Saudi Arabian nurse education, care must be exercised in generalizing these findings beyond this sample. The primary reason for this is that work is still needed to refine both the theoretical and instrumentation aspects of this study. The sample size was relatively small and further

studies using larger samples are going to be important to further delineate the factor structure of the instrument.

Discussion of Research Questions

Motivation and Barriers Factors Between the Groups

What are the perceived motivators and barriers to study for those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it'?

What motivators/barriers are 'strongest' in these groups?

In comparing the findings from this study with those reported from international sources, the outcomes of this study are similar to those reported in the literature. The motivational factors identified in this study are also noted in previous literature and include the following items: 'A desire to be a role model for my children' (Cohen 2011); 'A desire for personal accomplishment' (Smith & Delmore, 2007; Plunkett, et al, 2010); 'A desire for knowledge/skills in this degree field' (Raso, 2013; Effken, 2008); 'Encouragement from my children' (Cohen, 2011); 'Reports that people with this degree have greater opportunity for advancement' (Welhan, 2000); 'Encouragement from my spouse or significant other' (Pederson, 2012; Smith & Delmore, 2007; Richards, 2007); 'Encouragement from my supervisor or employer', 'A desire to finish a degree that I began but did not complete earlier' (Pederson, 2012); 'The desire to begin a new career' (Cohen 2011); 'The assurance of a promotion at work' (Richards, 2007; Doucette, 2007); 'The need to keep my current job' (Richardson, 2011; Pederson, 2012); 'The assurance of a pay increase at work' (Richardson, 2011; Doucette, 2007); 'Encouragement from my parent/s' (Welhan, 2000; Pederson, 2012); and 'Encouragement from friends who have their degrees' (Welhan, 2000; Richards 2007).

The only motivational item not found in the previous literature was 'A desire for more respect from my peers'. This item could be specific to the Saudi nurses responding to this study. It has been noted that for some Saudis, nursing is seen as a far less prestigious job than a physician, and many believe a doctoral degree brings with it more respect in the healthcare field. This issue was reported by Miller-Rosser, et al (2006), citing a mother who refused to tell her friends her son was a nurse, preferring to tell them he was a doctor (physician) when he was seen in the hospital.

The instrument used in this study proposed that barriers factors would be divided into three groups, situational, institutional, and dispositional. While this was not confirmed by factor analysis in this study, the international literature does suggest some evidence for there being some sub-groups of issues that are important to discuss. Situational barriers noted in the literature include 'Lack of funds for childcare for my minor child/children' (Cohen, 2011; Plunkett, et al, 2010); 'Concern about paying back student loans' (Doucette, 2007); (Pederson, 2012); 'The lack of grants and scholarships for education' (Doucette, 2007; Richards, 2007); 'Lack of personal funds to pay for college' (Cohen, 2011); and 'Lack of personal time' (Effken, 2008). Situational barrier items not mentioned specifically in the literature but identified in this study included 'Discouragement by a spouse/significant other', 'Discouragement by a parent/s', and 'Discouragement by my employer'. These statements indicate the importance of family commitment as part of the process of pursing a PhD.

The institutional barriers identified as being important in this study have also been reported elsewhere in the literature, including 'Lack of childcare for my minor child/children' (Pederson, 2012); 'Role as primary caregiver for an elder' (Effken,

2008)"; and 'Time away from my family' (Doucette, 2007; Effken, 2008). There were also institutional barriers noted in this study that have not been reported prominently in the literature, 'Time away from my job' and 'Lack of classes at a convenient time'. With the current structure of the Saudi system of sending students overseas for their doctoral degrees, often for a minimum of three years, it is perhaps not surprising that concerns of returning to work and having had little, if any, involvement in changes that may have occurred, can be viewed as a barrier.

Similarities were found between dispositional barriers identified in this and other studies, including 'Lack of technological skills' (Richards, 2007; Effken, 2008), 'Concern about attending school with younger or older students' (Plunkett, et al, 2010), and 'Lack of confidence in my ability' (Boore, 1996; Pederson, 2012). A common thread in the literature, borne out in this study, appears to be that confidence is important, not just inter-personal but also with regard to emerging technologies essential to the workplace and learning.

Most of the motivation and barriers factors described by the Saudi nurses were highlighted in the literature and are consistent with current educational changes in the country. The availability of scholarships from the government in the last 10 years has changed Saudi nurses' thoughts about continuing education and the number of nursing students who are studying for undergraduate and postgraduate degrees has increased dramatically. The motivational factors mentioned by the respondents in this study are coupled with self-evaluation and attitude, as Cross's (1981) model indicates. This suggests that a combination of self-evaluation and attitude will lead to increased motivation among Saudi nurses to study for a doctoral degree. Facilitating motivational

factors will improve attitude and motivate more nurses who are still struggling with making the decision of whether to study or not. Increase in motivation affects the other chains in the model, which focus mainly on the barriers. Hence, the motivation and barriers factors identified by the study should be seriously considered in developing solutions and modifications to the current scholarship policy, in order to increase the number of Saudi nurses who study for doctoral degrees. The time taken to decide to go forward with this degree, as the qualitative data shows, ranged between 2-15 years. This is a long time, especially given the substantial shortage of nurses in Saudi Arabia.

Barriers of Decided and Undecided Groups

Results of the study, as seen in Figure 4, indicate that the decided group (doctoral students or those in English preparation phase for this degree) had lower situational, dispositional and situational barriers than the undecided group (RNs, faculty members, master's students or those in the English preparation phase for this degree) except institutional barriers for master's students which was lower than the decided group. This result was expected, especially the dispositional barriers, as the decided group had already gone through the process of choosing an institution for study and started the program or were in the process of starting, if they were in the English preparation phase. Situational and dispositional barriers are unlikely to be a significant issue for someone already studying in a doctoral program.

