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**The Perceived Impact of International Educational Experience in
the United States on Saudi Respiratory Therapists**

Georgia State University

Hassan Yaseen AbuNurah

ACCEPTANCE

This thesis, The Perceived Impact of International Educational Experience in The United States on Saudi Respiratory Therapists by Hassan Abu Nurah, was prepared under the direction of the Master's Thesis Advisory Committee of the Respiratory Therapy department at Georgia State University. It is accepted by the committee in partial fulfillment of requirements for the Master's of Science degree in Respiratory Therapy at Byrdine F. Lewis School of Nursing and Health Professions, Georgia State University. The Master's Thesis Advisory Committee, as representatives of the faculty, certifies that this thesis has met all standards of excellence and scholarship as determined by the faculty.

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DEDICATION

First and above all, I thank and praise the Almighty God (Allah), for all of His endless blessings that He has bestowed upon me since the very first breath in my life. Thank You Allah!

My deepest gratitude goes to my loving parents whom I owe everything I am today, or I will ever be in the future. My dear parents, I am indebted to you forever, and I can not thank you enough.

I dedicate this thesis to the great woman in my life journey, Amnah Aljohani, my beautiful wife. Thousands of words can not describe my thanks for supporting me in all of my endeavors. I love you so much!

Special thanks to my loving siblings and the rest of my family for their unlimited care and love for their unlimited care. Thank you from the bottom of my heart!

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Hassan Abu Nurah

Spring 2016

The Perceived Impact of International Educational Experience in The United States on Saudi
Respiratory Therapists

By

Hassan Abu Nurah, BSRT, RRT-NPS

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Georgia State University

Atlanta, Georgia

2016

The Perceived Impact of International Educational Experience in The United States on Saudi Respiratory Therapists

By

Hassan Abu Nurah, BSRT, RRT-NPS

(Under the Advisement of Dr. Douglas S. Gardenhire)

ABSTRACT

BACKGROUND: Rapid changes in healthcare and science have enhanced the need for international educational experiences (IEE). Despite the importance of IEE in healthcare, there is a lack of literature in this area of research specifically relating to respiratory therapy. Therefore, it is important to assess the perceived impact of IEE in the United States on RT students in order to evaluate the need for developing international educational opportunities in the field of respiratory therapy. **PURPOSE:** The aim of this study was to assess Saudi RT international students' perception of the impact of IEE on their lives experiences. **METHODS:** Data were collected through a descriptive survey using a modified version of the international education survey (IES). The survey was emailed to all RT members of the Saudi Society for Respiratory Care (SSRC). Four main dimensions were assessed: Professional RT role, global understanding, personal development, and intellectual development. Excluded from the study were non-Saudi RTs and RTs with no IEE from the United States. **RESULTS:** Nineteen responses met the exclusion criteria of the study and were excluded. The total adjusted number of participants was sixty-two (n=62) out of (N=534) emailed surveys. The study response rate was 15.17%. Just over half of participants hold a graduate degree in RT while 48.4% hold an undergraduate degree in RT. Female participants accounted for 12.9% of all participants while male participants accounted for 87.1%. The study revealed that "professional RT role" was the most impacted area of IEE for RT undergraduate students (M 5.48, \pm 1.4). The study showed that "global understanding" was the most impacted area of IEE for graduate RT students (M 5.4, SD of \pm 0.84). The study findings showed that there is a moderately significant positive correlation between the duration of IEEs and the impact of RT professional role ($r=0.426$; $p=0.001$). Moreover, the study findings indicated that IEEs had a higher but insignificant influence on former international RT students' perceptions of impact than current students. **Conclusion:** IEE had a large overall impact on participant's lives experiences. The study findings support the value of promoting IEEs in the United States for RT students due to its perceived positive impact on internationalization of healthcare. Further studies with higher number of participants, different cultural backgrounds, and different IEE destinations is recommended.

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Chapter I

Introduction

Due to the considerable global variations in the challenges involved in managing respiratory diseases, expansion in international cooperation and collaborative research is essential in order to fill the gaps of required knowledge, practice and competencies to support global citizens with respiratory diseases in local contexts (McDonnell et al., 2015). The American Association for Respiratory Care (AARC) has sponsored a series of conferences named “2015 and Beyond”, and reached a majority consensus on the need to emphasize respiratory therapy (RT) education to meet expanding healthcare needs and demands. Sixty-three percent of baccalaureate RT programs include extended leadership roles, regulatory requirements of healthcare systems, and team collaboration as part of their curriculum (Barnes, 2011).

In its relatively short history, international education has developed various goals for society, institutions, and individuals. According to the Association for the Study of Higher Education (ASHE), international education has become an essential part of higher education for achieving critical learning outcomes (ASHE, 2012). Rapid changes in global education and science have enhanced the need to develop higher numbers of international educational opportunities (Zorn, 1996). The National League for Nursing Accreditation Commission (NLNAC) emphasizes the need for the mandatory inclusion of multicultural experiences in nursing schools to cover regional, national, or global diversity perspectives (NLNAC, 2008). Many researchers have reported the benefits and positive outcomes of international education for healthcare students, for example in nursing, medicine, and physiotherapy (Ruddock & Turner, 2007; Thompson, Boore, & Deeny, 2000; Pechak & Black, 2013; O’Donnell, McAuliffe & O’Donovan, 2014). However,

the outcomes of IEEs in respiratory therapy have not been adequately researched, despite the increasing recognition of the profession in many countries around the world.

The United States is considered to be a ‘melting pot’ of diverse cultures. Therefore, cultural competence has become a critical component of healthcare education (Duffy, 2001). Healthcare institutions regard quality of education as essential in meeting the need for culturally competent healthcare providers (Taylor et al., 2011). There has been an accelerating global upsurge in higher education towards internationalization due to an increase in scientific, economic, and political links and diversity (Allen & Ogilvie, 2004). Internationalization of higher education is defined as the process of integrating an international, intercultural, or global dimension into the purpose, functions or delivery of education and research (Knight, 2015; Green & Olson, 2003). Educational institutions have used a variety of international educational approaches, such as study abroad, international exchange programs, international practice experience and international health courses, which are all believed to widen the world’s capabilities in reducing health disparities locally and globally (Anderson, Buscher & Hodnicki, 2012; Drain, Holmes, Skeff, Hall & Gardner, 2009).

International RT education in Saudi Arabia started in the mid 1970s in a military hospital, which sponsored scholarships to train Saudis abroad in the USA. Since then, several universities and hospitals have introduced RT programs to meet increasing demand in healthcare. Many institutions seek scholarships for their staff in this field in the United States (Alotaibi, 2015).

Saudi-Arabian international education has grown dramatically since the introduction of the King Abdullah bin Abdulaziz Scholarship Program (KASP) in 2005. In the United States alone, the number of Saudi international students has risen from approximately 3,500 in 2005 to more

than 22,000 in 2010. KASP aims to help 50,000 Saudis graduate from the world's top 500 universities by 2020 (Clark, 2014).

The common benefits of IEEs have been reported and outlined in many different studies. These benefits include, but are not limited to, exposure to different healthcare systems, broadened scope of practices, cultural and personal competency development, improved communication skills, and enhanced professional knowledge (Pechak & Black, 2013; Smith & Curry, 2004). Other studies have revealed that several challenges and barriers may be encountered, including language difficulties, cultural differences and financial burdens (Pechak & Black, 2013).

Statement of Problem

Rapid changes in healthcare and science have enhanced the need for international educational experiences (IEEs). Research relating to a range of healthcare professions has reported the impact of international educational experiences on students. But despite the importance of international education in healthcare, there is a lack of literature in this area of research specifically relating to respiratory therapy. Therefore, it is important to assess the perceived impact of IEEs in the United States on RT students in order to evaluate the need for developing international educational opportunities in the field of respiratory therapy.

Purpose of the Study

The aim of this descriptive quantitative study is to help explore Saudi RT international students' perception of the impact of IEEs on their professional role as RTs, global understanding, personal and intellectual development. Moreover, this study also provides helpful insights as to whether there are differences in the perception of the impact based on age, gender, the degree of education, and length of time spent in the United States. The following research questions will be addressed in order to help guide the study:

1. What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the undergraduate level?
2. What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the graduate level?
3. What factors influence international Saudi RT students' perceptions of international education?
4. How do current and former international Saudi RT students view the impact of international education differently?

