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AN EXAMINATION OF THE PREDICTORS OF WORK ENGAGEMENT OF
THE HEALTH CARE WORKFORCE IN OMAN AND THE UAE

A Dissertation in
Workforce Education and Development
and
Comparative International Education
by
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ABSTRACT

Work engagement is one of the most studied concepts in the practice of human resource and organization development because of its established link to achieving organizational desired outcomes. The purpose of this comparative international study was to examine and compare the relationships among demographic characteristics, job resources, job demands, job satisfaction, and work engagement in health care workforces in the Sultanate of Oman and the United Arab Emirates. This empirical research provided a foundation for the study of work engagement among health care professionals.

The target population for the study was all health care professionals working in public (government sponsored) health care settings in Oman and the UAE. The study employed a quantitative survey method that also included six open-ended questions to allow for more in-depth exploration of the variables of interest. A sample of 677 physicians and nurses (Oman= 353, UAE= 324) was included in the study by using criterion-based purposive sampling to select hospitals and by using stratified random sampling of physicians and nurses working in these hospitals.

The results of the study indicated that work engagement had a positive correlation with the job resources (i.e., autonomy, supervisory coaching, and performance feedback; .425) and with job satisfaction (.562). In the Oman sample, job satisfaction (Beta= .376, P-value= .000) and role ambiguity (Beta= .291, P-value= .000) were statistically significant and attributed to work engagement. In the UAE group, the variables job satisfaction and workload were statistically significant (both at Beta= .311, P-value= .000).

Keywords: work engagement, JD-R model, job demands, job resources
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Chapter 1

Introduction

Historical Perspective

Organizations are continuously challenged to maintain a competitive edge in today’s evolving workplace and economic market shifts. These challenges emerge due to either a fundamental change in the objectives that an organization intends to accomplish or external competition that is greatly influenced by global markets (Bakker & Schaufeli, 2008, p. 147). Aguinis and Kraiger (2009) explained that organizations, academic or practice-based, always strive for profit and to stay competitive using an array of tools and strategies. At the core of many strategies designed to enhance the competitive advantage of an organization is the growing interest in employee engagement because of its positive influence on employee performance, motivation and productivity (Shuck, 2011, p. 305). Saks (2006, p. 600) reported that the majority of employees “are not fully engaged or they are disengaged leading to what has been referred to as ‘an engagement gap’ that is costing US businesses $300 billion a year in lost productivity.”

Similarly, the health care industry is challenged with keeping up with the high demand for professional talent under conditions of low supply. This has led to the introduction of more comprehensive strategic interventions to manage and develop human resources in health care settings. The consistently high expectations for performance and productivity required of employees in the health care industry are what distinguish this group of professionals (Fiabane, Giorgi, Sguazzin, & Argentero, 2013).
Fiabane et al. (2013) described health care work environments as highly demanding and risky to employees’ physical and mental well-being.

A focus on human resource development through investment in the development and maintenance of talent is crucial for health care organizations to remain competitive and prosperous in the long-term. Work engagement is one of the most studied concepts in the practice of human resource and organizational development on account of its established link to achieving desired outcomes (Armstrong & Taylor, 2014; Saks, 2006; Shuck, 2011; Shuck & Reio, 2011). Over more than two decades, the construct of engagement has gone through a number of updates and transformations (Fiabane et al., 2013). Kahn introduced the concepts of personal engagement and personal disengagement in 1990. He defined personal engagement as “the harnessing of organizational members’ selves to their work roles” (1990, p. 694), and defined personal disengagement as “the uncoupling of selves from work roles” (1990, p.694).

Kahn’s personal and behavioral perspective was later followed by Maslach and Leiter’s (1997) focus on the employee’s experience. They characterized engagement by “energy, involvement, and efficacy” (1997, p.465). The most recent conceptualized operational definition of work engagement and the one that will be used within this study is by Schaufeli, Salanova, Bakker, and Gonzales-Roma where they defined engagement as “a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption” (2002, p. 74). The different definitions in the literature reflect engagement as a motivational concept that drives employees towards success in achieving their own goals and their organization’s goals (Bakker & Leiter, 2010).
When the concept of engagement originated in the early 1990s, it was referred to as “employee engagement” and was interchangeably used with “work engagement” (Schaufeli & Bakker, 2010). Schaufeli and Bakker supported the use of the term “work engagement” because of its focus on the positive relationship between the employees and their work. Therefore, in this study, work engagement is the key concept under examination, and “employee disengagement” is the research problem targeted for investigation.

Many research studies have shown that there is a positive association between work engagement and employee productivity and performance. These findings have promoted the interest in ensuring that employees are provided with the means to stay positive about their jobs and motivated to practice their roles and responsibilities to the best of their ability (Bakker & Leiter, 2010; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Gruman & Saks, 2011). On the other hand, work disengagement has been associated with employee burnout, which is the opposite of work engagement. Kahn (1990) characterizes disengaged employees as individuals who “withdraw and defend themselves physically, cognitively, or emotionally during role performances” (p. 74). According to Maslach, Schaufeli, and Leiter disengaged employees suffer from the “syndrome of exhaustion, cynicism, and the lack of professional efficacy” (2001, p. 403). These three dimensions of burnout were seen as the antipode of the three dimensions of work engagement, which include vigor, dedication, and absorption. The constructs of both work engagement and burnout became of importance to practitioners and researchers due to their association with organizational outcomes.
Statement of the Problem and Context

Work engagement in the health care industry is becoming strategically important because of different factors affecting the practice and quality of the services provided. The three common factors that are well documented are workforce shortages, the high cost of medical care, and the continuous rise of medical errors (Bargagliotti, 2012; Cho, Laschinger, & Wong, 2006; Dieleman, Gerretsen, & Van der Wilt, 2009). Individuals who work in demanding professions and organizations are at high risk for experiencing job-related negative effects. Health care professionals constitute such a population at high risk for negative physical, cognitive, and emotional effects (Setti & Argentero, 2011). The health care workforce faces negative effects associated with stress, burnout, and the general feeling of work disengagement (Spence, Laschinger, & Leiter, 2006). The roles and responsibilities of physicians, nurses, and other health care professionals directly affect the well-being of individuals, communities, and nations. Therefore, a vigilant healthcare leadership is critical in order to address the needs of the health care workforce and provide the resources that facilitate work engagement and reduce risks to patient safety (Shuck & Herd, 2012; Spence, Laschinger, & Leiter, 2006; Trinchero, Brunetto, & Borgonovi, 2013).

In many respects, the nursing workforce is the backbone of health care practice and it constitutes the majority of health care workers in any country. To sustain a skilled nursing workforce it is crucial to provide a supportive work environment by enhancing motivation and reducing burnout, which will consequently improve patient care (Smith & Topping, 2001; Spence & Leiter, 2006). Unfortunately, this important population of
health care professionals is at highest risk for burnout due to the many occupational stressors to which they are constantly exposed. According to Freeney and Tiernan (2009), burnout is a chronic syndrome that affects 25% of nurses in Europe and may be higher in other parts of the world. Physicians are another population of health care workers also at high risk for burnout and disengagement. Freeney and Tiernan pertinently observed that, because physicians are commonly the managers of health care teams, they bear the brunt of the responsibility for the consequences of any treatment decisions they make in the best interests of their patients. Leading physicians and their teams are susceptible to suboptimal performance if they are not fully engaged in their work.