Educational institutions have different requirements and, as students progress in the program, dispositional barriers potentially become less important. Students already familiar with the requirements of the program will have more confidence in how to progress. Students may experience increased stress over doctoral degree progress

requirements, being away from parents, relatives and friends for long time, financial issues, or dependents that do not cope well with a new place and culture. Any of these are dispositional barriers, but when they are managed, confidence and interest in continuing to study will increase.

One explanation for seeing lower institutional barriers for the master's students is that those students (and dependents traveling with them) are prepared to be away from family and many have already chosen an overseas institution with both a master's and doctoral program. Being in the same institution, most requirements for the doctoral degree are already completed with the master's degree application (the TOFL, GRE, etc.). Staying in one university for both degrees builds more trust and familiarity between the SACM and the educational institution, resulting in less administrative paperwork to be done by the students, allowing them more time to focus on their education.

The other RNs and faculty members from the undecided group did have issues related to institutional and dispositional barriers, which suggests the nursing administration in Saudi Arabia needs to better plan for future students. Making contracts with specific institutions, worldwide, would accelerate the admission process for doctoral students and provide more details about program requirements. Working with fewer numbers of institutions would also allow for faster management of issues students face with educational or scholarship concerns. Addressing these dispositional barriers may attract more Saudi nurses to doctoral study

This study suggests that nurses who are still in Saudi Arabia need a better understanding of the scholarship process and policy, requirements for both master's and doctoral degrees, the differences in the education system between countries (American,

Canadian, British, etc.) and preparation needed prior to travel (for example, the process of Visa application, rules and regulations of new countries, courses that may help with the new language, program requirements, etc.) Minimizing barriers related to personal knowledge, improvement, beliefs, and feelings of responsibility for the future of nursing in Saudi Arabia may help increase the number of interested nurses who want to advance their education and are willing to study for a doctoral degree outside the country.

Motivations, Barriers and Gender of Saudi Nurses

Gender differences between Saudi nurses who want to study for a doctoral degree is an important issue highlighted in this study.

The results, showing no statistically significant difference in motivation to study for either gender, could be explained by the rapid increase in the number of nurses applying for scholarships offered by the government. The Saudi Ministry of Education (MOE) indicates there were 1211 studying for master's degrees and 339 studying for doctoral degrees in health care, including nursing, for the year 2014 (MOE, 2014). As little as 15 years earlier, in 1999, the total number of scholarships for healthcare was only191 master's students and 210 doctoral students. The increased availability of scholarships could be affecting motivation for both genders.

Barriers also need to be investigated in relation to gender. The scholarship policy for female students indicates one cannot travel outside the country without a close male relative companion. This policy is not limited to scholarships, but is a general government policy for women who want to travel overseas. Although the majority of female nurses were getting motivation and support from their close family, the qualitative data confirmed travel was a considerable barrier.

This could be one reason why the number of doctoral degree holders remains low in Saudi Arabia. Some female nurses are not able to travel overseas to study. If there were doctoral degree programs available in Saudi Arabia, the number of doctoral prepared nurses could be expected to rise, since the nursing field in Saudi is similar to any other country; it is predominately female. It is also possible that Saudi female nurses are more concerned with educational programming issues rather than institutional work requirements.

The immediate development of new doctoral degree programs for nurses in Saudi Arabia needs to be considered by the nursing administration in the country to help those nurses who are unable to study overseas. This will increase the pool of doctoral prepared nurses in the country and help fulfill the requirement of the MOE for opening new doctoral degrees at universities all over the country. MOE policy indicates that to allow for expanding the number of the nursing schools and open post graduate programs, the ratio of lecturer to PhD prepared faculty should not exceed 20% of the total number of the faculty members in the school (MOE, 2010).

Motivations, Barriers and Practice/Experience Issues

Nursing is a practice discipline that includes both direct and indirect care activities that influence health outcomes. This study looked at whether practice/ experience issues impact the motivations and barriers of Saudi nurses to study for a doctoral degree.

The results of this study suggested that motivation of nurses is linked to years of study or experience. As nurses get more experience or spend a more time in their specific program of study, they became more motivated to study for a doctoral degree. This gives

an indication that nurses working in practice may move from practice to academia as part of either professional or career development. For the future of nursing in Saudi Arabia, national nursing leaders need to promote awareness of the need to increase the number of doctoral prepared nurses among the undecided group.

Results from examining barrier types mirrored the results for motivational factors; there were differences in barrier types between the groups but not related to years of study or experience. A nurse who is motivated to study will pursue a doctoral degree regardless of years of experience. The development of education programs stressing the importance and impact of increasing the pool of doctoral prepared nurses to the practice and education system in the country is needed. Events such as conferences, symposiums, workshops, etc., are also needed to highlight this issue, to inform and motivate nurses in practice to pursue a doctoral degree.

Comparison of the Study Outcome with Other Research Outcomes

Understanding the motivation and barriers of Saudi nurses toward studying for a doctoral degree is a highly relevant issue in the current situation of having a limited number of doctoral prepared nurses in Saudi Arabia and is critical to the future of nursing in the country. To facilitate attracting more nurses to pursue this degree, a need for understanding what motivates nurses to study and what, and how, barriers are formed can help Saudi nursing leaders make future plans.

Other studies exploring motivations and barriers have shown similar results to this study. For instance, a study by Richards and Potgieter (2010) showed their motivation factors were prospects of promotion and remuneration, assistance with working out a career pathway, funding assistance, role models who demonstrate the

value of career development, recent success in a study program, peer encouragement, encouragement from management, and a study skills course prior to commencement of a formal program. Their barriers were lack of funding, job responsibilities, conditions attached to the granting of study leave, lack of employer co-operation (e.g. funding), family and child care responsibilities, lack of coherent staff development plans by the institution, lack of a supportive work environment, and lack of opportunities for promotion.

A study done by Broussard and White (2013), examining the intention of Louisiana school nurses to pursue higher education in nursing, found the motivating factors were professional goals, job stability, increased salary, and opportunities for advancement. Alternatively, the most common barriers to pursuing higher education were cost of the program, lack of time due to family obligations, and scheduling conflicts. This study had another factor called positional resources, which identified resource factors for the student as online program delivery format, accelerated program, scholarships/ stipends/ tuition assistance to offset cost, flexible work schedule, and friend/colleague attending the program.