Significance of the Study

The significance of this study lies in its contribution to the impact of international education in the field of respiratory care. Given the large variations in international educational experiences among Saudi RT students in the United States, this study provides valuable insights into the future long-term effects shaping the respiratory care profession. The study results may also increase recognition of the impact of RT international education in the United States.

Definition of Terms

RT: Respiratory therapy

KASP: King Abdullah bin Abdulaziz Scholarship Program. The Program offers scholarship opportunities for Saudi students in various countries at different educational levels.

AARC: American Association for Respiratory Care

ASHE: Association for the Study of Higher Education

NLNAC: The National League for Nursing Accreditation Commission

IEE: International educational experience

Assumptions

The following assumptions are made in this study.

1. After exposure to international education, students may exhibit a higher level of professional, personal and intellectual development as they practice their professional career (Bosworth et al., 2006).
2. Exposure to different healthcare systems provides students with deeper comprehension of their patients' culture (Ramdass, 2015).

Limitations

The study uses different conclusions drawn from different participants' educational degree, the duration of their international experience, and educational programs, which may add to the significance of the study findings. However, the findings of this study cannot be generalized to all RT international education due to the use of only one destination of educational experience, the USA, and one cultural background, Saudi Arabia.

Chapter II

Review of the Literature

The following literature review consists of research that is focused on healthcare professions in terms of international education during the past three decades. Nursing education dominates the majority of published research about international education. Physiotherapy, pharmacy, occupational therapy, and medical education are also burgeoning fields in the sector of higher education. Although there is insufficient research in the area of respiratory therapy, a basic rationale may be drawn from an existing legacy of literature about the health sciences. Internet databases that were used for this review include: PubMed, EBSCOhost, Google Scholar, and CINHALL. The following keywords were used mutually: “international education,” “international experience,” “study abroad,” “international immersion,” “international placement,” “international partnership,” “scholarship,” “overseas education,” “nursing,” “pharmacy,” “occupational therapy,” “physiotherapy,” and “medicine”. The research findings showed numerous publications that revealed international education outcomes in various parts of the world based on different educational degrees and based on different healthcare professions, curriculums, and destination host countries.

This chapter is organized as follows: international education in nursing, international education in health sciences (physiotherapy, occupational therapy, and speech therapy), international education in medicine, international education in pharmacy, and international education in Saudi Arabia. The chapter concludes also with a summary of the literature reviewed.

International Education in Nursing

Nursing literature is replete with evidence that supports the view that international educational programs can play an important role in education and healthcare practice. Nurses are

encouraged to take part in the health globalization mission by widening their views about healthcare to include countries with different social, cultural, and political views (Carlton, Ryan, Ali, Kelsey, 2007; Haloburdo & Thompson, 1998). This mission aims to provide nursing students with the culture-competent image that is key in maintaining effective patient care (Locsin, 2000). On the other hand, Wimpenny, Gault, MacLennan, Boast-Bowen, Shepherd (2005) opposed local, traditional in-class teaching methods. They argued that in-class traditional learning is not sufficient for arming students with the knowledge and skills that are required to effectively function as culture-competent nurses. Therefore, if nurses have poor cultural sensitivity due to a lack of previous cross-cultural experience, this may result in an inappropriately fragile nurse-patient relationship (Thompson et al., 2000). Campinha-Bacote (1999) emphasized that enhancing good relationships with others from different cultural backgrounds requires an understanding and appreciation of their cultural values and lives.

Taylor et al. (2011) explored students' practical process of developing cultural competence in order to inform the development of teaching materials that prepare healthcare professionals to work in multi-cultural environments. The researcher engaged 118 participants from five different European countries; Belgium, Bulgaria, Germany, Romania, and the UK in an open questionnaire. Generally, participants expressed a need to develop a cultural experience in educational programs. This need is driven by people from other different cultures, and conveyed through a practical exposure to objective aspects of culture in order to help the development of cultural competence. This finding is also supported by Duffy (1999) who claims that creating an opportunity for students to live as foreigners in another culture increases their cultural sensitivity. Ruddock and Turner (2007) identified that the process of cultural sensitivity occurs in three stages. The first stage is the transition from one culture to another, which is characterized by cultural shock and adaptation

difficulties due to a change from the participants' familiar environment. The second stage involves adjusting to cultural differences, which is defined by acceptance and openness from the local citizens. However, interaction with students from their own culture as a time out from their host culture facilitated their adjustment to the new environment. The third stage is the development of cultural sensitivity and personal growth. This is enabled by an awareness and appreciation of one's own culture and having the positive attitudes of mutual respect and openness. It is believed that developing cultural competence is not an end point; rather, it is a lifelong process as the world is becoming more internationally diverse (Taylor et al., 2011).

Duffy (1999) investigated the impact of a 10-week exchange program between the USA and Finland in public health courses for nursing students. 17 participants provided feedback about their experiences by giving oral and written presentations. The findings showed that students were well prepared to provide multi-cultural care in the future. Students from both countries had the chance to observe and compare the outcomes of both types of preventive healthcare systems as they are related to the areas in which they intended to specialize. Similarly, in an earlier qualitative study (Beeman, 1991), 18 American undergraduate nursing students reported greater cultural awareness after their engagement in a four-week elective course in England. Furthermore, they developed more of an understanding of the role of nursing in terms of a broader global background. Cultural competency and personal development may also be enhanced by studying in developing countries (Haloburdo & Thompson, 1998). Maltby and Abrams (2009) examined the effect of a three-week international experience of seven American undergraduate senior nursing students in Bangladesh. The students' reflective journals were analyzed using a qualitative phenomenological design. Students were immersed in a non-nursing course in which they interviewed local people in small villages. As a result, students developed a better understanding of issues of different life

aspects such as poverty, issues in a low-income healthcare system and cultural differences by the experience of being minority individuals who experienced language and communication barriers. Besides, Thompson et al. (2000) reported that students who worked in developing countries had a significantly higher impact in terms of their intellectual development compared to students working in developed countries. Intellectual development in this study relates to the interest in reading materials as well as interests in learning new foreign languages. The author added that students who had travelled to developing countries found themselves more empathetic to their patients due to the fact that they experienced the same harshness of life as their hosts.

The relevant literature supports that participation in an international experience promotes personal and professional development (Lee, 2004; Thompson et al., 2000; Duffy, Farmer, Ravert & Huittinen, 2003). Mattila, Pitkäljärvi, and Eriksson (2010) investigated international clinical experience in order to ensure the maintenance of positive outcomes when a student's primary language is different than that of the working environment. Data was analyzed using inductive content analysis based on two themes: positive and negative experiences. The researchers found that acceptance of students in the work environment and their sense of belongingness to the team enhanced their independence in patient care and led to their positive experiences as being members of the community's healthcare, which may ultimately increase their professional growth.

Similarly, Lee (2004) conducted a case study to examine the impact of international experience on students who were studying a nursing diploma in the UK in terms of their personal and professional development after they participated in a new module (International Nursing and Healthcare) in various unspecified countries. The students believed that they had a deep reflection on their personal and professional development as a result of their experiences, which positively impacted their self-confidence. This impact may help them in their transition from being a student

to becoming a qualified nurse. Levine (2009) emphasized that broadening students' worldviews by allowing them to work in a different healthcare environment may break down barriers between guests and hosts, which may improve students' professional and personal development.

Zorn (1996) compared the impact of US students' long-term and short-term international educational placements in England, Denmark, Scotland, and Russia. Data was collected from 27 participants using the International Education Survey (IES) (Zorn, 1995). The survey measured four different dimensions using a seven-point Likert scale. All dimensions had a significant positive correlation ($P > 0.5$) with the length of duration of international placement experience. The ages of the participants are also significantly correlated with personal development ($P > 0.5$). Zorn concluded that longer international placement programs result in a positive, sustained impact on the students' professional role, international perspective, and personal and intellectual development, which constitute the survey four dimensions (Zorn, 1996). DeDee and Stewart (2003) and Smith and Curry (2009) replicated Zorn's (Zorn, 1996) quantitative study and utilized the IES questionnaire. The results of the studies reflected an overall, long-term, positive impact of international experience in all four dimensions of the survey. According to Smith and Curry (2009), the professional nursing role is the most impacted area of international education. However, the younger the person, the more significant is the impact of international experience (DeeDe & Stewart; 2003), which contradicts Zorn's findings (Zorn, 1996).