Another problem specific to the population of interest lies on the cultural, geographical, and demographic characteristics of the healthcare workforce. This comparative international research study focused on the healthcare population, specifically physicians and nurses, from two countries, namely the Sultanate of Oman (Oman) and the United Arab Emirates (UAE), and highlighted issues surrounding the workforce talent development and their work engagement. According to the National Center for Statistics and Information (NCSI) and as summarized in Table 1, the population of Oman, as reported for end December 2016, was just under 4.55 million people (NCSI, 2016). As presented in Table 1, the gender distribution from the total population in Oman is 35% females and 65% males. The noticeable difference in the number males compared to females is explained by the 46% expatriates (non-nationals) working in Oman, out of which, 79% are males and 21% are Females (NCSI, 2016).
Table 1

The total population of Oman and UAE and the gender percentage and national/expatriate percentage in the two countries in 2016.

<table>
<thead>
<tr>
<th></th>
<th>Sultanate of Oman</th>
<th>United Arab Emirates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>4,549,655</td>
<td>9,121,167</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male Percentage</td>
<td>65%</td>
<td>69%</td>
</tr>
<tr>
<td>Female Percentage</td>
<td>35%</td>
<td>31%</td>
</tr>
<tr>
<td>National/Expatriate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Percentage</td>
<td>54%</td>
<td>10%</td>
</tr>
<tr>
<td>Expatriate Percentage</td>
<td>46%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Note. Oman statistics are as reported by the National Center for Statistics and Information (NCSI, 2016). UAE statistics are as reported by the Federal Competitiveness and Statistics (FCSA, 2016).

The population of UAE, as reported by the Federal Competitiveness and Statistics Authority (FCSA) was just over 9.12 million people (FCSA, 2016). Table 1 also summarizes the similarity to the Oman population, where there is also a great difference between the number of males and females in UAE, where females are 31% and males are 69%. However, the nationals in UAE represent only 10% of the total population (FCSA, 2016). Interestingly, the health care workforce reflects these local-to-nonlocal ratios (NCSI, 2016). Such a high reliance on non-citizens in the health care workforce has been attributed to the vast expansion in health care services in both countries. As a result, there is continuous migration of qualified physicians and nurses both into and out of both countries, leading to severe shortages and high turnover rates for health care professionals (Maben et al., 2010).

In light of the increased interest in “work engagement” and the factors that lead to employee disengagement or burnout, the lack of empirical research done on the health
care workforce in both countries is surprising. Most of the related research conducted in Oman and the UAE examined human resource development and the growth in health care services (e.g., Achoui, 2009; Alshitawy, 2010; Barhem et al., 2011). Although the lack of scholarly work on engagement within the health care workforce in both countries means that scant baseline data exist upon which to build, the situation does offer an important opportunity to study the concept of “work engagement” in the unique health care workforce populations of both countries.

Approaching the concept of work engagement from a comparative international perspective introduces the challenge of studying a relatively new concept in new geographical contexts, but constitutes a sorely needed contribution to an understanding of work engagement within the health care workforce in different cultural settings. A comparative international approach to studying concepts, phenomena, and populations of interest helps in understanding the contextual, ecological, and cultural influences on such issues (Raivola, 1985). According to Raivola (1985), the comparative approach is important for understanding concepts and interpreting issues occurring in different contexts, which provides an opportunity for learning and development from each other’s experiences.

Kirk (2013, p. 178) noted that the field of comparative international education (CIED) is still new in the Arabian Gulf countries (both Oman and the UAE are members of the Gulf Countries’ Council (GCC)) and discussed the great value of conducting CIED research in the GCC countries. Thus, the present research concerning the effects of high job demands, low job resources, and demographic factors on work engagement among
health care workers in Oman and the UAE can help fill some large gaps in understanding the dynamics of workplace engagement as a cross-cultural phenomenon.

Purpose of the Study

The purpose of this comparative international study is to examine and compare the relationship between demographic characteristics, job resources, job demands, job satisfaction, and the work engagement of the health care workforce in the Sultanate of Oman and the United Arab Emirates. The critical demographic characteristics of the health care workforce to be considered include country, professional specialty, level of education, age, gender, years of experience, and job position. The Job Demands and Resources Model proposed that two psychological constructs could be used to reflect job strains and motivations in any occupation (Bakker & Demerouti, 2007, p. 312). These two constructs, or categories, are job demands and job resources. The job demands examined in this study are: workload, role ambiguity, and role conflict. The job resources included in this study are: autonomy, supervisory coaching, and performance feedback. Job satisfaction is another independent variable that is examined in this study. The dependent variable, work engagement, is defined in terms of the three dimensions of vigor, dedication, and absorption. Additional qualitative data are also used to support and better understand the findings of the quantitative analysis based on the operationalized variables drawn from the Job Demands and Resources Model.
Significance of the Study

The significance of this comparative international study is to provide health care professionals, health care leaders, and workforce education and development professionals an in-depth understanding of the relationships between employee work engagement and its associated antecedents (i.e., job demands and job resources), as well as with workforce demographic characteristics. Work engagement among health care professionals refers to the energy, involvement, and efficacy that a nurse or physician exhibits in the realization of their expected roles and responsibilities (Bargagliotti, 2012). Furthermore, the comparative international approach adds a contextual significance to the study because it allows an examination of the similarities and differences in the health care workforce constituents in Oman and the UAE and, so, is of unique value in identifying strategies that will enhance employee work engagement in culturally specific settings.

Another important significance for the study is to expand the extant body of knowledge about work engagement and its antecedents in the health care industry. Additionally, this empirical research study specifically provides a foundation for the study of work engagement in the health care professions in Oman and the UAE, and can point to evidence-based strategies designed to improve employee performance and desired organizational outcomes.
Research Questions

In this endeavor to investigate the strength of relationships between the dependent variable and the independent variables that influence work engagement in the Oman and UAE health care workforces, the following research questions are addressed:

RQ1. To what extent do the demographic characteristics of health care professionals (i.e., professional specialty, level of education, age, gender, years of experience, and job position) influence work engagement?

RQ2. What is the extent of the correlation between job resources, job demands, and job satisfaction with work engagement?

RQ3. What similarities and differences are exhibited in the relationships between demographic characteristics, job resources, job demands, and job satisfaction and work engagement among health care professionals in Oman as compared with those in the UAE?

RQ4. How do physicians and nurses in Oman and the UAE describe their experiences in the workplace in terms of work engagement, job resources, and job satisfaction?
Limitations of the study

The present comparative international study has a few limitations. First, the target population of the study was all the professional health care employees working in public hospitals in the Sultanate of Oman and the United Arab Emirates, but the sample collected included only physicians and nurses from a cross-section of two hospitals from the two countries. Therefore, the findings of the study may not be generalized beyond the hospitals and the professionals included in the study. Second, although the present comparative international study collected a sample to reflect the actual workplace and professionals in both countries, it consisted of high percentage of expatriate workforce (Oman= 22%; UAE= 77%). Consequently, care should be taken to consider the results in that context and not as a cultural comparison. Third, the study included only a number of predictors of work engagement, nonetheless there are other predictors of work engagement that are relevant and may yield more significant results for the target population. Fourth, while the results of the study indicated value at the country level, inferences about individual work engagement from the combined country findings should be avoided. Finally, the researcher used a self-reported survey for data collection and this method has its limitation and may influence the overall findings.