A study by Cathro (2011) identified factors that impact nurses' decisions to pursue graduate studies in nursing education. Their factors included offering more programs with a focus in nursing education, financial support, flexible program delivery options (including more online graduate programs), mentoring, and collaborations between employers and academic institutions.

Cardona (2013) investigated doctoral students' intrinsic and extrinsic motivational factors as a response to high rates of students' attrition and continuing to

delay doctoral education. The main results of this study were that students found increasingly difficult challenges to their motivation toward degree completion that included lack of funding, support, and potential employment after graduation.

Castro, Garcia, Cavazos and Castro (2011) studied experiences that led women to pursue a PhD, highlighting the following factors: effort and hard work, self-efficacy, personal abilities, attitude, beliefs, and motivation, effort and perseverance, and supportive factors.

In critically reviewing these findings, what appears to emerge is a fairly consistent set of motivation and barrier factors that influence the decisions of students, irrespective of nationality or geographical location. This study has shown that there are a number of Saudi-specific issues that are also extremely important in decision making.

Recommendations and Implications for Future Study

Recommendations

More research is needed on how, and when is the best time, to motivate Saudi nurses to study for a doctorate. Is it during the undergraduate study period, during the 1st and 2nd years of starting practice, since that is a requirement to be eligible for a scholarship, or is it during the study period for a master's degree? A better understanding of the necessity for more nurses in a country that is growing at a fast rate and has increasing expectations for access to high quality and safe healthcare is also needed. This will require work in both manpower planning and in nursing career development across the whole Saudi healthcare system. It would be timely to examine the career structure for nurses working in Saudi hospitals that might include, for example, opportunities for a research career in practice or administration. This could be seen as

complimenting the university education system that already requires the PhD as the entry-level point. More complex structural issues, such as the impact of pay differentials between university and practice settings also need to be examined in the context of motivating nurses to pursue higher education. Comparisons of motivations and barriers of Saudi nurses with other Arabic countries that have doctoral nursing degrees (for example, Jordon) are also needed in order to understand the impact of institutional barriers (such as traveling overseas to study).

In terms of methodology, a further qualitative study would be a good strategy to obtain more in-depth knowledge about motivations and barriers for doctoral students. Students who have lived through the experience would be able to give correct and valuable information, to those who are contemplating further studies. Are there a series of factors that 'trigger' the decision to pursue a doctoral degree or is the decision making process more orderly and structured based upon finances and family commitments?

Implications

This study has produced findings useful in directing Saudi nursing leaders to address motivations and barriers, as these factors have undoubtedly contributed to a serious shortage of nursing educators, which, in turn, has had a serious effect on the future supply of the nurse workforce in both education and practice roles. To establish and maintain an adequate nursing workforce, more nurse educators are needed in the immediate future.

A major issue is the need for a national workforce plan for the preparation of nurses, including not only practicing RNs but also future nurse educators. In Saudi Arabia, the expectation that all faculty must have a PhD is a bold one. A pipeline of

nurses must be created to ensure there are a sufficient number of doctoral prepared nurses available if one of the key aspects of 'Saudization' is to be realized. The need to decrease reliance on overseas nurses requires more Saudi nurses be educated which, in turn, requires more PhD prepared Saudi nurses.

The current system of supporting Saudi PhD education globally is a successful one, but the numbers of PhD holding nurses must be increased. The findings from this study may offer some guidance as to how this might be achieved. The qualitative data indicates the necessity to review the scholarship policy, particularly in regard to the length of scholarships. Three years is not long enough for students given that, in the US, full-time study can last five years or more. While there are opportunities for extending the length of scholarships, this process and the decision-waiting period are stressful.

Nursing Education

This study draws attention to the need for Saudi Arabian nursing schools to make more connections with well respected international nursing schools experienced in working with international students. Such arrangements can help facilitate the necessary English language education requirements for obtaining sponsorship for PhD studies. The study highlighted different barriers faced by nurses wanting to study for a doctorate, showing that female nurses have higher institutional barriers than male nurses. This outcome should alert female schools to consider opening doctoral programs in the very near future for those nurses who cannot travel overseas but are highly motivated to study for a doctorate. It also draws attention to the need for international institutions to increase opportunities for female Saudi nurses to study in, for example, the USA, specifically, with housing and transportation infrastructure. Saudi nursing schools need to

increase the numbers of undergraduates and create bridge programs for those with diploma degrees, which may increase their motivation to continue postgraduate and, eventually, doctoral studies.

Another suggestion for nursing education is to raise awareness of the nursing shortage among high school students to encourage a nursing career choice. This would help address the nursing shortage for both faculty and practice. Knowing the positive effect of motivation on the decision to study for a doctorate reinforces the need for workshops and conferences among Saudi nurses to highlight the need for, and impact of, doctoral prepared nurses in the field of nursing, organized by the Saudi Arabian nursing schools. Raising awareness would help undergraduate students understand the issue early on in their career, so they may start to consider working toward this degree. Nursing schools raising the issue of nursing faculty shortages would also help nurses in practice understand more about professional and career choices and further education.

Nursing Practice

The critical shortage of nursing faculty members directly affects the current Saudi nursing shortage. This study identified motivational factors that can help increase the number of faculty and, as a result, decrease the shortage of nurses in clinical areas which, in turn, can decrease nurse-patients ratios, ensuring patient safety and increasing patient care. Opening more nursing schools in the country would ultimately improve RN working conditions and workplace environments and help to decrease nursing turnover.