Although many international students excel in their academic studies, they may encounter adjustment difficulties during their time abroad. Adjustments that international students may face during their study abroad may include homesickness, emotional instability, financial problems, anxiety and stress, stereotyping, culture adaptation difficulties, and depression (Mori, 2000; Ward, 2001; Wang, 2008). Mattila et al. (2010) mentioned that lack of common language may be most

prevalent factor that contributed to a negative experience for some students. Other students reported that their human dignity was compromised in that students felt scared, humiliated, or “bad,” etc. during their clinical experience. For example, some patients refused to shake hands with students and some patients refused care provided by foreign students (Mattila et al., 2010)

Wang (2008) examined the barriers and difficulties facing 21 Taiwanese graduate nursing students who were studying in Australia. The participants’ duration of study varied between less than one year and more than two years. All 21 participants reported a range of difficulties and obstacles. Significantly, they commented that they experienced a number of difficulties shortly after arrival in the host countries. Language proficiency resulting in communication barriers was a major area for coping with both academic and social life. Specifically, students reported difficulties in reading and selecting relevant books for their assignments and an unfamiliarity with the library search systems. However, despite the obstacles that students face, they experience an adaptation process that may consequently enable them to overcome those barriers and develop cultural sensitivity (Dobrowolska et al., 2015).

International Education in Health Sciences (Physical Therapy, Occupational Therapy and Speech Therapy)

International physical therapy education offers a variety of opportunities that involve either international service learning (ISL) and international clinical education (ICE) (Pechak & Black, 2013). Due to the increased globalization of physical therapy, Fell and Kyoung (2012) highlighted the proposed benefits of the wide picture of international collaboration through a case report. International collaboration includes research, education and clinical practice. The researchers described international collaboration as an opportunity to gain international relationships, and to ignite an exchange of ideas of multiple minds working on the mutual objectives of educational

mission (Fell & Kyoung, 2012). International PT education not only positively impacted students but also the programs themselves. International PT education raised the recognition and appreciation of PT programs in their universities as models for international educational collaborations (Pechak & Black, 2013).

Pechak and Black (2013) investigated the benefits and challenges involved in international clinical PT experiences from the perspectives of US program faculties. An in-depth content analysis was used for data exploration. The participants were fifteen PT faculty members from different PT programs that incorporated ICE in their curriculums. The results showed common benefits including exposure to different healthcare systems, the challenge of practicing with limited resources, and the development of cultural competency (Pechak & Black, 2013). The participants also noted that students had an increased sense of global citizenship which contributed to their overall self-confidence. However, communication barriers remained a common challenge for the participating students. Moreover, the unaffordability of studying abroad was an overwhelming challenge for the students and it may hinder future students from participating in such valuable opportunities (Pechak & Black, 2013).

International clinical experience nurtures cultural development by promoting a borderless learning environment. It also promotes clinical proficiency through critical thinking and practice (Ng, Goddard, Gribble and Pickard, 2012). In a mixed quantitative and qualitative study, Ng et al. (2012) demonstrated the differences in cultural sensitivity pre- and post-international education. Seventeen participants from physiotherapy (PT), occupational therapy (OT), and speech therapy (ST) programs attended a four-week clinical program in India or China. Data was analyzed to measure cultural sensitivity using a paired sample *t* test and qualitative data was analyzed using a phenomenological approach. The results showed a significant increase ($P = 0.03$) in acceptance

and adaptation, which represent a higher level of accommodating other, more complex, cultural differences. However, the overall increase in cultural sensitivity was non-significant.

International education may provide students with the opportunity of a valuable self-reflective learning experience (Duffy, 1999; Wickford, 2014). Reflection is defined as “a cognitive and affective process or activity that (1) requires active engagement on the part of the individual; (2) is triggered by an unusual or perplexing situation or experience; (3) involves examining one’s own responses, beliefs, and premises in light of the situation at hand; and (4) results in integration of the new understanding into one’s experience” (Rogers, p. 41, 2001). Wickford (2014) explained a reflective framework that aimed to support the learning process for eight Swedish physiotherapy students who took part in international experiences in Thailand and Mexico. The researcher allowed the students to be part of the analytical process, which led a facilitation of the students’ reflective learning. The outcomes included personal and professional development and more cultural appreciation.

International educational experiences can be valuable and beneficial for all stakeholders. Three major outcomes have been highlighted: (1) collaborative learning, in which both students and teachers had a mutual learning experience; (2) adapting to cultural differences. For example, the students’ exposure to different views in healthcare (such as the definitions and perceptions of disability); and (3) the students’ chance to work independently (Simonelis, Njelesani, Novak, Kuzma & Cameron, 2011). Consequently, it is emphasized that the implementation of an international educational experience is critically a beneficial component of the occupational therapy curriculum (Simonelis et al., 2011).

In 1999, five institutions from different European countries implemented a post-graduate occupational therapy Master’s partnership program (OT-EuroMaster), which has sustained

academic excellence. The program requires students to study in the five affiliated countries (Denmark, the Netherlands, Sweden, Switzerland, and the UK) to enable qualified OTs to obtain a higher educational degree (Ilott et al., 2013). A case study was conducted to describe the factors that contributed successfully to the program sustainability. The researchers used a documentary analysis of 193 students from 31 countries who enrolled in the program between 1999 and 2011. Four interdependent factors are believed to contribute to the sustainability of the program. First, the program is supported by and embedded in two large international networks (the Council of Occupational Therapists for the European Countries (COTEC) and the European Network for Occupational Therapists in Higher Education (ENOTHE). Second, European higher education encourages internationalization and the transfer of knowledge, students, faculties, and research across the globe. Third, the program is highly structured and organized with shared values and visions between the programs. Finally, there is general satisfaction with the internationalization outcomes of the program. Ultimately, the program aims to expand the work to doctoral network collaborations (Ilott et al., 2013).

International Education in Medicine

Medical school graduation data reported by the Association of American Medical Colleges shows that 5.8% of US medical students reported participating in an international elective in 1982, compared to 31.2% in 2015 (AAMC, 2015). Studies have shown that students are attracted to such experiences to increase their opportunities of recruitment. Students usually prefer programs that offer them a cross-cultural experience (Mutchnick, Moyer, & Stern, 2003).

Godkin and Savageau (2001) compared medical students' cultural competence in terms of pre-clinical elective track participants (the Global Multi-culturalism Track) (n=26) with their peers who were non-track participants (n=104). The researchers hypothesized that track-participant

students showed a higher level of cultural competence than those who were non-track participants. A self-assessment questionnaire using a five-point Likert scale was administered to both groups at the beginning and at the end of their two pre-clinical years. The results revealed that track participants had a higher level of cultural competence. They showed a higher tolerance and acceptance of other cultures, they had greater sensitivity to foreign language issues. This development of cultural competence is nurtured through comfort of working in multi-cultural environments and gaining more cultural knowledge. Non-Track students expected their patients to speak English, whereas Track students achieved a higher level of communication in learning a second language.

O'Donnell et al. (2014) interviewed Irish medical students who completed international health electives in developing countries. Students' benefits of international study included learning about new cultures and how healthcare systems function in poor income countries and improvement in their communication and clinical skills. Although the students had varying roles in their responsibilities, almost all students agreed that they would not take on an impromptu role that would be beyond their responsibilities and may cause harm to their patients. Bissonette and Route (1994) added that students who practiced in developing countries reported a decrease in their reliance on new diagnostic technology and they had more awareness of healthcare costs. However, students may be emotionally affected and may struggle to deal with some ethical and political health issues in their host country (O'Donnell et al., 2014).

International Education in Pharmacy:

In 2007, a survey of American Association of Colleges of Pharmacy institutional members revealed that nearly quarter of institutions had an active international program, with approximately 2/3 of them having formal agreements with foreign institutions (Audus et al., 2010). In addition,

an overwhelming majority of the total respondents indicated an intention to increase their level of international educational collaborations in the future.

There is a strong, high correlation between students who have a high interest in studying abroad and have a personal desire to improve their cultural sensitivity, involvement in a diverse environment, and racial understanding ($P = 0.001$) (Owen et al., 2013). However, the unaffordability of study abroad was the heaviest burden mentioned by students who were not interested in travelling abroad in the study. Therefore, schools and colleges should take into consideration financial assistance and support for students to effectively optimize global health and internationalization (Owen et al., 2013).