Definition of Terms

The key terms used in this research study are as follows:

Work engagement. Consistent with the conceptual relationships described in the Job Demands and Resources Model, work engagement is defined as "a positive,
fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74).

**Vigor.** Vigor is one of the three dimensions of work engagement and is defined by “high levels of energy and mental resilience, the willingness to invest effort in one’s work, and persistence even in the face of difficulties” (Schaufeli et al., 2002, p. 74).

**Dedication.** Dedication is one of the three dimensions of work engagement and is defined as an individual’s feeling “a sense of significance, enthusiasm, inspiration, pride, and challenge” (Schaufeli et al., 2002, p. 74).

**Absorption.** Absorption is one of the three dimensions of engagement and is described as a state of being in which an individual is “fully concentrated and deeply engrossed in one’s work” (Schaufeli et al., 2002, p. 75).

**Job demands.** Job demands “represent characteristics of the job that eventually evoke strain, in case they exceed the employee’s adaptive capability” (Bakker et al., 2007, p. 275).

**Workload.** Workload refers to “the amount of work expected from an employee within a given timeframe” (Laschinger & Finegan, 2005, p. 440).

**Role ambiguity.** Role ambiguity is defined as “the absence of direction in work” and is highly associated with burnout (Maslach & Leiter, 2008, p. 500).

**Role conflict.** Role conflict is defined in terms of “the dimensions of congruency-incongruency or compatibility-incompatibility in the requirements of the role” (Rizzo, House, & Lirtzman, 1970, p. 155).
**Job resources.** Job resources refer to “those physical, psychological, social, or organizational aspects of the job that may reduce job demands, are functional in achieving work goals, and stimulate personal growth, learning, and development” (Demerouti et al., 2001, p. 501).

**Autonomy.** Autonomy is defined as “the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out” (Hackman & Oldham, 1976, p. 258).

**Supervisory coaching.** Supervisory coaching refers to workplace mentoring that leads to “empowering people to make their own decisions, unleashing their potential, enabling learning, and improving performance” (Ellinger, Ellinger, & Keller, 2005, p. 622).

**Performance feedback.** Performance feedback is defined as “the degree to which carrying out the work activities required by the job results in the individual obtaining direct and clear information about the effectiveness of his or her performance” (Hackman & Oldham, 1976, p. 258).

**Job satisfaction.** Job satisfaction refers to “the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values” (Locke, 1969, p. 316).
Research Framework

Healthcare professionals have multiple and complex specialties that dictate the extent of their job demands and available job resources. The Job Demands and Resources (JD-R) Model is an effective conceptual framework for illustrating any imbalances that might exist between the job demands and job resources experienced by the healthcare workforce (Brauchli et al., 2015). One practical advantage of the JD-R model (Figure 1) is its applicability to different industries and work settings. According to Bakker and Demerouti (2007, p. 323), every occupation and work setting has “its own unique risk factors for burnout or/and antecedents for work engagement.” Therefore, this study adds to the body of empirical research by using the versatile JD-R model in a previously unstudied context. Mauno et al. (2007) point out that the physical, psychological, and social demands of a job require specific physiologic and psychological efforts from the employees. Job resources, on the other hand, are perceived as physical, psychological, social, and organizational attributes of a job that result in job achievement and stimulate well-being, growth, and development.
Figure 1. JD-R Model from Bakker and Demerouti (2007).

In addition to the JD-R model, this study uses Trinchero et al.’s (2013) conceptualization of Social Exchange Theory as an analytical framework. According to Social Exchange Theory, effective workplace experiences and relationships that support the workforce and encourage improved performance have positive workplace outcomes. Furthermore, such positive workplace outcomes are reflected in an individual’s level of motivation and engagement in fulfilling the roles and responsibilities of their job (Cook, Cheshire, Rice, & Nakagawa, 2013; Emerson, 1976; Trinchero, et al., 2013). Based on the conceptualization of the JD-R Model, Social Exchange Theory, and the reviewed empirical research, the conceptual research framework developed for the present study is graphically summarized in Figure 2.
As discussed previously in this chapter, the geographical, professional, and professional contexts of the present study provide an opportunity to extend the application of these existing models to understanding how the concepts of work engagement, job demands and job resources, are reflected in the unique circumstances of the health care workforces in Oman and the UAE. The next chapter presents a review of related empirical and conceptual studies in the literature about the relationships between job demands, job resources, job satisfaction, workforce demographic characteristics and work engagement in various work settings.
Chapter 2

Review of Related Literature

The review of the related literature for this comparative international research study focuses on the areas of the geographical context (Arabian Gulf countries), professional context (health care), the key concept of work engagement, and the relevant variables of interest. Consistent with the purpose of this research, this review of the related empirical and conceptual scholarly literature explores the relevant findings to date, identifies gaps in extant knowledge in the context of the health care industry, and establishes links between the present study and previously published work. To these ends, chapter two is organized into the following sections: (a) The concept of work engagement, (b) work engagement in the healthcare context, (c) predictors/antecedents of work engagement, (d) evidence for job demands and resources model, (e) job demands, (f) job resources, and (g) job satisfaction.

The Concept of Work Engagement

Individuals and organizations within any industry strive to live up to the challenges and competitions in today’s global markets. To stay competitive, organizational leaders need to use different approaches to the way they manage their employees, choose business endeavors, and explore different customers and markets (Harter, Schmidt, & Keyes, 2002; Shuck & Wollard, 2010). A focus on the workforce
and its work engagement has become an area of interest due to its link with organizational performance and productivity (Bakker & Schaufeli, 2008). Consistent with Bakker and Schaufeli, Kim, Kolb, and Kim (2012) argued for the importance of the element of employee engagement for any positive organizational development or change to occur.

**Definitions of Work Engagement**

The multidimensionality of the concept of work engagement resulted in having different approaches to its definition. These different definitions are focused on the following three areas of research interests: (a) personal or individual characteristics, (b) fulfillment and positive psychological states, and job or work roles and behaviors. Kahn (1990) was one of the first scholars to define personal engagement as “the harnessing of organization members’ selves to their work roles” (p. 694). He further explained, “People employ and express themselves physically, cognitively, or emotionally during role performances” (p. 694). In his seminal study, Kahn (1990) aimed to develop a description and understanding of engagement as a personal characteristic. He conducted his qualitative study using a grounded theory approach to generate a descriptive understanding of the behaviors, experiences, and perceptions of participants at a summer camp and at a prestigious architectural firm. In the summer camp setting, Kahn’s sample consisted of 16 counselors (nine males and seven females). In the architectural firm setting, the sample consisted of 16 firm members (ten males and six females) from different specialties. Kahn’s analysis of the interviews and observations confirmed his
definition of engagement as being personal, and that people who are engaged become immersed in their roles physically, cognitively, and emotionally.

Maslach and Leiter (1997) introduced another definition of engagement in the 1990s. Their approach to engagement was that its dimensions were opposite to those of burnout. Maslach and Leiter characterized engagement as having the dimensions of energy, involvement, and professional efficacy, while the dimensions of burnout were given as exhaustion, cynicism, and ineffectiveness. Similarly, Maslach, Schaufeli, and Leiter (2001) conducted a rigorous review and referred to engagement as “the positive antithesis of burnout” (p. 418). This positive shift and focus on employee well-being was consistent with the widely-adapted definition of work engagement by Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002). Schaufeli et al. referred to work engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (p. 74). Unlike Maslach and Leiter (1997), Schaufeli et al. (2002) referred to work engagement as an independent concept rather than merely the opposite of, or in relation to, burnout.