Nursing Research

Before this study, relatively little research in nursing had been conducted to look for what motivates or creates barriers for Saudi nurses to pursue a doctoral degree. Even

though the results of this study provide new insights into these motivations and barriers, additional studies are needed. More specifically, further research needs to done in the field of workforce development at a very fundamental level. An examination of the existing workforce in terms of where Saudi nurse are working and what influences that decision is required. It is increasingly important to understand what influences career choices and also plan for future retirements. Future studies will need to look at estimating the number of nurses needed to meet the aspiration of the Saudi nation. An understanding of this data and trends can lead to a better informed debate about how many PhD educated nurses are needed for self-sufficiency and how best to educate the next generation of scholars.

Conclusion

As the Saudi Arabian population grows, so grows the demand for nurses, and an understanding of the necessity for doctoral prepared nurses becomes essential. However, the pipeline to prepare Saudi nurses with this degree is significantly blocked by an inadequate number of nursing faculty and universities offering doctoral programs. This study identified motivators and barriers of Saudi nurses wanting to study for a doctoral degree in nursing and explored the reasons of those nurses who were not interested in studying for this degree in an effort to address the nursing shortage in Saudi Arabia. The findings from this study can be used not only as a blueprint for further research in this field but also as a catalyst for discussing policy issues surrounding the future of nursing in Saudi Arabia.

APPENDIX A

ORIGINAL INSTRUMENT OF KIMMEL, ET AL. 2012 MOTIVATIONS AND BARRIERS TO HIGHER EDUCATION FOR ONLINE LEARNERS QUESTIONNAIRE

Explanation

This is a questionnaire designed to assist institutions of higher learning in the development of policy and procedures for online and adult learners. It will take about 15 minutes to complete. Your participation is voluntary, confidential, and very important to the success of this project. You may refuse to complete the questionnaire at any point. Results will be aggregated and reported at group levels. At no time will individual responses be reported. The researchers thank you for your participation. If you have questions about the research or would like to receive a copy of the executive summary of the completed project, please write to: Dr. Sara B. Kimmel, 309 N. Canton Club Circle, Jackson, MS USA 39211.

Instructions

There are four sections of the questionnaire. Please complete all items. In the first section, titled *Demographics*, please mark the response that best describes you. In the second and third sections, titled *Motivations* and *Barriers*, please mark the response that best describes your level of agreement with the item listed in the far left column. Responses range from 'Strongly Disagree" to "Strongly Agree". If an item does not apply to you, please mark "Not Applicable." In the fourth section, titled *Additional Remarks*, please write any additional information that you feel would be helpful to the researchers.

Location

Please indicate the name of the institution where you are currently enrolled, your location, the level of degree you are seeking (Associate, Bachelor, Graduate), and your course of study (Accounting, Biology, Business, etc.)

1_____
2_____3_____

Name of Institution Location (City) Location (State)

4_____ 5_____
6_____

Level of degree you seek Course of Study Country in which you reside

PLEASE GO ON TO THE NEXT PAGE

ADULT LEARNERS' ENROLLMENT

Section 1: Demographics. Please mark the response that best describes you.

#	Item	1	2	3	4	5
7	Your Gender	Female _____	Male _____			
8	Your Age	24 or under _____	25-34 _____	35-44 _____	45-54 _____	55 or over _____
9	Your Race/Ethnicity	White _____	Black or African American _____	American Indian or Alaska Native _____	Asian _____	Other _____
10	How would you describe your total annual household income?	$0 – $24,999 _____	$25,000 - $49,999 _____	$50,000 – $74,999 _____	$75,000 – $99,999 _____	$100,000 and over _____
11	Are you of Hispanic or Latino origin and race?	Yes _____	No _____			
12	Do you have a child/children at home under the age of 12?	Yes _____	No _____			
13	Do you have a child/children at home between the ages of 12-18?	Yes _____	No _____			
14	Do you have a spouse who lives with you?	Yes _____	No _____			
15	Do you have other relatives who live with you?	Yes _____	No _____			
16	Do you have non-relatives who live with you?	Yes _____	No _____			
17	Did you apply to other institutions before selecting this one?	Yes _____	No _____			
18	Are you employed fulltime (40 hours or more each week)?	Yes _____	No _____			
19	Are you employed part-time (under 40 hours weekly)?	Yes _____	No _____			

PLEASE GO ON TO THE NEXT PAGE

Section 2: Motivators. Please mark your level of agreement with each of the following statements in your decision to enroll for the degree you are currently seeking. If the item does not apply to you, please mark "not applicable."

#	Item	1 Strongly disagree	2 Disagree	3 Agree	4 Strongly Agree	5 Not applicable
20	A desire for personal accomplishment motivated me to enroll.					
21	A desire to finish a degree that I began but did not complete earlier motivated me to enroll.					
22	A desire for knowledge/skills in this degree field motivated me to enroll.					
23	Reports that people with this degree have greater opportunity for advancement motivated me to enroll.					
24	The assurance of a pay increase at work motivated me to enroll.					
25	The assurance of a promotion at work motivated me to enroll.					
26	The need to keep my current job motivated me to enroll.					
27	The desire to begin a new career motivated me to enroll.					
28	Encouragement from my spouse or significant other motivated me to enroll.					
29	Encouragement from my children motivated me to enroll.					
30	Encouragement from my parent/s motivated me to enroll.					
31	Encouragement from my supervisor or employer motivated me to enroll.					
32	Encouragement from friends who have their degrees motivated me to enroll.					
33	A desire to be a role model for my children motivated me to enroll.					
34	A desire for more respect from my peers motivated me to enroll.					

PLEASE GO ON TO THE NEXT PAGE

Section 3: Barriers. Please mark your level of agreement with each of the following statements, in your decision to enroll in your current degree program. If the item does not apply to you, please mark "not applicable."