Learning via knowledge exchange between students and their colleagues in host countries about the variations in healthcare systems in the US and other countries can be beneficial in terms of providing mutual insights about alternative healthcare delivery approaches. Nevertheless, international experience moves pharmacists out of their comfort zone and helps them foster adaptation skills and it exposes them to unfamiliar environments; such as different treatment guidelines, protocols, and medications that are unavailable in the US (Covvey, 2014).

Gourley, Vaidya, Hufstader, Ray and Chisholm-Burns (2013) reported the experiences of pharmacy students who took part in an elective international program for over 20 years in the University of Tennessee College of Pharmacy. The study provided a brief description of the program goals: (1) to experience a different healthcare system; (2) to explore different cultures; (3) to identify similarities between the healthcare issues of the US and the host countries; (4) to identify how challenges are dealt with by the healthcare system in the host countries; (5) to promote acceptance of new solutions of healthcare issues; and (6) to impress on the students that healthcare issues can be resolved based on different factors such as culture, resources, and education. Students

responded that the program positively impacted their personal and professional lives in terms of the roles of pharmacists around the world.

International Education in Saudi Arabia

Researchers believe that international learning has served a significant role in Saudi education (Yusuf, 2014). The government established the KASP, which was started in 2005. Upon acceptance onto the program, students can pursue their degrees by choosing one of 24 countries around the world to continue their studies. North America, UK, and Australia are the most appealing destinations for Saudis to study abroad (Hilal, 2015). Disciplines include health sciences, engineering, computer science, law, etc. in different educational degrees including Bachelor's, Master's, and doctoral studies and medical fellowship. However, students are obligated to return back to Saudi Arabia after graduation (Alfawaz, Hilal & Alghannam, 2014)

Hilal (2015) surveyed 616 Saudi recipients of scholarships for studying abroad. The survey showed that students do not only benefit from a quality education, but they also become developed global citizens with international qualifications that may result in higher living standards. The Saudi educational system emphasizes English as an international language because it plays an important role in the country's institutions and in international co-operation, this emphasis is apparent that 95% of the respondents are studying in English speaking countries. (Liton, 2012). So, it is not surprising that 74% of the surveyed students indicated that learning a different language was a primary motivation for studying abroad. Saudi students seem to deny that studying abroad will impact their Islamic and cultural identity. However, the results are inconclusive when the question was asked about the overall cultural identity of individuals. This split in findings is interesting for additional explanatory research in order to understand Saudi students' studying abroad outcomes (Hilal, 2015).

International RT education in Saudi Arabia began in the 1970s when a military hospital sponsored Saudis to study abroad in the USA and return back to Saudi Arabia after the completion of their degrees (Alotaibi, 2015). Many institutions have demanded to meet the increasing need of RTs in healthcare and education. Therefore, many hospitals and universities seek scholarships for their staff to study in the US (Alotaibi, 2015).

Summary

In the previous review, it was clear that international education has served a crucial component in professional healthcare education. Educational institutions are increasingly pressured to provide students with opportunities to participate in healthcare and education in other countries at different educational levels (ASHE, 2012; NLNAC, 2008). Professional growth, cultural competence, and personal development are all positive outcomes of international education. However, there are some difficulties in adaptation due to several factors – these factors may turn out to be positive as part of the students’ educational journey (Dobrowolska et al., 2015). International educational experience in RT remains unexamined. Therefore, the author believes that exploring the outcomes of RT international education would be beneficial in understanding the roles of cross-cultural experiences in RT and may provide insights for future international educational collaboration.

Chapter III

Methodology

In this study, the researcher will explore how a group of current and former international respiratory therapy (RT) students (undergraduates and graduates) from the Kingdom of Saudi Arabia perceive the impact of international education on their professional role as respiratory therapists, global understanding, personal development, and intellectual development.

The committee members met and discussed every element of the instrument and finalized a survey of twenty-seven questions (see appendix A). To gather data for this study, an online survey was emailed by the Saudi Society for Respiratory Care (SSRC) to all its registered members. Participants' responses were filtered based on the study inclusion and exclusion criteria. This chapter is organized to describe the methods and procedures that were utilized to conduct this study.

Research Questions

The study set out to answer the following questions:

1. What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the undergraduate level?
2. What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the graduate level?
3. What factors influence international Saudi RT students' perceptions of international education?
4. How do current and former international Saudi RT students view the impact of international education differently?

Instrumentation

The instrument used for this descriptive study was the International Education Survey (IES) developed by Zorn (1996). Thus, it was necessary to obtain the author's permission to allow use, modify, and edit the survey to best fit our study. After the author's permission had been granted, a panel of respiratory therapy education experts consisting of The Director of respiratory Therapy Program, The Director of Clinical Education, and an assistant clinical professor applied a modified Q-sort method. A Q-sort method has each member on the panel "sort" each question into piles for categorization (Block, 1961).

Validity describes the extent to which an instrument measures what it is supposed to measure (Portney & Watkins, 2008). The panel of respiratory therapy education experts and the researcher met to discuss the instrument thoroughly, and apply content validity. From this meeting, the committee agreed on the elimination of two unclear items. The rest of twenty-seven items were carefully reviewed, reworded and formatted for better clarity.

Reliability describes a measurement extent of consistency and freedom of errors. A reliable instrument is one that will give consistent and predictable measurements over certain conditions (Portney & Watkins, 2008). Internal consistency had previously been established using alpha reliability coefficient of twenty-nine items in the original study, which was measured at 0.97 and varied between 0.8 and 0.94 for the four sub-scales (Zorn, 1996).

The finalized instrument for this study consisted of two sections, demographic data and the survey. Section I, the demographic section consisted of fill in the blank and multiple choice questions regarding age, gender, nationality, age at the time of IEE, amount of time spent in IEE, highest level of respiratory therapy education in the United States, and highest completed overall level of international education in the United States. Section II, the survey adapted from the (IES)

designed according to a seven-point Likert scale format (1 being the lowest and 7 being the highest). The survey focused on measuring four different dimensions of measuring the perceptions of respiratory therapy international education impact in the United States for Saudi respiratory therapy students. These dimensions were: professional role as a respiratory therapist (six questions), global understanding (ten questions), personal development (seven questions), and intellectual development (four questions). The instrument can be found in appendix A.

Research Design

The study will use a descriptive exploratory design with a self-reporting survey. A survey is the most popular type of descriptive research in which it involves gathering data using questions and/or interviews (Brown, 2009). The survey was designed to elicit data from Saudi Arabian respiratory therapists who received RT international education in the U.S and how they perceived the impact of IEEs on their professional, personal, intellectual, and global understanding development. Collecting large amounts of data from many participants using only one instrument is one of the advantages of using survey research (Portney & Watkins, 2008). Cost effectiveness is also another advantage of using survey research, as most survey research utilize electronic technologies in order to reach larger numbers of participants.

Sample

A nonprobability convenient sample will be used in which subjects were chosen on the basis of availability. The study group was drawn from the members of the Saudi Society for Respiratory Care (SSRC). The SSRC is a scientific non-profit organization that aims to develop and support the profession of respiratory therapy in Saudi Arabia through sponsorship of scientific activities throughout all regions of the kingdom (SSRC, 2015). Permission is granted by the SSRC to survey all members in its database using electronic approach. The participants will be provided

with a cover letter informing them about the purpose of the study and assuring them of confidentiality.

In order to be specific in answering the research questions, Saudi respiratory therapists who identified the United States as their destination country of receiving their respiratory therapy international education will be included in the study. Excluded from the study will be non-Saudi respiratory therapists, Saudi respiratory therapists with no IEE, and Saudi respiratory therapists with an IEE that did not involve respiratory therapy education in the United States.

Data Analysis

Data will be entered into the statistical program of Statistical Package for the Social Sciences (SPSS) version 22. Descriptive statistics will be used to measure mean scores and standard deviations for each survey dimension and the cumulative overall mean scores for all four survey dimensions. Frequency and percentage will be used to identify variations in the demographic data of the sample. Spearman’s rank correlation coefficients will be used to identify relationships between variables. The magnitude of correlations between variables will be interpreted using Davis conventions (Davis, 1970). Independent sample *t* test will be used to measure the differences between mean scores of students’ responses to the four different survey impact areas.