In Schaufeli et al.’s (2002) study that examined the relationship between work engagement and burnout, they used two sample groups: one composed of 314 university students and the other composed of 619 employees. Burnout was measured using the Maslach-Burnout Inventory-General Survey (MBI-GS) and engagement was measured using a self-constructed 24-item survey. Multiple-group structured equation modeling was used to test various models simultaneously for both samples. The results were consistent for both samples and revealed that, although engagement and burnout could be
viewed as antipodes, they were only moderately negatively correlated. Furthermore, the study revealed that the cynicism and exhaustion dimensions of burnout were more negatively related to all three dimensions of engagement than ineffectiveness.

Saks (2006) analyzed the literature on the concept of work engagement and built on the definition by Kahn (1990) by referring to work engagement as “a distinct and unique construct that consists of cognitive, emotional, and behavioral components that are associated with individual role performance” (p. 602). Saks distinguished work engagement from other constructs relevant to organizational or work settings, such as organizational commitment, organizational citizenship behaviors, and job involvement. In his empirical study, Saks (2006) tested a model of the antecedents and consequences of work engagement based on Social Exchange Theory. This study involved a sample of 102 employees from various organizations. The measurements of job engagement and organizational engagement were made with five-point Likert scales, each of which included six items. Additionally, the antecedents and consequences of work engagement were measured to examine the relationships between the variables. The results of Saks’ study revealed that both job engagement and organizational engagement mediated the relationship between the antecedents and consequences of work engagement.

**Work Engagement in the Health Care Context**

The health care workforce is comprised of highly skilled professionals who are able to function in extreme and constantly changing situations. They use their cognitive, psychomotor, and affective skills simultaneously to deliver therapeutic care to patients,
families, and communities. The intense job demands require a high level of specific personal and organizational resources in order to maintain the well-being of the workforce and sustain quality performance (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004). As suggested by the extant literature (Trenchero et al., 2013; Gruman & Saks, 2011), the efficiency and the productivity of employees are reflected in the extent of their engagement and their lack of burnout.

Bargagliotti’s (2012) analysis of the concept of engagement in the nursing profession led to his describing work engagement as “dedicated, absorbing, vigorous nursing practice that emerges from settings of autonomy and trust and results in safer, cost effective patient outcomes” (p. 1424). According to Bargagliotti, nurses’ disengagement from performing their professional and organizational responsibilities is usually associated with emotional exhaustion and ineffectiveness in performing skilled care, which are characteristics of burnout. Burnout is most frequently experienced in very demanding units such as the emergency room, the intensive care unit, and cancer care units. Based on some of the reviewed literature, nurses’ work engagement is reflected in the way nurses perform their roles and responsibilities towards their patients and their community, which is commonly manifested as dedication, energy, organizational trust, commitment, motivation, productivity, and performance (Trinchero et al., 2013).

In a study of engagement in the health care context, Setti and Argentero’s (2011) research focused on determining the level of engagement of health care employees in a Swiss hospital. The researchers also attempted to identify the organizational predictors of
work engagement in the hospital. The study involved a sample of 206 nurses, physicians, obstetricians, physiotherapists, and assistants working in different units of the hospital. The researchers used a four-part survey instrument that included the collection of demographic data, the Maslach Burnout Inventory-General Survey (MBI-GS), the Areas of Work-Life Scale, and the General Health Questionnaire. Among Setti and Argentero’s findings concerning the organizational predictors of job engagement were that: energy was influenced by workload; involvement was influenced by individual values; and the level of efficacy was influenced by reward. The analysis of the level of engagement found that higher levels of physical and psychological health were positively related to higher levels of engagement.

In a national study, Prins et al. (2010) conducted a study aimed at exploring resident physicians’ burnout and engagement in the Netherlands. The researchers used a self-report questionnaire to collect information about the physicians’ burnout and level of engagement, as well as demographic and personal characteristics. Burnout was measured using the Maslach Burnout Inventory (MBI); engagement was measured using the Utrecht Work Engagement Scale (UWES); and the physicians’ demographic and personal characteristics, including information about their jobs and family, were gathered in the survey. Achieving a 41% response rate, Prins and associates obtained a final sample of 2,115 physicians. The findings of the study emphasized the importance of physician engagement in the health organizations’ work processes. Furthermore, the findings showed a weak to moderate correlation between engagement and burnout, which confirmed that they are two different constructs. Twenty-seven percent of the resident
physicians rated themselves as being highly engaged, while the Burnout Scale analysis revealed that 21% of the physicians reported moderate or high burnout.

Health care professionals are particularly vulnerable to job stressors that may negatively affect their mental and physical health, decrease their work engagement, and influence their therapeutic outcomes (Fiabane, Giorgi, Sguazzin, & Argentero, 2013). In a study of work engagement and occupational stress in health care workers, Fiabane et al. (2013) investigated a sample of 110 participants from two Italian health care settings. The sample of health care employees included registered nurses, nursing aides, physicians, physiotherapists, psychologists, and social workers. The researchers aimed to identify the role of organizational and personal resources in predicting work engagement and to explore differences in engagement among the different types of health care workers. Data were collected using the Maslach Burnout Inventory (MBI), the Areas of Work-Life Scale (AWS), and the Occupational Stress Indicators (OSI) instrument. Results of a multiple linear regression analysis revealed that energy and involvement were both predicted by workload, mental health, and job satisfaction, while involvement was also predicted by community. Professional efficacy was predicted by job satisfaction. The researchers also found that physiotherapists, who reported the highest level of job stress, were the least engaged. The group of nursing aides reported the highest level of work engagement among the different types of health care workers studied.

When reviewing the literature on the health care workforce, students and researchers are bound to come across the issue of medical error and how prevalent it is in today’s health care systems. Statistics cited in the literature indicate that somewhere
between 44,000 and 98,000 patients die in the United States due to medical errors, and many more likely remain unreported by health care professionals (Blendon et al., 2002; Brennan, 2000). In an attempt to study the relationship between self-reported medical errors and engagement and burnout, Prins et al. (2009) conducted a national research study based on a sample of 2,115 resident physicians. The researchers used the Dutch version of the Maslach Burnout Inventory, the Utrecht Work Engagement Scale (UWES), and participant demographics as the baseline data. The data showed that 94% of the resident physicians reported medical errors without consequences to patients, and 76% reported errors with consequences. Correlation analyses of engagement and burnout showed that highly engaged physicians reported fewer errors than physicians that exhibited burnout. The findings from this study and the ones discussed earlier reflect how important studying the construct of work engagement in health care contexts is.

**Predictors/Antecedents of Work Engagement**

Persons who plan to work in a health care organization in any professional capacity understand the demands of the job and strive to develop the necessary skills that will help them manage these demands. However, dealing with patient situations and outcomes not under their control can contribute significantly to role disengagement if the necessary resources are not mobilized to at-risk health care professionals (Freeney & Tiernan, 2009). Freeney and Tiernan (2009) identified resources, such as job rewards, appreciation, efficient workload management, and fair treatment, which help nurses counteract their continuous job demands. Research publications on the predictive factors,
or antecedents, of work engagement in different contexts emphasize the importance of identifying and managing these predictors in order to achieve positive organizational outcomes (Maslach & Leiter, 2008; Simpson, 2009).