#	Item	1 Strongly disagree	2 Disagree	3 Agree	4 Strongly Agree	5 Not applicable
35	A lack of confidence in my ability was a barrier to my enrollment.					
36	Concern about attending school with younger or older students was a barrier to my enrollment.					
37	Lack of technological skills was a barrier to my enrollment.					
38	The lack of grants and scholarships for education was a barrier to my enrollment.					
39	The lack of personal funds to pay for college was a barrier to my enrollment.					
40	Concern about paying back student loans was a barrier to my enrollment.					
41	Discouragement by a spouse/significant other was a barrier to my enrollment.					
42	Discouragement by a parent/s was a barrier to my enrollment.					
43	Discouragement by my employer was a barrier to my enrollment.					
44	Time away from my job was a barrier to my enrollment.					
45	Time away from my family was a barrier to my enrollment.					
46	Lack of childcare for my minor child/children was a barrier to my enrollment.					
47	Lack of funds for childcare for my minor child/children was a barrier.					
48	My role as primary caregiver for an elder was a barrier.					
49	Lack of classes at a convenient time was a barrier to my enrollment.					
50	Lack of personal time was a barrier to my enrollment.					

PLEASE GO ON TO THE NEXT PAGE

Section 4: Additional Remarks

Are there additional motivations you had or barriers that you faced (or currently face) in your decision to enroll in college for the degree you currently seek? If so, please tell us in the space provided.

PLEASE STOP HERE. THANK YOU.

APPENDIX B

APPROVAL FOR USING AND MODIFYING THE INSTRUMENT

On Tue, Aug 26, 2014 at 6:09 AM, Abdualrahman Alshehri <abdualrahman.alshehri@yahoo.com> wrote: Hello Dr. Sara

I am an international student from Saudi Arabia studying for a PhD in nursing at UMass in Amherst, Massachusetts, USA. I would like to thank you and the other professors who participate in this study (Good Times to Hard Times: An Examination of Adult Learners. Enrollment from 2004-2010). I really like this study and would like to have your agreement to use your instrument and modify it because I am interested in looking at the motivation and barriers of Saudi nurses toward doctoral degree study in nursing. I would like to use your instrument in my study; may I have permission to use it? If yes, can you send it to me with the acceptance of modification. Thank you in advance for your help.

On Tuesday, August 26, 2014 6:00 PM, Sara Kimmel <kimmel@mc.edu> wrote:
Abdu,

We are honored that you would consider using the instrument. As I am the primary author of the instrument, I give you full authority to use it and adapt it as you need to. Please let me know the results of your research. I would be grateful if you would share that information when you are complete.

Date: Tue, 26 Aug 2014 08:31:25 -0700 [08/26/2014 11:31:25 AM EDT]

Hello Dr. Sara

Thank you for responding to my telephone call yesterday and also my email today. I have been pleased to talk to you and I really appreciate the kindness and the acceptance of my request. Certainly I will share with you the findings of my study and I will keep looking for your new publication. Thanks a lot.

APPENDIX C

MODIFIED QUESTIONNAIRE FOR MOTIVATIONS AND BARRIERS FOR SAUDI NURSES TOWARD A DOCTORAL DEGREE, PILOT STUDY

Explanation
This is a questionnaire designed to understand the motivations and barriers of Saudi nurses to studying a doctoral degree in nursing. The outcome will help the stakeholder to take action to improve nursing education in the country. Your participation is voluntary, confidential, and very important to the success of this project. You may refuse to complete the questionnaire at any point. Results will be aggregated and reported at group levels. At no time will individual responses be reported. The researchers thank you for your participation. If you have questions about the research or would like to receive a copy of the executive summary of the completed project, please email Abdualrahman Alshehry aalshehry@nursing.umass.edu

Instructions
There are four sections of the questionnaire. Please complete all items. In the first section, titled Demographics, please mark the response that best describes you.
In the second and third sections, titled Motivations and Barriers, please mark the response that best describes your level of agreement with the item listed in the far
left column. Responses range from 'Strongly Disagree" to "Strongly Agree". If an item does not apply to you, please mark "Not Applicable." In the fourth section,
titled Additional Remarks, please write any additional information that you feel would be helpful to the researchers.

Location
Please indicate the name of the institution, country, state/region (if in Saudi Arabia: Middle, south, east, west, north), place (City), If you are a current master student, expected date of graduation.

1_____
Name of Institution

2_____ 3_____
Country State for overseas students/region
For participants in SA (middle, south, east, west, north)

4_____
Place (City)

5_____ Expected date of graduation

6 _____ If you are a current master or doctoral student, enrolment date

PLEASE GO ON TO THE NEXT PAGE

Section 1: Demographics. Please mark the response that best describes you

≠	Item	1	2	3	4	5
7	Your Gender	Female	Male			
8	Your Age	24 or under	25-34	35-44	45-54	55 or over
9	Marital status	Single	Married	Divorced	Widow	
10	Nursing educational qualification	Bachelor	Diploma after bachelor	Master	Doctorate	
11	Professional status	Student nurse	Clinical nurse	Nurse manager	Faculty	Other
12	Sector	Government	Semi-government	Private		
13	Years of study or experience	1st or 2nd year	Thesis or internship	3-5 years	6-8 years	9 years
14	Family members	≤ 2	3-5	6-8	≥ 9	
15	Working family members	Father	Mother	Husband	Wife	Others
16	Type of work	Government	Semi-government	Private		
17	Average family income	≤ 4000	5000-7000	8000-10,000	11,000-13,000	≥ 14,000
18	Family members or relatives working as nurses	Yes	No			
19	Tribal Affiliation	Yes	No			

PLEASE GO ON TO THE NEXT PAGE

Section 2: Please mark your level of agreement with each of the following statements in your decision to enroll for doctoral degree.

If the item does not apply to you, please mark "not applicable."

#	Item	1 Strongly disagree	2 Disagree	3 Agree	4 Strongly Agree	5 Not applicable
20	A desire for personal accomplishment motivated me to enroll.					
21	A desire to finish a degree that I began but did not complete earlier motivated me to enroll.					
22	A desire for knowledge/skills in this degree field motivated me to enroll.					
23	Reports that people with this degree have greater opportunity for advancement motivated me to enroll.					
24	The assurance of a pay increase at work motivated me to enroll.					
25	The assurance of a promotion at work motivated me to enroll					
26	The need to keep my current job motivated me to enroll.					
27	The desire to begin a new career motivated me to enroll.					
28	Encouragement from my spouse or significant other motivated me to enroll.					
29	Encouragement from my children motivated me to enroll.					
30	Encouragement from my parent/s motivated me to enroll.					
31	Encouragement from my supervisor or employer motivated me to enroll.					
32	Encouragement from friends who have their degrees motivated me to enroll.					
33	A desire to be a role model for my children motivated me to enroll.					
34	A desire for more respect from my peers motivated me to enroll.					