Coefficient	Description
.70 or higher	Very strong association
.50 to .69	Substantial association
.30 to .49	Moderate association
.10 to .29	Low association
0.01 to 0.09	Negligible association

Protection of Human Subjects

The study proposal will be submitted to Georgia State University Institutional Review Board (IRB) for expedited approval. Strategies for protection of human subjects were strictly implemented. Study participation will be voluntary with consent assumed on return of a completed survey. Confidentiality was also protected and surveys were anonymous. In addition, using an online survey approach meant that participation did not have to use email to submit the participants' responses, thus avoiding indirect identification. After all data are analyzed, all surveys will be deleted.

Development of a Cover Letter

The researcher developed a cover letter after examining former published survey examples (Portny & Watkins, 2008). The cover letter was sent to the thesis chair for further review and examination. The final cover letter and follow-up emails can be found in appendixes B, C, and D respectively.

Chapter IV

Results

The purpose of this study was to evaluate international Saudi undergraduate and graduate respiratory therapy (RT) students' perceptions of the impact of international education on their development and life experiences. The study aimed to explore different demographic factors that might be associated with students' perceptions. Moreover, it looked for differences between current and former students in how they perceive the impact of international education.

Research Questions

The study intended to answer the following research questions:

1. What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the undergraduate level?
2. What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the graduate level?
3. What factors influence international Saudi RT students' perceptions of international education?
4. How do current and former international Saudi RT students view the impact of international education differently?

Demographic Findings

The study included a convenient sample of registered members of the Saudi Society for Respiratory Care (SSRC). The sample consisted of Saudi RT international students with current and/or previous experience of international education in RT from the US. Eighty-one responses were received out of 534 emailed surveys, resulting in a response rate of 15.17%. Nineteen participants did not have an international education in RT from the US and were excluded for not

meeting the inclusion criteria for the study, which reduced the total number of participants to (n=62). Additionally, RT graduate degree students (MS) accounted for 51.6% (n=32) of the participants, while 48.4% (n=30) were RT undergraduate degree (BS and AS) students. Meanwhile, the participants' highest overall levels of education in the US, which may or may not include RT education, were as follows: AS n=1 (1.6%), BS n=22 (35.5%), MS n=35 (56.5%), Doctorate n=2 (3.2%), and MD n=1 (1.6%). One participant (1.6%) did not submit a response for overall level of education. However, this response was not excluded from the study since it does not affect the findings of the research questions.

The majority (87.1%, n=54) of the participants were male while female participants only accounted for 12.9% (n=8). Males totaled 51.9% (n=28) in the graduate students group and 48.1% (n=26) in the undergraduate group, while the number of females was split equally between both graduate and undergraduate groups (n=4) 50%.

Mean age score and standard deviation (SD) were slightly higher for undergraduate students (M 32, SD \pm 6.9) than for graduate students (M 30, SD \pm 5.2). Moreover, mean age score and SD for graduate and undergraduate students when they started RT international education in the US were (25.7, \pm 2.8) and (25.1, \pm 3.7) respectively. In addition, mean score and SD for graduate and undergraduates' time spent in international education in the US were (3, \pm 1.6) and (3.2, \pm 1.1) respectively (See table 1 for study demographic data).

Missing data

One participant did not state his overall level of education in the US. Also, three participants did not report duration of time spent in international education in the US. Their data was kept since this did not affect the findings of the first three research questions. However, their data was not

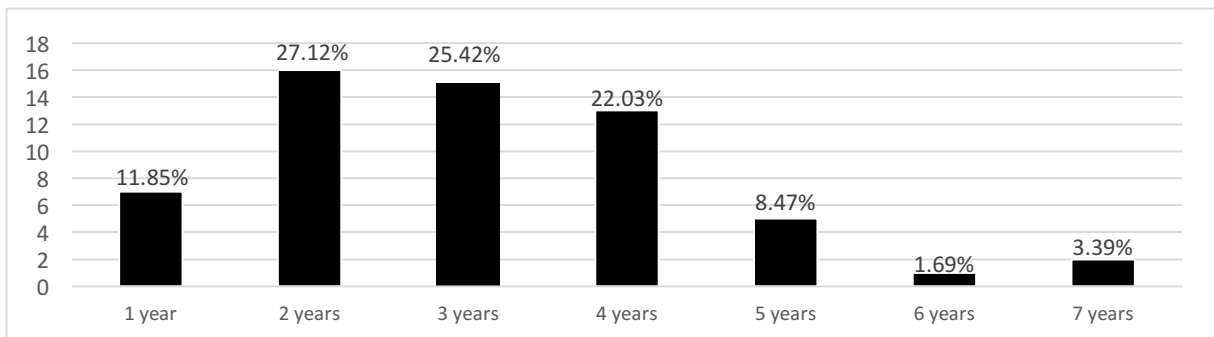
used to answer the fourth research question due to the absence of an important element in the formula used for categorizing participants into current or former students.

Table1. Demographic Data of Undergraduate and Graduate Degree Respiratory Therapy Students (N)=62

Demographics	M, ±SD or (%)	
	Graduate n=32	Undergraduate n=30
Current age (yrs)	30.0±5.2	32.0±6.9
Age of students when they started international education (yrs)	25.7±2.8	25.1±3.7
Male	n=28 (51.9%)	n=26 (48.1%)
Female	n=4 (50%)	n=4 (50%)
Length of international education (yrs) (n=59)	3.0±1.6	3.2±1.1
Education level	51.6%	48.4%

The duration of time spent in RT international education in the US ranged from one to seven years. As shown in Figure 1, the majority of students spent two years in the US n=16 (27.12%). n=15 of the students spent three years in the US (25.42%), while n=13 (22.03%) spent four years there. Meanwhile, (11.86%) n=7 of the students spent one year in the US. n=5 students (8.47%) spent five years and two students (3.39%) spent seven years. Lastly, one student (1.69%) spent six years in international education.

Figure 1. Length of time spent in RT international education in the US



Findings Related to Research Question 1

The first research question asked “What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the undergraduate level?”. Mean and SD were calculated and tabulated for each dimension in the survey. Table 2 breaks down survey responses to “professional role as a respiratory therapist”, which was the most impacted area according to undergraduate students, with a total mean score of $M = 5.48$ and standard deviation of $(SD \pm 1.4)$. Table 2 breaks down international undergraduate RT students’ responses for “Professional role as RT” ranked by items from highest to lowest mean scores.

Table 2. Breakdown of international undergraduate RT students’ survey responses for “Professional role as RT” impact area (n=30)

To what degree has your US international education experience as a student in a respiratory therapy program...		Mean	Std. Deviation
No.	Item		
5	...enhanced your progress as a professional RT?	5.6	1.37
2	...been relevant to your professional career?	5.6	1.44
3	...enhanced your effectiveness as a professional RT?	5.6	1.57
4	...improved your efficiency as a professional RT?	5.5	1.57
6	...enhanced your practice as a professional RT?	5.3	1.65
1	...had a long-term impact on your practice as a professional RT?	5.25	1.73
	Overall mean score for “Professional role as RT”	5.48	1.4

Table 2 shows that undergraduate participants believed that IEEs in the US had the highest impact on their progress and effectiveness as professional RTs. Moreover, their IEEs had great relevance to their professional careers.

Findings Related to Research Question 2

The second research question asked “What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the graduate level?” “Global understanding” is perceived to be the most impacted area by graduate students, with a mean score of $M = 5.4$ and a standard deviation of $(SD \pm 0.48)$. Table 3 breaks down international graduate RT students’ responses for “global understanding” ranked by items from with highest to lowest mean scores.