The antecedents of work engagement have been widely studied and a long list of predictive variables has been identified (Bakker & Demerouti, 2007). The importance of reducing or managing job demands and providing job resources has been associated with positive organizational outcomes (Bakker & Demerouti, 2007; Llorens et al., 2006; Mauno, Kinnunen, & Ruokolainen, 2007; Bakker et al., 2007). However, there was no theoretical construct that looked at both the positive and negative outcomes of the antecedents of work engagement until the Job Demands-Resources Model (JD-R) was introduced by Demerouti et al. (2001) and later refined by Schaufeli and Bakker (2004). In the following sections, the review of related literature will focus on studies that tested and used the JD-R Model to guide their conceptual and empirical research.

**Evidence for Job-Demands and Resources (JD-R) Model**

Organizations develop and execute plans intended to provide them with a competitive edge over like organizations, as well as to ensure that quality services and products are rendered to their stakeholders. The JD-R Model focuses on employees and the positive (e.g., motivators), and negative (e.g., stressors) attributes of their jobs (Bakker & Demerouti, 2007; Demerouti et al., 2001; Mauno, Kinnunen, & Ruokolainen, 2007). According to Bakker and Demerouti (2007), job demands, although not always negative, may lead to psychological and physical exhaustion, burnout, and illness for
employees. Burnout refers to the extreme mental exhaustion of an individual to the point of their not being able to function or be productive (Hansen et al., 2009). Resources, on the other hand, refer to physical and psychological support systems, motivation, appreciation, and opportunities for professional growth and development (Hakanen & Roodt, 2010). Job resources have been associated with increased levels of work engagement and organizational commitment.

Although the focus of the present study is on work engagement and the antecedents that influence organizational outcomes, burnout is an important construct in the first version of the JD-R Model of Demerouti et al. (2001). Additionally, there is an abundance of conceptual and empirical research from health care contexts that focuses on work engagement and burnout (Hakanen, Schaufeli, & Ahola, 2008; Hansen, Sverke, & Naswall, 2009; Jourdain & Chenevert, 2010; Leiter, Frank, & Matheson, 2009). In a comprehensive analysis of the literature in support of the JD-R Model, Bakker and Demerouti (2007) reviewed previous models, such as the Demand Control Model and the Effort Imbalance Reward Model, and discussed how the JD-R Model is more comprehensive and applicable to a wider range of work settings. Bakker and Demerouti argued that the JD-R Model illustrated both the job demands and resources found in any organization. These demands and resources are the physical, cognitive, and emotional aspects of an individual’s job. The dual-process reflected in the JD-R Model stipulates that job and personal resources are effective in counteracting job demands and beyond (Bakker and Demerouti, 2007).
Llorens et al. (2006) tested the structure of the JD-R Model by conducting an analysis that compared data collected from a sample group in Spain (n= 654) with one from the Netherlands (n= 477). The researchers used multi-group structural equation modeling to show the extent of relationships between the job demands and resources and organizational commitment as mediated by burnout and work engagement. Llorens et al. emphasized the robustness of the JD-R Model, which was supported by the consistent findings in both countries studied. Job demands were found to have a positive relationship with burnout and a negative indirect relationship with organizational commitment. Job resources had a positive relationship with work engagement and a negative relationship with burnout, and also had a direct and an indirect relationship with organizational commitment. The researchers’ conclusions focused on the importance and reliability of the JD-R Model as a guide to studying the job demands and resources that influence burnout and work engagement. Furthermore, the study revealed that organizations should invest in employee resources because of their comprehensive and positive effect on work engagement and organizational outcomes.

Health care professionals have always been characterized by job commitment and work engagement (Mauno, Kinnunen, & Ruokolainen, 2007). These characteristics have been identified based on the high-risk, high-demand, and cost-to-self-and-others of the roles and responsibilities they perform on a daily basis. Mauno, Kinnunen, and Ruokolainen (2007) conducted a two-year longitudinal study on job demands and resources as antecedents of work engagement. The data were collected from a sample of 735 Finch Healthcare District employees in 2003 and another set was collected from 409
employees in 2005. The researchers analyzed the data using the MANCOVA program to investigate the relationships between the job demands (perceived job insecurity, time demands at work, and work-to-family conflict) and work engagement. Similarly, the relationships between job resources (job control, organizational-based self-esteem, and management quality) and work engagement were investigated. Mauno et al. found that job resources predicted work engagement better than job demands. Furthermore, job control and organizational-based self-esteem were the best predictor variables of the three dimensions of work engagement. This study provided convincing evidence for the applicability of the JD-R Model in the health care context.

**Job Demands**

Job demands are attributes of a job that may lead to strains and negative consequences for an individual’s well-being or the role that they perform (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Bakker & Leiter, 2010). Although job demands are not always regarded as negative, depending on the type of job and situation, a lot of effort is necessary to manage such demands to avoid negative effects. Demerouti et al. (2001, p. 501) defined job demands as “those physical, social, or organizational aspects of the job that require sustained physical and/or psychological effort on the part of the employee, and are therefore associated with certain physiological and/or psychological costs.” When job demands are not managed or counteracted by the appropriate resources, they might lead to negative responses such as chronic fatigue, burnout, or other physical, cognitive, or emotional issues (Schaufeli & Bakker, 2004;
Bakker & Demerouti, 2008). The job demands investigated in the present study are workload, role ambiguity, and role conflict.

**Workload.** According to Laschinger and Finegan (2005, p. 441) workload was “the work-life factor most highly related to emotional exhaustion.” Generally, the amount of work an individual is expected to accomplish within a given time has been increasing, and reflects the competitive nature of today’s workplaces and a potential problem for workforce management. Laschinger and Finegan emphasized that workload is one of the main job demands that nurses and other health care professionals have to deal with on a regular basis. Unique to the health care workplace are constant shifts in workload and expectations based on changing patient needs, policy changes, or disease outbreaks. Gruman and Saks (2011, p. 126) explain that job demands, such as workload, can result in mental and physical exhaustion, and lead to “depletion of energy and health problems.”

**Role ambiguity.** In a study on the predictors of job burnout and engagement, Maslach and Leiter (2008) investigated role ambiguity as an important variable. They referred to role ambiguity as “the absence of direction in work [that] is greatly associated with burnout” (p. 500). The absence of direction in the health care workplace may increase the stress experienced by the workforce (Garrosa et al., 2011). Similarly, Barhem, Younies, Younis, and Smith (2011) report that role ambiguity is strongly associated with anxiety and depression. As a result, the professionals who are charged
with improving the health of others are at high risk for physical, cognitive, and emotional health problems themselves.

**Role conflict.** Bakker and Demerouti (2007) argue that disengaged employees with few job resources could develop new roles that add to the demands of their actual jobs. This could lead to role conflict and pressure, thus increasing job demands. According to Rizzo, House, and Lirtzman (1970, p. 155), “role conflict is defined in terms of the dimensions of congruency-incongruency or compatibility-incompatibility in the requirements of the role.” These authors further explain that incongruency and incompatibility can be present in the form of personal conflicts (such as conflicts between values and beliefs) and/or role behaviors. Other forms of role conflict can center on role expectations, role capabilities, and resource availability.