PLEASE GO ON TO THE NEXT PAGE

Section 3: To the best of your ability, please answer the following questions:

35. For how long did you seriously consider studying for a doctoral degree?
_____ Months, _____ years

36. What was, or is, the single most important reason for returning to school for a doctoral degree?
_____
_____
_____
_____

37. Did any one person encourage you to continue your education?

Yes _____ No _____ If yes, what is the relationship of that person to you?
_____

38. Was there a single event that influenced your decision to consider/continue your doctoral degree in nursing?
Yes _____ No _____

39. If yes, what was that?
_____
_____
_____
_____

40. What was, or is, the most important barriers you face or are currently facing that may or will prevent you from returning to school for a doctoral degree?
_____
_____
_____
_____

41. Are there any other comments you would like to make?
_____
_____
_____
_____

PLEASE GO ON TO THE NEXT PAGE

Section 4: Please mark your level of agreement with each of the following statements, based on your decision to enroll in your current degree program.

If the item does not apply to you, please mark "not applicable."

#	Item	1 Strongly disagree	2 Disagree	3 Agree	4 Strongly Agree	5 Not applicable
42	A lack of confidence in my ability was a barrier to my enrollment.					
43	Concern about attending school with younger or older students was a barrier to my enrollment.					
44	Lack of technological skills was a barrier to my enrollment.					
45	The lack of grants and scholarships for education was a barrier to my enrollment.					
46	The lack of personal funds to pay for college was a barrier to my enrollment.					
47	Concern about paying back student loans was a barrier to my enrollment.					
48	Discouragement by a spouse/significant other was a barrier to my enrollment.					
49	Discouragement by a parent/s was a barrier to my enrollment.					
50	Discouragement by my employer was a barrier to my enrollment.					
51	Time away from my job was a barrier to my enrollment.					
52	Time away from my family was a barrier to my enrollment.					
53	Lack of childcare for my minor child/children was a barrier to my enrollment.					
54	Lack of funds for childcare for my minor child/children was a barrier.					
55	My role as primary caregiver for an elder was a barrier.					
56	Lack of classes at a convenient time was a barrier to my enrollment.					
57	Lack of personal time was a barrier to my enrollment.					

PLEASE GO ON TO THE NEXT PAGE

Section 5: Additional Remarks.

58. Are there additional motivations you had or barriers that you faced (or currently face) in your decision to study for a doctoral degree? If so, please tell us in the space provided.

PLEASE STOP HERE. THANK YOU.

APPENDIX D

INVITATION LETTER TO PARTICIPANTS

Dear Colleagues,

Thank you for participating in this study to identify the motivations and barriers of Saudi nurses who are currently working (practice or education setting) in Saudi Arabia and the Saudi nurses who are in the preparation phase/or have already started their master's or doctoral degree overseas. The study will determine: which motivators/barriers are 'strongest' in these groups and will look to see if there is any relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' with relation to situational barriers, institutional barriers, and dispositional barriers. It will also look for any relationship between these motivations and barriers in relation to gender.

The data for this study will be collected from nurses like you, either working in the practice or an education setting in Saudi Arabia or in the English preparation period that is required for any international students who are studying overseas or are already enrolled in a master's or doctoral program in any country other than Saudi Arabia.

Your decision to participate in this study is totally voluntary. You have the right to choose not to participate in the study or to withdraw at any time. There will be no consequence if you decide not to participate or withdraw from the study. Names will not be used in any way in the study. Data collected from the study will be described as group data only.

This questionnaire has five sections: (1) demographic information, (2) motivation and barriers factors that are highlighted in the literature, (3) open-ended questions regarding the motivations and barriers you faced or are currently facing when you consider returning for doctoral study, (4) additional motivation and barriers factors that are highlighted in the literature, (5) open-ended questions for any additional motivations and barriers you had or are currently facing.

Directions:

1. Read the consent on the webpage and by clicking accept, the page will take you to the second page where you need to choose your group (working in the practice, working in an education area, preparing for or already started the master's degree overseas, preparing for or already started the doctoral degree overseas).

2. Read each statement according to how each factor has or will affect your decision to return to study for a doctorate. Click the number on the scale that best reflects the influence of this factor to your situation.

3. Submit the complete the questionnaire and please, if you would consider including other participants, send the survey link to anyone you know with the same sample characteristics mentioned previously.

Thank you for giving the time to participate

APPENDIX E

REQUEST TO INVITE OTHER PARTICIPANTS (SNOWBALLING)

Dear Mr. / Ms. Saudi nurses in Saudi Arabia and USA,

Thank you for your interest to participate in the study of motivations and barriers of Saudi Nurses to study for a doctoral degree. I am writing to ask whether you would be willing to pass along the survey link to friends you know /or any Saudi student nursing organization in (Facebook, or WhatsApp) that you think may also be interested in participating in this research study. You are under no obligation to share this information and whether or not you share this information will not affect our relationship.

Thank you for your time and consideration.

Sincerely,

Abdualrahman Alshehry

Survey link

APPENDIX F

APPROVAL FOR THE STUDY AND DISTRIBUTION OF THE INSTRUMENT

Royal Embassy of Saudi Arabia
Cultural Mission To The U.S.A.

سفارة المملكة العربية السعودية
الملحقية الثقافية بالولايات المتحدة الأمريكية

December 29th, 2014

Dear Mr. AlShehri,

This letter is to inform you that we have received and reviewed your dissertation survey.