**Table 3. Breakdown of international graduate RT students’ survey responses for “Global understanding” ranked from highest to lowest mean scores.
(n=32)**

To what degree has your US international education experience as a student in a respiratory therapy program...		Mean	Std. Deviation
No.	Item		
7	...enhanced your travel or study abroad since graduation?	5.75	1.0
10	...made you more likely to encourage college students to participate in international education?	5.7	1.1
2	...enhanced your understanding of the US culture?	5.6	1.1
8	...facilitated an international or intercultural dimension in your work activities?	5.5	1.0
5	...enhanced your discussion with other people about international and transcultural issues?	5.4	1.1
4	...influenced your understanding of respiratory therapy and healthcare in other countries ?	5.2	1.4
9	...increased the likelihood that you would practice RT in another country?	5.15	1.5
6	...enhanced your interaction with people from other cultures?	5.1	1.45
3	...enhanced your understanding of US politics?	5.0	1.4
1	...shaped and influenced how you evaluate world issues?	5.0	1.2
Overall mean score for “global understanding”		5.4	0.84

As shown in Table 3, graduate students believed that their IEEs had largely enhanced their travel or study abroad since graduation. Moreover, IEEs had impacted them in terms of encouraging college students to participate in international education.

Other Findings Related to Research Questions 1 & 2

This section shows the remaining students’ responses for the four survey impact areas: “Professional role as RT,” “Global understanding,” “Personal development,” and “Intellectual development.” Tables 4, 5, 6 and 7 break down students’ survey responses ranked by items from highest to lowest mean scores.

Table 4. Breakdown of international graduate RT students’ survey responses for “Professional role as RT” impact area. (n=32)

To what degree has your US international education experience as a student in a respiratory therapy program...		Mean	Std. Deviation
No.	Item		
5	...enhanced your progress as a professional RT?	5.7	1
2	...been relevant to your professional career?	5.4	1.2
3	...enhanced your effectiveness as a professional RT?	5.3	1.2
4	...improved your efficiency as a professional RT?	5.3	1.3
6	...enhanced your practice as a professional RT?	5.1	1.45
1	...had a long-term impact on your practice as a professional RT?	4.8	1.4
Overall mean score for “professional role as an RT”		5.25	1

Similar to graduate students, undergraduate students believed that IEEs in the US had the highest impact on their progress and effectiveness as professional RTs. Moreover, their IEEs had great relevance to their professional careers (See table 4).

**Table 5. Breakdown of international undergraduate RT students’ survey responses for
“Global understanding” impact area
(n=30)**

To what degree has your US international education experience as a student in a respiratory therapy program...		Mean	Std. Deviation
No.	Item		
10	...made you more likely to encourage college students to participate in international education?	5.8	1.5
2	...enhanced your understanding of the US culture?	5.7	1.4
8	...facilitated an international or intercultural dimension in your work activities?	5.6	1.4
7	...enhanced your travel or study abroad since graduation?	5.55	1.7
6	...enhanced your interaction with people from other cultures?	5.4	1.6
4	...influenced your understanding of respiratory therapy and healthcare in other countries ?	5.2	1.6
5	...enhanced your discussion with other people about international and transcultural issues?	5.2	1.6
1	...shaped and influenced how you evaluate world issues?	5.1	1.4
3	...enhanced your understanding of US politics?	5.1	1.7
9	...increased the likelihood that you would practice RT in another country?	4.9	2
Overall mean score for “global understanding”		5.3	1.7

As shown in Table 5, undergraduate students believed that IEEs had impacted them in terms of encouraging college students to participate in international education. Students also believed that their IEEs had largely enhanced their understanding of the US culture.

Table 6. Breakdown of international graduate RT students’ responses for “personal development” impact area (n=32)

To what degree has your US international education experience as a student in a respiratory therapy program...		Mean	Std. Deviation
No.	Item		
4	...influenced career decisions you have made since graduation?	5.45	1.1
7	...contributed to your level of self-confidence?	5.3	1.5
5	...facilitated your volunteer activities?	5.2	1.2
2	...affected your family decisions (spouse, parenting, living arrangements, etc.)?	5.2	1.5
3	...enhanced your social relationships (friends, family, neighbors)?	5.2	1.6
1	...made you reassess your view of your future life in Saudi Arabia?	5.1	1.6
6	...influenced your religious activities?	4.6	1.6
Overall mean score for “personal development”		5.2	1

As shown in Table 6, graduate students believe that their IEEs had greatest impact on influencing their career decisions since graduation. Moreover, graduate students feel that IEEs had contributed to their self-confidence.

Table 7. Breakdown of international undergraduate RT students’ responses for “personal development” impact area (n=30)

To what degree has your US international education experience as a student in a respiratory therapy program...		Mean	Std. Deviation
No.	Item		
3	...enhanced your social relationships (friends, family, neighbors)?	5.6	1.5
1	...made you reassess your view of your future life in Saudi Arabia?	5.4	1.6
4	...influenced career decisions you have made since graduation?	5.3	1.7
2	...affected your family decisions (spouse, parenting, living arrangements, etc.)?	5.1	1.6
5	...facilitated your volunteer activities?	5.1	2
7	...contributed to your level of self-confidence?	5.2	1.8
6	...influenced your religious activities?	4.4	1.95
Overall mean score for “personal development”		5.2	1.4

As shown in table 7, undergraduate students feel that IEEs had the greatest impact on enhancing their social relationships with their families, friends, and neighbors. Furthermore, table 6 and 7 shows that students had equal overall perceptions of the impact of international education on their personal development, with a mean score of 5.2, and SDs of ± 1 and ± 1.4 , for graduate and undergraduate students respectively. However, responses to “influence your religious activities?” had the lowest mean score throughout the entire survey for both graduate and undergraduate students.

**Table 8. Breakdown of international graduate RT students’ responses for “intellectual development” impact area
(n=32)**

To what degree has your US international education experience as a student in a respiratory therapy program...		Mean	Std. Deviation
No.	Item		
2	...enhanced your ability to speak/read languages other than Arabic?	5.5	1.1
1	...enhanced your selection of reading materials?	5.45	1.1
3	...enhanced your intellectual development?	5.4	1.1
4	...enhanced your motivation and/or ability to learn a foreign language other than English after returning to Saudi Arabia?	4.75	1.4
Overall mean score for “Intellectual development”		5.3	0.9

As presented in table 8, graduate students believe that international education had the greatest impact on enhancing their ability to read and speak languages other than Arabic.

**Table 9. Breakdown of international undergraduate RT students’ responses for “intellectual development” impact area.
(n=30)**

To what degree has your US international education experience as a student in a respiratory therapy program...		Mean	Std. Deviation
No.	Item		
3	...enhanced your intellectual development?	5.5	1.5
2	...enhanced your ability to speak/read languages other than Arabic?	5.4	1.8
1	...enhanced your selection of reading materials?	5.3	1.5
4	...enhanced your motivation and/or ability to learn a foreign language other than English after returning to Saudi Arabia?	4.75	2
Overall mean score for “Intellectual development”		5.2	1.4

In table 9, undergraduate students believe that international education had the greatest impact on their intellectual development. Nonetheless, graduate and undergraduate student groups both believed that international education had the lowest impact on enhancing their motivation to learn a foreign language other than English after returning to Saudi Arabia.

Findings Related to Research Question 3

The third research question asked, “What factors influence international Saudi RT students’ perceptions of international education?” There is a significant, moderately positive correlation between the duration of time spent in international education and the students’ perceptions of international education’s impact on their professional roles as respiratory therapists ($r=0.426$; $p=0.001$), according to Davis conventions (Davis, 1970).

Findings Related to Research Question 4

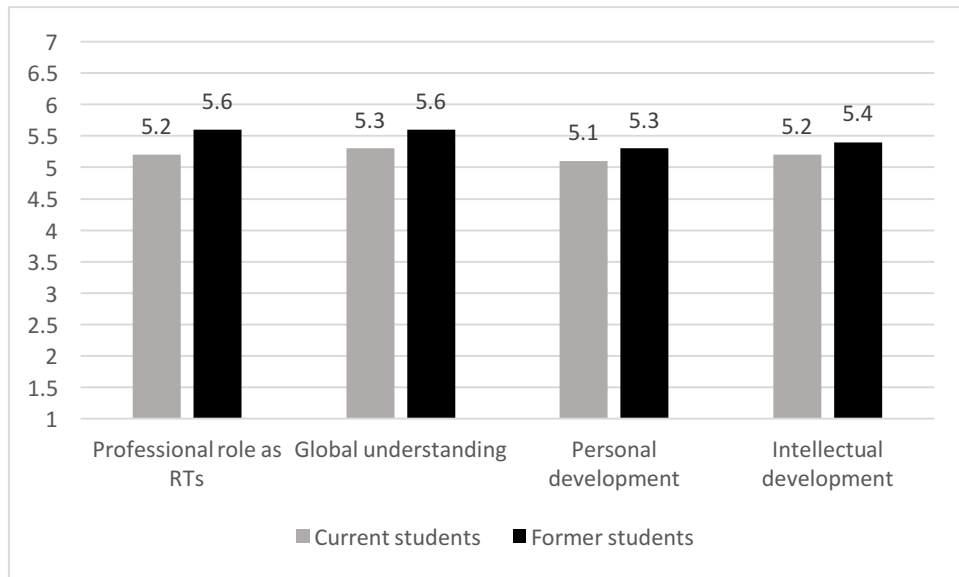
The fourth research question asked, “How do current and former international Saudi RT students view the impact of international education differently?” This research question was developed later, after the data analysis was obtained, in order to acquire more knowledge about the differences between current and former students’ perceptions of the impact of international education on their life experiences.