**Job Resources**

The key to the robustness exhibited by the JD-R Model is its reliance on the dual-processes of job demands and job resources as predictors of work engagement and organizational outcomes (Bakker & Demerouti, 2007; Xanthopoulou et al., 2009). The literature emphasizes the importance of job resources beyond their capacity to counteract job demands. According to Bakker and Demerouti (2010), job resources, besides offsetting job demands, have a motivational effect that is associated with enhancing work engagement, reducing cynicism, and increasing performance. Bakker and Demerouti refer to job resources as “those physical, psychological, social, or organizational aspects
of the job that are: (a) functional in achieving work goals, (b) reduce job demands and the associated physiological and psychological costs, and (c) stimulate personal growth, learning, and development” (p. 312). Furthermore, Saks (2006) explains how employees develop a sense of obligation to be engaged in their jobs in exchange for the job resources provided by their organization. This sense of obligation and work engagement is reflected in positive personal and organizational outcomes. The job resources of interest in the present study are autonomy, supervisory coaching, and performance feedback.

**Autonomy.** Health care professionals have to make important decisions for their clients’ and their own well-being. According to Taipale, Selander, Anttila, and Na (2011, p. 489), “Job autonomy, alternatively called job decision latitude, is measured with reference to employees’ possibilities to influence their own work arrangements.” The ability to make decisions and act according to professional standards is especially important and part of the professional code of practice for nurses, physicians, and other care providers (Laschinger & Finegan, 2005; Setti & Argentero, 2011; Prins et al., 2009; Prins et al., 2010). Hackman and Oldham (1976, p. 258) defined autonomy as “the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out.” They also observe that the more autonomous individuals are, the more they feel obligated to make decisions, take initiative, and accept responsibility.

**Supervisory coaching.** Ellinger, Ellinger, and Keller (2005, p. 622) report that supervisory coaching is usually described as “revolving around the notions of
empowering people to make their own decisions, unleashing their potential, enabling learning, and improving performance.” They explain that supervisory coaching, perhaps more often referred to as managerial coaching, focuses on the belief that there is value in developing the skills of others, and is based on mutual trust. In the health care professions, coaching is a common technique for nurturing junior employees and is usually conducted by senior colleagues, preceptors, and supervisors. Ellinger, Ellinger, and Keller’s study focused on supervisors’ coaching behaviors. They found a positive association between supervisory coaching behavior and employee job satisfaction. Furthermore, the first-line managers who participated in the study reported positively on their superiors’ job performance.

**Performance feedback.** According to Hackman and Oldham (1976, p. 258), performance feedback is “the degree to which carrying out the work activities required by the job results in the individual obtaining direct and clear information about the effectiveness of his or her performance.” They explain that job characteristics, such organizational or personal indicators that reflect performance outcomes, are effective feedback strategies that employees can build on to enhance their individual abilities and overall organizational outcomes. Performance feedback is also an effective strategy for strengthening organizational culture in terms of focusing on areas for improvement, supporting strengths, and motivating employees to perform.
Job Satisfaction

Job satisfaction has been widely studied in organizations and contexts interested in investigating the emotional state of employees. One of the first to define job satisfaction was Locke (1969). He defined job satisfaction as “the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values” (p. 316). He explained that this pleasurable emotional state is usually determined by what the individual wants from the job and perceives the job to entail. Locke (1969) also defined dissatisfaction as “the unpleasurable emotional state resulting from the appraisal of one's job as frustrating or blocking the attainment of one's job values or as entailing disvalues” (p. 316). Furthermore, job performance is not always a determinant of job satisfaction because performance is action oriented but satisfaction is merely an emotional state that is driven by personal values (Locke, 1970). With regards to engagement, Schaufeli and Bakker (2010) argued, “in contrast to engagement that is concerned with the employee’s mood at work, job satisfaction is concerned with affect about or towards work” (p. 14). They also reported that, although researchers have long studied the relationship between job satisfaction and job performance, most of the empirical evidence pointed to a weak association.

In a study that aimed to clarify the relationship between engagement and job satisfaction, Alarcon and Lyons (2011) surveyed three groups of full-time employees and undergraduate students from a Midwestern public university. The first sample consisted of 280 students; the second sample consisted of 387 students; and the third sample consisted of 394 employees from a variety of occupations. The researchers measured
work engagement using the Utrecht Work Engagement Scale (UWES-9), job satisfaction using the Michigan Organizational Assessment Questionnaire (MOAQ), and perception of work environment using the Areas of Work-Life Survey (AWLS). The findings of the study revealed that the average covariance between engagement and job satisfaction was high, however, it was clear that engagement and job satisfaction were distinct, independent constructs.

Tett and Meyer (1993) referred to job satisfaction as “affective attachment to the job viewed either entirety (global satisfaction) or with regards to particular aspects (facet satisfaction)” (p. 261). In their meta-analysis that investigated job satisfaction, organizational commitment, turnover intention, and turnover, Tett and Meyer concluded that job satisfaction is a stronger predictor of turnover intentions/cognitions than commitment. The job satisfaction variable is of interest in relation to investigations of work engagement because job satisfaction is believed to be a consequence of many organizational efforts to enhance performance in the Arab Gulf countries (Abraham, 2012; Barhem, Younies, Younis, & Smith 2012; Ibrahim & Al Falasi, 2014).

**Chapter Summary**

This chapter provided the highlights of a review of the literature related to the main theme of work engagement and the variables that influence it. A review of conceptual and empirical literature was undertaken in order to understand and clarify the concepts of interest as they relate to health care contexts. The review included summaries of relevant empirical research done on similar topics. The literature reviewed
covered the concept of work engagement, the predictors of work engagement, the health care workforce in the Arab Gulf countries, and globalization and characteristics of health care workforce.

The review of the related literature indicated a scarcity of scholarly work on the concept of work engagement in health care settings in Oman and the UAE. This situation enhances the significance of the present study for the health care industry in both geographic contexts. Furthermore, the international studies reviewed reflect the relevance of the concept of engagement, as well as the applicability of the Job Demands-Resources Model, for the study of the health care workforce in different countries, industries, and occupations. The next chapter discusses the methodology and procedures used in the present investigation.
Chapter 3

Methodology

The purpose of this comparative international research study was to investigate and compare the relationships among the demographic characteristics, job resources, job demands, job satisfaction, and work engagement of the health care workforce in the Sultanate of Oman (Oman) and the United Arab Emirates (UAE). This chapter discusses the research methodology employed in the study and includes the following sections: (a) Study design, (b) Population and sampling, (c) Instrumentation, (d) Research variables, (e) Data collection, and (f) Comparative data analysis.

Research Questions

In an endeavor to investigate the extent of the relationships between the independent variables and the dependent variable for the Oman and the UAE health care workforces, this comparative study answered the following research questions:

1. To what extent do the demographic characteristics of health care professionals (i.e., professional specialty, level of education, age, gender, years of experience, and job position) influence work engagement?
2. What is the extent of the correlation of job resources, job demands, and job satisfaction with work engagement?
3. What similarities and differences are exhibited in the relationships between demographic characteristics, job resources, job demands, and job satisfaction
and work engagement among health care professionals in Oman as compared with those in the UAE?

4. How do physicians and nurses in Oman and the UAE describe their experiences in the workplace in terms of work engagement, job resources, and job satisfaction?

Study Design

This comparative international study used a quantitative survey method design. According to Creswell (2014), the purpose of choosing a survey research design is to be able to generalize from a sample to a population, and so inferences could be made about characteristics, attitudes, or behavior about the population. The survey also included six open-ended qualitative questions to better understand the concepts of work engagement, job resources, and job satisfaction, as well as to assist in interpreting the results of the quantitative data analysis. In this cross-sectional comparative study, data concerned with basic demographic characteristics, job resources and demands, and work engagement were collected from samples of health care employees from two countries, Oman and the UAE.