On behalf of the Saudi Arabian Cultural Mission to the USA, we are happy to inform you that your request has been approved and the Saudi Arabian Cultural Mission to the U.S. is willing to assist you in distributing your survey among the targeted audience.

Please coordinate with myself at malkhalaf@sacm.org and Mrs. Nehal Elrefia at nelrefia@sacm.org if you have any question regarding your survey.

Thank you and we wish you continued success on your future accomplishments.

Sincerely,

Dr. Mody Alkhalaf
Assistant Attaché for Cultural and Social Affairs
Cultural Mission of the Royal Embassy of Saudi Arabia
8500 Hilltop Road
Fairfax, VA 22031
Phone: 571-327-2555
Fax: 571-327-2761

8500 Hilltop Road • Fairfax, Virginia 22031 • (703) 573-7226 • (703) 573-2244 • Fax: (703) 573-2593
Web Site: www.sacm.org • E-Mail: sacmusa@sacm.org

APPENDIX G

EMAIL REMINDER FOR THE PILOT AND MAIN STUDY

Reminder for Alshehry study

Dear Nurse Colleagues,

Recently I invited you to participate in my study for the Motivations and Barriers for Saudi Nurses to Pursue a Doctoral Degree. I noticed that the response is very low. Therefore, I kindly ask you to spend just a few minutes filling out the survey and complete it in one time. I strongly asked you to do that to benefit the future doctoral students as well as our Saudi healthcare system. Thank you in advance for your time and effort.

Survey link:

https://umass.qualtrics.com/SE/?SID=SV_55UpSsxav8Qk8o5

Abdualrahman Alshehry

PhD(c) University of Massachusetts Amherst (UMass Amherst)

APPENDIX H

MODIFIED QUESTIONNAIRE FOR MOTIVATIONS AND BARRIERS FOR SAUDI NURSES TOWARD A DOCTORAL DEGREE, MAIN STUDY

Motivations and Barriers for Saudi Nurses to Return for a Doctoral Degree

Dear Colleagues,
Thank you for participating in this study to identify the motivational and barriers of Saudi nurses who are currently working in (practice or education setting) in Saudi Arabia and the Saudi nurses who are in the preparation phase/or already started them master or doctoral degree overseas. The study will determined: which motivators/barriers are 'strongest' in these groups and will look if there is relationship between those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it' with relation to situational barriers, institutional barriers, and dispositional barriers. It will also look for any relation between these motivations and barriers in relation to gender. The data for this study will be collected from nurses like you, either working in the practice or education setting in Saudi Arabia or in the English preparation period that required for any international students who are studying overseas or already enrolled in the master or doctoral program in any country rather than Saudi Arabia. Your decision to participate in this study is totally voluntary. You have the right to choose to not participate in the study or to withdraw at any time. There will be no consequence if you decide not to participate or withdraw from the study. Names will not be used in any way in the study. Data collected from the study will be described as group data only. This questionnaire has five sections: (1) demographic information, (2) motivation and barriers factors that are highlighted in the litterateur, (3) open-ended questions regarding the motivation and barriers you faced or currently facing when you consider return for doctoral study, (4) additional motivation and barriers factors that are highlighted in the litterateur, (5) open-ended question for any additional motivations and barriers you had or are currently facing.

Directions:
1. Read the consent in the web-page and by clicking accept, the page will take you to the second page were you need to choose your group (working in the practice, working in education area, preparing for or already started the master degree overseas, preparing for or already started the doctoral degree overseas).
2. Read each statement according to how each factor was or will affect your decision to return to study doctorate. Click the number of the scale that best reflects the influence of these factor to your case.
3. Submit the complete questionnaire.

Thank you for giving the time to participate.

Survey Consent Form

You are being invited to participate in a research study titled Motivations and Barriers for Saudi Nurses to Pursue a Doctoral Degree. This study is being done by Abdualrahman Alshehry from the University of Massachusetts, Amherst. You were selected to participate in this study because you have a bachelor or master degree in nursing and working in clinical practice in Saudi Arabia, you have a bachelor or master degree in nursing and working in nursing education school in Saudi Arabia in either a government or private college, or already enrolled in a master degree or doctoral degree outside of Saudi Arabia or still in the English preparation phase for these two degrees.

The purpose of this research study is to identify the motivators and barriers to Saudi nurses wanting a doctoral degree in nursing. The study will also explore the reasons of those nurses who are not interested in studying for this degree. If you agree to take part in this study, you will be asked to complete an online survey/questionnaire. This survey/questionnaire will ask about the perceived motivators and barriers to study for those who have decided to study for a doctorate and those who 'have not' or are 'thinking about it'? And it will take you approximately 15-20 minutes to complete.

You may not directly benefit from this research; however, we hope that your participation in the study may benefit future Saudi doctoral nurses since there is a clear understanding of some of the Saudi national, cultural, employment, and educational factors that may support or limit the number of nursing doctoral students.

We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach of confidentiality is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by securing the data in the researcher personal computer with additional secure password to the data file. The computer will be accessible only by the investigator and all data will be destroyed three to five years after dissemination of the findings.

Your participation in this study is completely voluntary and you can withdraw at any time. You are free to skip any question that you choose. If you have questions about this project or if you have a research-related problem, you may contact the researcher, Abdualrahman Alshehry at +1 (440) 749 2259. If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

By clicking "I agree" below you are indicating that you are at least 18 years old, have read and understood this consent form and agree to participate in this research study. Please print a copy of this page for your records.

☐ Agree

☐ Disagree

If Disagree Is Selected, Then Skip To End of Block

Select the group to which you belong

☐ RN with bachelor or master degree in the practical area
☐ Currently living in Saudi Arabia holding bachelor or master degree and working in nursing school
☐ Overseas Master student and / or in the English preparation phase
☐ Overseas Doctoral student and / or in the English preparation phase

Explanation:

This is a questionnaire designed to understand the motivations and barriers of Saudi nurses to study doctoral degree in nursing. The outcome will help the stakeholder to take an action to improve the nursing education in the country. Your participation is voluntary, confidential, and very important to the success of this project. You may refuse to complete the questionnaire at any point. Results will be aggregated and reported at group levels. At no time will individual responses be reported.