The demographic section of the survey did not provide information about current or former students. However, current age, age when students started their international education, and duration of international education were known factors, as they were part of the demographic section. Therefore, current and former students were categorized using the following formula: current age – age when a student started his/her international education – duration of international education. If the total score was equal to 0, the participant was considered a current student. On the other hand, if the total score was greater than 0, the participant was considered a former student.

For instance, a participant’s current age is 40-years-old, the age when he or she started international education is 20-years-old, and duration of international education is five years. Thus, $40 - 20 - 5 = 15$ years, so the participant is considered to be a former student for data analysis. Although the participants themselves did not determine this categorization, it was based on a logical mathematic formula to guide towards answering the research question.

Current students accounted for $n=30$ (48.4%) of the participants, while former students accounted for $n=29$ (46.8%). Three (4.8%) participants were excluded from the analysis of this research question for not reporting their duration of international education. Findings showed that IEEs had a greater impact on former students than current students in all areas. However, the independent t-test showed statistically insignificant differences between the two groups. Table 4 shows the comparisons of mean scores between current and former students.

**Figure 2. Comparison between current and former international RT students in all survey areas
N= 59**



Chapter V

Interpretation of Findings

This chapter will present a discussion of the findings presented in Chapter IV. The chapter is divided into six major sections: an overview of the study, discussion of findings, implications for research, future research recommendations, limitations of the study, and conclusion.

Overview of the Study

The aim of this study was to examine international Saudi RT students' perceptions of the impact of international education on their professional roles as RTs, global understanding, and personal and intellectual development. The following research questions were addressed in order to help guide the study:

1. What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the undergraduate level?
2. What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the graduate level?
3. What factors influence international Saudi RT students' perceptions of international education?
4. How do current and former international Saudi RT students view the impact of international education differently?

Discussion

Findings Related to Research Question 1

The first research question asked "What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the undergraduate level? The findings revealed that "professional role as a respiratory therapist" was the area most impacted

by international education in the US, according to Saudi RT undergraduate students' perceptions. Meaning, undergraduate RT students educated in the US appreciate the impact of international education and qualifications on their professional RT roles. This perception of high impact may be due to the influence of IEEs on their enhancement of their effectiveness and progress as professional RTs. These findings can be compared to previous findings reported in nursing studies. Smith and Curry (2009) found that professional role was the area of nursing most impacted by international education for US students who experienced IEEs in Ecuador. However, DeDee and Stewart (2003) reported professional role as the area least impacted by international education in England and France. Similarly, professional role was the area least impacted by international education for US students studying in countries including England, Denmark, Russia, and Scotland (Zorn, 1996).

Findings Related to Research Question 2

The second research question asked "What impact areas of international education are perceived to be the most influenced by international Saudi RT students at the graduate level?" The study findings revealed that global understanding was the area most impacted by international education in the US, according to Saudi RT graduate students' perceptions. Likewise, graduate students believed that their IEEs had largely enhanced their travel or study abroad since graduation. Moreover, IEEs had impacted them in terms of encouraging college students to participate in international education.

Global understanding and globalization of healthcare is an important mission that decreases healthcare disparities around the world (Carlton et al., 2007; Haloburdo & Thompson, 1998; Wimpenny et al., 2005). This mission can be achieved by international RT education in order to expose RT students to different healthcare systems in countries with different cultural, economic,

and sociopolitical health views. Moreover, one of the key purposes of globalization of RT is to arm students with cultural competency in order to ensure effectiveness of healthcare delivery in a multi-cultural environment. Campinha-Bacote (1999) stressed the importance of global understanding for the nursing profession. An understanding of different social cultural values enhances patient-nurse relationships (Thompson, Boore, & Deeny, 2000). Similarly, there is a higher level of cultural sensitivity and accommodation of cultural differences between pre- and post-IEE in allied health students including physiotherapy, occupational therapy, and speech therapy (Ng et al., 2012).

Other Findings Related to Research Questions 1 & 2

The study findings showed that both graduate and undergraduate students had equal overall perceptions of their personal development. Likewise, both graduate and undergraduate students believe that international education impacted them greatly and made them more likely to encourage college students to participate in international education. This finding reflects the overall positive IEEs of international RT students. Both student groups also believed that their IEEs had largely enhanced their understanding of the US culture.

Undergraduate students believe that international education has a positive impact on their social relationships with their families, friends, and neighbors. Nursing and pharmacy studies have emphasized that students interact with their friends and colleagues from their own culture or from their host culture in order to ease the challenging process of adjusting to new environments and to foster adaptation skills. (Covvey, 2014; Ruddock and Turner, 2007). Similarly, IEEs enhance RT students' social relationships with others by moving the students out of their comfort zones. Consequently, students gain more self-confidence, which leads to personal growth and development (Pechak & Black, 2013). Graduate students believed that IEEs influenced their career

decisions they have made since graduation. This finding is consistent with the students' perceptions of IEEs great impact on their progress and effectiveness as professional RTs, under "professional role as RT" impact area.

The study findings showed that international Saudi RT students believe that religious activities have minimal influence during international education, compared to other factors. This is consistent with the findings of DeDee and Stewart (2003). There may be two reasons for these findings. First, the conservative cultural background of Saudi students may have enabled them to appreciate their own religion and identity (Hilal, 2015). Second, the US environment is considered to be a "melting pot" of different cultures, religions, and ethnicities (Duffy, 2001). As a result, students had low influence in practicing their religious activities.

Intellectual development was the fourth area impacted by international education in this study. This area includes changes in selection of reading materials, intellectual enhancement, and learning of foreign languages. The findings show that international education enhanced international Saudi RT students' ability to learn other languages. This is consistent with other studies in international education in medicine. Godkin and Savageau (2001) found that medical students who participated in international immersion experiences were better at communication through learning a second language compared to peers who did not participate. Learning a new language is a primary motivation for Saudi students to study abroad (Liton, 2012). However, the study reveals that international education has a low impact on motivating Saudi students to learn a foreign language other than English. This may be because that English is a primary international language in Saudi local institutions (Liton, 2012).

Findings Related to Research Question 3

The third research question asked, “What factors influence international Saudi RT students’ perceptions of international education?” The study showed that there is a significant correlation between the length of time spent in international education and impact on the role of professional RTs, according to international RT students’ perceptions ($r=0.426$; $p=0.001$) (i.e. longer duration of international education enhances professional RT roles). This is similar to Zorn’s (1996) findings in nursing international education. Zorn found that the longer the program of international education the higher the mean score in all four (IES) dimensions. This finding emphasizes that IEEs with longer durations have higher degree of impact on the students’ lives experiences. No other significant correlations were found between the demographic data of participants and level of impact of international education (e.g. age, gender, and level of education) in the current study.

Findings Related to Research Question 4

The fourth research question asked “How do current and former international Saudi RT students view the impact of international education differently?” The study results showed that in comparison to current students, former students had experienced slightly higher long-term impacts on their professional RT roles, global understanding, and personal and intellectual development. However, this difference between the two groups was statistically insignificant. This may be because students’ perceptions of impact could increase as they advance in their careers. Zorn (1996) found that the professional roles, international perspectives, and personal and intellectual development of alumni who participated in longer international education programs were impacted significantly ($p < .01$) more in the long-term. However, other nursing studies have shown that more

recent graduates are impacted more by international education than older graduates (DeDee and Stewart, 2003).