A survey was chosen as the preferred method of data collection in this study because of its cost-effectiveness, ease of administration, and rapid turnaround from respondents. Fowler (2014) explained that an advantage of using surveys for data collection is its efficacy in identifying attributes of a large population based on a small sample of individuals. This is especially important in this study because data collection
occurred in two different geographical contexts. The data collection process used in this study consisted of email communications that included electronic access to an implied consent document and the survey instrument. The researcher sent an initial email to the potential participants to introduce them to the researcher, the study, and its purpose. A second email followed that included a link to the research consent form and survey questionnaire through the Qualtrics application. The process of data collection will be explained in more detail in the section on sampling.

**Target Population and Sampling**

**Population**

The target population for this study is all professional employees in Oman and the UAE working in public (government sponsored) health care settings. The researcher conducted a survey among a sample of health care professionals from two hospitals in Oman and two hospitals in UAE. Health care professionals working for public entities in the two countries practice in four main types of health care provider settings: (a) primary care, (b) secondary care, (c) tertiary care, and (d) quaternary care (WHO, 2017). Primary care settings are organizations that deliver care with a focus on health promotion, disease prevention, and community-based health care programs. Secondary care settings are organizations that focus on providing care to individuals with chronic, non-acute diseases, and any referrals from primary health care settings. Tertiary care settings are organizations that care for patients with acute, chronic diseases, and referrals from
primary and secondary care settings; they are usually very well equipped to provide specialized treatments to most types of patients. Quaternary care settings take tertiary care a step further through an emphasis on research. Quaternary care takes place in environments that feature: advanced therapies; highly specialized, uncommon surgical and diagnostic treatments; and experimental innovative medicine (WHO, 2017). The hospitals included in this study were provided either tertiary or quaternary type of care.

According to the Oman Ministry of Health Annual Health Report (2016), the total population of professional health care employees working in public (government sponsored) health care institutions is 35,121. Table 2 summarizes the number of health care professionals practicing in public health care organizations in Oman, where physicians and nurses constitute more than 65% of the professional health care workforce. The total number of physicians working in public institutions is 6,864 and the number of nurses is 16,145.

**Table 2**

*Distribution of the number and percentage of occupations represented in the health care workforce in public institutions in Oman, 2016.*

<table>
<thead>
<tr>
<th>Category of Health Employees</th>
<th>Number of Health Employees</th>
<th>Percent (%) Health Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>6,864</td>
<td>19.5%</td>
</tr>
<tr>
<td>Nurses</td>
<td>16,145</td>
<td>46%</td>
</tr>
<tr>
<td>Dentists</td>
<td>380</td>
<td>1.1%</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>636</td>
<td>1.8%</td>
</tr>
<tr>
<td>Technicians/ Paramedical staff*</td>
<td>11,732</td>
<td>33.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>35,121</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Note. *Includes health care professional and non-professional technical employees (e.g. x-ray, laboratory, dental assistants, and physical therapists; paramedics; medical orderlies; support staff).*
According to the Federal Competitiveness and Statistics Authority (FCSA) in the UAE, the total population of the health care workforce practicing in public institutions was 34,669 employees in 2016. Table 3 lists the number of health care professionals practicing in public health care settings in the UAE. Similar to the situation in Oman, physicians and nurses constitute the majority of the workforce, with 7,457 (21.5%) physicians and 18,386 (53.0%) nurses working in public health care institutions.

**Table 3**

*Distribution of the number and percentage of occupations represented in the health care workforce in public institutions in UAE, 2016.*

<table>
<thead>
<tr>
<th>Category of Health Employees</th>
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<tbody>
<tr>
<td>Physicians</td>
<td>7,457</td>
<td>21.5%</td>
</tr>
<tr>
<td>Nurses</td>
<td>18,386</td>
<td>53.0%</td>
</tr>
<tr>
<td>Dentists</td>
<td>797</td>
<td>2.2%</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>1158</td>
<td>3.3%</td>
</tr>
<tr>
<td>Technicians/Paramedical staff*</td>
<td>6,871</td>
<td>19.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34,669</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Note.* *Includes health care professional and non-professional technical employees (e.g. x-ray, laboratory, dental assistants, and physical therapists; paramedics; medical orderlies; support staff).

**Sampling**

The procedure of sampling involves the selection of a small subset of the target population that represents the whole population (Fowler, 2014). A multistage procedure ensured practicality and efficiency in conducting this comparative international study.
First, a sample of health care employees was selected from two main tertiary hospitals in the capital cities of each country. The sample of participants was selected from two public hospitals in Oman, and two public hospitals in the UAE using criterion-based purposive sampling. The hospitals chosen for inclusion in the study are in large cities because of the greater number of employees and the high degree of diversity of the workforce. Additionally, the hospitals that provide tertiary or quaternary care deal with a higher level of consumer demand. The second stage of sampling included selecting a stratified random sample of physicians and nurses from a list from the selected hospitals to reflect the proportion of physicians and nurses in the general workforce population. According to Creswell (2014), a population can be stratified according to specific characteristics in order for the sample to reflect the true proportion of individuals in the population with those characteristics. In this study, the physicians and nurses working in the identified hospitals were randomly selected within occupational groups so that the sample included proportions of physicians and nurses that reflected their actual proportions in the population.

In Oman the target population for this study is 35,121 employees, and in the UAE it is 34,669 employees (Tables 2 and 3). Calculations determined that, in order to achieve a 95% confidence level and a 5% margin of error, the desired sample size for both countries is 382 employees. The Qualtrics survey was distributed electronically to physicians and nurses working in the hospitals included in the study. The departments concerned with training and continuing professional development in each hospital were instrumental to the success of the data collection procedure. Random, stratified samples
were drawn from the list of physicians and nurses in each hospital to enhance generalizability to the entire hospital workforce and to ensure that the selected sample reflected the true proportion of physicians and nurses in the target populations in both countries (Dillman, Smyth, & Christian, 2014).

**Research Variables**

This study used the work engagement model developed by Bakker and Demerouti (2008) as a basis for studying the concept of work engagement as it relates to the other variables of interest. Tables 4—6 provide summaries of the variables, research questions, and survey questions that are used in this study. The independent variables in this study include demographic characteristics, job resources (i.e. autonomy, supervisory coaching, and performance feedback), and job satisfaction. The job demands subscales (i.e., workload, role ambiguity, and role conflict) are the moderating variables in the study. The dependent variable, work engagement, is measured on the three dimensions of vigor, dedication, and absorption. Figure 2 in Chapter one provides a conceptual illustration of the variables used in the study.

The critical demographic characteristics that were included in the analysis are location of employment (country), profession, level of education, age, gender, years of experience, and job position. Level of education and age were treated as control variables. Among the demographic characteristics, the variable “location of employment” was important for realizing the comparative international nature of the study. Raivola
(1985) explained that the conclusions drawn from cross-cultural research are most useful when equivalent units in the different contexts/countries are compared.

**Independent Variables**

In this comparative international study, the job resources (i.e., autonomy, supervisory coaching, and performance feedback) and job satisfaction are the independent variables. Table 4 presents a summary of the independent variables, the research questions that they address, and the items in the survey instrument used to measure them.