The researchers thank you for your participation. If you have questions about the research or would like to receive a copy of the executive summary of the completed project, please email Abdualrahman Alshehry aalshehry@nursing.umass.edu

Instructions:

There are four sections of the questionnaire. Please complete all items. In the first section, titled Demographics, please mark the response that best describes you. In the second and third sections, titled Motivations and Barriers, please mark the response that best describes your level of agreement with the item listed in the far left column. Responses range from 'Strongly Disagree" to "Strongly Agree". If an item does not apply to you, please mark "Not Applicable." In the fourth section, titled Additional Remarks, please write any additional information that you feel would be helpful to the researchers.

Location

Please indicate the name of the institution, country, state/region (if in Saudi Arabia: Middle, south, east, west, north), place (City), If you are a current master student, expected date of graduation.

1_____
Name of Institution

2_____ 3_____
Country State for overseas students/region
For participants in SA (middle, south, east, west, north)

4_____
Place (City)

5_____ Expected date of graduation

6 _____ If you are a current master or doctoral student, enrolment date

PLEASE GO ON TO THE NEXT PAGE

Section 1: Demographics. Please mark the response that best describes you

≠	Item	1	2	3	4	5
7	Your Gender	Female	Male			
8	Your Age	24 or under	25-34	35-44	45-54	55 or over
9	Marital status	Single	Married	Divorced	Widow	
10	Nursing educational qualification	Bachelor	Diploma after bachelor	Master	Doctorate	
11	Professional status	Student nurse	Clinical nurse	Nurse manager	Faculty	Other
12	Sector	Government	Semi-government	Private		
13	Years of study or experience	1st or 2nd year	Thesis or internship	3-5 years	6-8 years	9 years
14	Family members	≤ 2	3-5	6-8	≥ 9	
15	Working family members	Father	Mother	Husband	Wife	Others
16	Type of work	Government	Semi-government	Private		
17	Average family income	≤ 4000 SAR	5000-7000 SAR	8000-10,000 SAR	11,000-13,000 SAR	≥ 14,000 SAR
18	Family members or relatives working as nurses	Yes	No			
19	Preferred city for working in Saudi Arabia for the next 10 years from now					

PLEASE GO ON TO THE NEXT PAGE

Section 2: Please mark your level of agreement with each of the following statements in your decision to enroll for doctoral degree.

If the item does not apply to you, please mark "not applicable."

#	Item	1 Strongly disagree	2 Disagree	3 Agree	4 Strongly Agree	5 Not applicable
20	A desire for personal accomplishment motivated me to enroll.					
21	A desire to finish a degree that I began but did not complete earlier motivated me to enroll.					
22	A desire for knowledge/skills in this degree field motivated me to enroll.					
23	Reports that people with this degree have greater opportunity for advancement motivated me to enroll.					
24	The assurance of a pay increase at work motivated me to enroll.					
25	The assurance of a promotion at work motivated me to enroll					
26	The need to keep my current job motivated me to enroll.					
27	The desire to begin a new career motivated me to enroll.					
28	Encouragement from my spouse or significant other motivated me to enroll.					
29	Encouragement from my children motivated me to enroll.					
30	Encouragement from my parent/s motivated me to enroll.					
31	Encouragement from my supervisor or employer motivated me to enroll.					
32	Encouragement from friends who have their degrees motivated me to enroll.					
33	A desire to be a role model for my children motivated me to enroll.					
34	A desire for more respect from my peers motivated me to enroll.					

PLEASE GO ON TO THE NEXT PAGE

Section 3: To the best of your ability, please answer the following questions:

35. For how long did you seriously consider studying for a doctoral degree?
_____ Months, _____ years

36. What was, or is, the single most important reason for returning to school for a doctoral degree?

_____
_____
_____
_____

37. Did any one person encourage you to continue your education?

Yes _____ No _____ If yes, what is the relationship of that person to you?
_____

38. Was there a single event that influenced your decision to consider/continue your doctoral degree in nursing?
Yes _____ No _____

39. If yes, what was that?

_____
_____
_____
_____

40. What was, or is, the most important barriers you face or are currently facing that may or will prevent you from returning to school for a doctoral degree?

_____
_____
_____
_____

PLEASE GO ON TO THE NEXT PAGE

Section 4: Please mark your level of agreement with each of the following statements, based on your decision to enroll in your current degree program.

If the item does not apply to you, please mark "not applicable."

#	Item	1 Strongly disagree	2 Disagree	3 Agree	4 Strongly Agree	5 Not applicable
41	A lack of confidence in my ability was a barrier to my enrollment.					
42	Concern about attending school with younger or older students was a barrier to my enrollment.					
43	Lack of technological skills was a barrier to my enrollment.					
44	The lack of grants and scholarships for education was a barrier to my enrollment.					
45	The lack of personal funds to pay for college was a barrier to my enrollment.					
46	Concern about paying back student loans was a barrier to my enrollment.					
47	Discouragement by a spouse/significant other was a barrier to my enrollment.					
48	Discouragement by a parent/s was a barrier to my enrollment.					
49	Discouragement by my employer was a barrier to my enrollment.					
50	Time away from my job was a barrier to my enrollment.					
51	Time away from my family was a barrier to my enrollment.					
52	Lack of childcare for my minor child/children was a barrier to my enrollment.					
53	Lack of funds for childcare for my minor child/children was a barrier.					
54	My role as primary caregiver for an elder was a barrier.					
55	Lack of classes at a convenient time was a barrier to my enrollment.					
56	Lack of personal time was a barrier to my enrollment.					

PLEASE GO ON TO THE NEXT PAGE

Section 5: Additional Remarks.

57. Are there additional motivations you had or barriers that you faced (or currently face) in your decision to study for a doctoral degree? If so, please tell us in the space provided.

PLEASE STOP HERE. THANK YOU.

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