Table 10. Mean scores and standard deviations of four survey dimensions of current and former international RT students

No.	Item	Current students n=30 M, ± SD	Former students n=29 M, ± SD
1	Professional role as respiratory therapist	5.2±1.3	5.6±1.0
2	Global understanding	5.3±1.1	5.6±0.8
3	Personal development	5.1±1.15	5.3±1.25
4	Intellectual development	5.2±1.2	5.4±1

Implications for Research

The findings of this study will promote the significant importance of international educational experiences in RT education, filling the gaps of the required competencies for RT students to serve as global citizens. The positive outcomes of RT international education may help reduce healthcare disparities worldwide by exposing RT students to different healthcare systems, enhancing and broadening their professional RT roles, fostering their cultural-competent images, improving their communication skills, and developing their personal and intellectual growth. Therefore, the need for an international element in RT education should be taken into consideration by RT schools worldwide. Additionally, the study will add to the literature, given that it is the first study exploring international RT education.

Recommendations for Future Study

Future research is recommended due to the lack of research into the impact of international education on the RT profession. To validate the results of this study, replication with a larger

sample size, inclusion of multi-cultural or different cultural backgrounds, and inclusion of different international education destinations are recommended.

Limitations

The present study is limited by different factors. The findings of this study cannot be generalized to all RT international education due to the use of only one destination of educational experience, the US, and one cultural background, Saudi Arabia. Moreover, the study is limited by its relatively small sample size drawn from a large population of RTs. Finally, there is a lack of research in respiratory care education that examines the impact of international education on RT students.

Conclusion

International RT education in the US had a significant impact on RT graduate and undergraduate students' perceptions of their professional RT roles, global understanding, and personal and intellectual development. Also, duration of international education in the US is positively associated with greater perception its impact on RTs' professional roles. The study findings indicate that international education has a sustainable and long-term impact on international RT students.

Appendix A: International Education Survey

- I. Demographic data.
- A. Are you a Saudi citizen? Yes/No.
- B. Gender: Male/Female.
- C. Do you have *an international education degree* in respiratory therapy from the United States? Yes/No.
- D. What was/is your highest level of respiratory therapy education in the United States?
- AS.
 - BS.
 - MS
- E. Current age: years old.
- F. Age at time when you started respiratory therapy education in the United States: years old.
- G. Duration of respiratory therapy education in the United States years.
- H. What is your highest completed overall level of international education in the United States?
- AS
 - BS
 - MS
 - Doctorate (PhD, EdD, ScD, etc.)
 - MD

II. Survey

A. Professional role.

- To what degree has your United States international education experience as a student in a respiratory therapy program ...

		Low/small.....High/large						
1.	... had a long-term impact on your practice as a professional RT?	1	2	3	4	5	6	7
2.	... been relevant to your professional career?	1	2	3	4	5	6	7
3.	... enhanced your effectiveness as a professional RT?	1	2	3	4	5	6	7
4.	... improved your efficiency as a professional RT?	1	2	3	4	5	6	7
5.	... enhanced your progress as a professional RT?	1	2	3	4	5	6	7
6.	... enhanced your practice as a professional RT?	1	2	3	4	5	6	7

B. Global understanding.

- To what degree has your United States international education experience as a student in a respiratory therapy program ...

		Low/small.....High/large						
7.	... shaped and influenced how you evaluate world issues?	1	2	3	4	5	6	7
8.	... enhanced your understanding of the US culture?	1	2	3	4	5	6	7
9.	... enhanced your understanding of US politics?	1	2	3	4	5	6	7
10.	... influenced your understanding of respiratory therapy and healthcare in other countries ?	1	2	3	4	5	6	7
11.	... enhanced your discussion with other people about international and transcultural issues?	1	2	3	4	5	6	7
12.	... enhanced your interaction with people from other cultures?	1	2	3	4	5	6	7
13.	... enhanced your travel or study abroad since graduation?	1	2	3	4	5	6	7
14.	... facilitated an international or intercultural dimension in your work activities?	1	2	3	4	5	6	7
15.	... increased the likelihood that you would practice RT in another country?	1	2	3	4	5	6	7
16.	... made you more likely to encourage college students to participate in international education?	1	2	3	4	5	6	7

C. Personal development

- To what degree has your United States international education experience as a student in a respiratory therapy program ...

		Low/small.....High/large						
17.	... made you reassess your view of your future life in Saudi Arabia?	1	2	3	4	5	6	7
18.	... affected your family decisions (spouse, parenting, living arrangements, etc.)?	1	2	3	4	5	6	7
19.	... enhanced your social relationships (friends, family, neighbors)?	1	2	3	4	5	6	7
20.	... influenced career decisions you have made since graduation?	1	2	3	4	5	6	7
21.	... facilitated your volunteer activities?	1	2	3	4	5	6	7
22.	... influenced your religious activities?	1	2	3	4	5	6	7
23.	... contributed to your level of self-confidence?	1	2	3	4	5	6	7

D. Intellectual development

- To what degree has your international education experience as a student in a respiratory therapy program in the U.S ...

		Low/small.....High/large						
24.	... enhanced your selection of reading materials?	1	2	3	4	5	6	7
25.	... enhanced your ability to speak/read languages other than Arabic?	1	2	3	4	5	6	7
26.	... enhanced your intellectual development?	1	2	3	4	5	6	7
27.	... enhanced your motivation and/or ability to learn a foreign language other than English after returning to Saudi Arabia?	1	2	3	4	5	6	7

Appendix B: First covering letter

Dear SSRC member,

You are invited to participate in a study titled "*The Perceived Impact of International Educational Experience in the United States on Saudi Respiratory Therapists.*" The study will explore student's perception of international education on their professional and personal lives. The research is being conducted by Hassan AbuNurah, a Master student at Georgia State University, under the direction of Dr. Doug Gardenhire, Chair of the Department of Respiratory Therapy. Your involvement in this study is voluntary and if you refuse to take the survey you can submit a blank survey at any time. All responses are confidential. No names or codes will be used to identify responses. All results will be deleted after they have been collected.

Findings will be published based on groups, not individuals. If you would like a summary of the work or if you have any questions about this research, please contact Hassan AbuNurah at Habunurah1@student.gsu.edu or Dr. Doug Gardenhire at dgardenhire@gsu.edu. The department's contact information can be found at the bottom of this page. You may also contact Ms. Susan Vogtner in Georgia State University's IRB Office at svogtner1@gsu.edu

If you are 19 years of age or older and agree to the above, please click on the link below labeled International RT Education Survey.

Sincerely,

Hassan AbuNurah

Department of Respiratory Therapy

Georgia State University

P.O. Box 4019

Atlanta, GA 30302

(404) 413-1270

Appendix C: Second covering letter

Dear SSRC member,

We understand you are very busy. So, we wanted to remind you that we still kindly need your assistance. Last week we sent you an online survey to complete. The purpose of the study is to explore how international students perceive the impact of international education. If you have responded to the survey thank you so much for your time. If you have not, I am writing you again because I still need your help to successfully complete this study. The survey should not take more than 10 minutes of your time. We would like to ask you please to complete the survey today by clicking on the link below:

If you have any questions about this research, now or in the future, please contact Hassan AbuNurah at Habunurah1@student.gsu.edu or Dr. Doug Gardenhire at dgardenhire@gsu.edu. The department's contact information can be found at the bottom of this page. You may also contact Ms. Susan Vogtner in Georgia State University's IRB Office at svogtner1@gsu.edu.

Best Regards,

Hassan AbuNurah

Department of Respiratory Therapy

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Atlanta, GA 30302

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Appendix D: Final follow up letter

Dear SSRC member,

We understand you are very busy. So, we wanted to remind you that we still kindly need your assistance. About two weeks ago, we sent you an online survey to complete. The purpose of the study is to explore how international students perceive the impact of international education. If you have responded to the survey thank you so much for your time. If you have not, I am writing you again because I still need your help to successfully complete this study. The survey should not take more than 10 minutes of your time. We would like to ask you please to complete the survey today by clicking on the link below:

If you have any questions about this research, now or in the future, please contact Hassan AbuNurah at Habunurah1@student.gsu.edu or Dr. Doug Gardenhire at dgardenhire@gsu.edu. The department's contact information can be found at the bottom of this page. You may also contact Ms. Susan Vogtner in Georgia State University's IRB Office at svogtner1@gsu.edu.

Best Regards,

Hassan AbuNurah

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