**Table 4**

*Summary of independent variables, research questions, and survey items*

<table>
<thead>
<tr>
<th>Job Resources Variables</th>
<th>Research Questions</th>
<th>Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Autonomy</td>
<td>RQ 2</td>
<td>1. My job gives me complete responsibility for deciding how and when the work is done.</td>
</tr>
<tr>
<td></td>
<td>RQ 3</td>
<td>2. My job denies me any chance to use my personal initiative or judgment in carrying out the work (Reverse code item).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. My job gives me considerable opportunity for independence and freedom in how I do the work.</td>
</tr>
<tr>
<td>b) Supervisory Coaching</td>
<td>RQ 2</td>
<td>The supervisory coaching items were adapted from Ellinger, Ellinger, &amp; Keller (2005).</td>
</tr>
<tr>
<td></td>
<td>RQ 3</td>
<td>1. My supervisor provides me with resources so that I can perform my job more effectively.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. My supervisor sets expectations with me and communicates the importance of those expectations to the broader goals of the organization.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. To help me think through issues, supervisor asks questions, rather than provides solutions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. My supervisor provides me with constructive feedback.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. My supervisor solicits feedback from me to ensure that his/her interactions are helpful to me.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. My supervisor encourages me to broaden my</td>
</tr>
</tbody>
</table>
perspectives by helping me see the big picture.
7. My supervisor uses analogies, scenarios, and examples to help me learn.
8. To help me see different perspectives, my supervisor role-plays with me.

<table>
<thead>
<tr>
<th>Job Resources Variables</th>
<th>Research Questions</th>
<th>Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RQ 2</td>
<td>The performance feedback items were adapted from Hackman &amp; Oldham (1975).</td>
</tr>
<tr>
<td></td>
<td>RQ 3</td>
<td>1. My job is set up so that I get constant “feedback” about how well I am doing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Just doing the work required by the job provides many chances for me to figure out how well I am doing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. My job itself provides very few clues about whether or not I am performing well. (Reverse code item)</td>
</tr>
<tr>
<td>c) Performance Feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Job Satisfaction</td>
<td>RQ 2</td>
<td>1. All in all, I am satisfied with my job.</td>
</tr>
<tr>
<td></td>
<td>RQ 3</td>
<td>2. In general, I don’t like my job. (Reverse code item)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. In general, I like working here.</td>
</tr>
</tbody>
</table>

**Moderating Variables**

The present study examined the moderating effect of job demands (i.e., workload, role ambiguity, and role conflict) on the relationships between the independent variables and the dependent variable. The interest in the moderating effect of job demands is based on the understanding of the Job Resources and Demand Model (JD-R; see Figure 1), and the uniqueness of physicians and nurses and how they adapt to job demands based on their work location within a hospital setting. According to Bakker & Leiter (2010, p.95), there are job demands and stressors that may “promote personal growth and achievement.” This is more evident with certain job positions and type of job demand experienced by the employees. Table 5 provides a summary of the moderating variables,
the research questions to which they apply, and the corresponding items in the survey instrument used to measure them.

Table 5
Moderating variables, research questions, and survey items

<table>
<thead>
<tr>
<th>Job Demands Variable</th>
<th>Research Questions</th>
<th>Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Workload</td>
<td>RQ 2</td>
<td>The workload items were adapted from Dekker &amp; Barling, 1995.</td>
</tr>
<tr>
<td></td>
<td>RQ 3</td>
<td>1. I often have to arrive early or stay late to get my work done.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. I often have to work through my breaks to complete my assigned workload.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. It often seems like I have too much work for one person to do.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. I sometimes have to take work home with me to complete my assigned workload.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. I am given enough time to do what is expected of me on my job.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. I have too much to do to do everything well.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. I have received adequate training to perform my job properly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. The amount of work I have to do is fair.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. The performance standards on my job are too high.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10. People who I work with are given less work to do than I am.</td>
</tr>
<tr>
<td>b) Role Ambiguity</td>
<td>RQ 2</td>
<td>The role ambiguity items were adapted from Rizzo, House, &amp; Lirtzman (1970).</td>
</tr>
<tr>
<td></td>
<td>RQ 3</td>
<td>1. I feel certain about how much authority I have.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. I have clear, planned goals and objectives for my job.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. I know that I have divided my time properly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. I know what my responsibilities are.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. I know exactly what is expected of me.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Explanation is clear of what has to be done.</td>
</tr>
</tbody>
</table>
Job Demands Variables  | Research Questions  | Survey Items
---|---|---
c) Role Conflict  | RQ 2  | The role ambiguity items were adapted from Rizzo, House, & Lirtzman (1970).
 | RQ 3  | 1. I feel certain about how much authority I have.
 |  | 2. I have clear, planned goals and objectives for my job.
 |  | 3. I know that I have divided my time properly.
 |  | 4. I know what my responsibilities are.
 |  | 5. I know exactly what is expected of me.
 |  | 6. Explanation is clear of what has to be done.

**Dependent Variable**

The dependent variable in this study is work engagement measured on the three dimensions vigor, dedication, and absorption (Table 6). According to Schaufeli et al. (2002, p. 74) work engagement is defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption.” They further refer to work engagement as “a more persistent and pervasive affective cognitive state of mind” (p. 74). The first dimension of engagement, vigor, is defined by Schaufeli et al. as “characterized by high levels of energy and mental resilience, the willingness to invest effort in one’s work, and persistence even in the face of difficulties” (p. 74). The second dimension of work engagement, dedication, is defined as a person feeling “a sense of significance, enthusiasm, inspiration, pride, and challenge” (Schaufeli et al., 2002, p. 74). The final dimension of engagement, absorption, is explained by Schaufeli et al. as a person “being fully concentrated and deeply engrossed in one’s work” (p. 75). These three dimensions of work engagement are measured using the Utrecht Work Engagement Scale (UWES).
Table 6
Dependent variables, research questions, and survey items

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Research Questions</th>
<th>Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Engagement:</td>
<td>RQ 1</td>
<td>1. At my work, I feel bursting with energy.</td>
</tr>
<tr>
<td>a) Vigor (Items 1-3)</td>
<td></td>
<td>2. At my job, I feel strong and vigorous.</td>
</tr>
<tr>
<td></td>
<td>RQ 2</td>
<td>3. When I get up in the morning, I feel like going to work.</td>
</tr>
<tr>
<td>b) Dedication (Items 4-6)</td>
<td>RQ 3</td>
<td>4. My job inspires me.</td>
</tr>
<tr>
<td>c) Absorption (Items 7-9)</td>
<td></td>
<td>5. I am enthusiastic about my job.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. I am proud of the work that I do.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. I feel happy when I am working intensely.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. I am immersed in my work.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. I get carried away when I’m working.</td>
</tr>
</tbody>
</table>

Instrumentation

Work Engagement

Work engagement has been conceptualized in different work settings, industries, and cultural contexts. Different instruments have been used to measure an individual employee’s level of work engagement and how it is influenced by other variables of interest. The present study adapted and used the Utrecht Work Engagement Scale (UWES) designed by Schaufeli et al. (2002) to measure work engagement as a dependent variable. The UWES self-report survey includes the three dimensions of work engagement: vigor, dedication, and absorption. According to Bargagliotti (2012) and Wilmar, Bakkar, & Schaufeli (2003), the UWES has been used in a variety of work contexts and translated into more than 20 languages. However, the reviewed literature shows that the instrument was never used in any studies conducted in Oman, and only in
a few studies in the UAE, none of which was in the health care sector (e.g., Ibrahim & Alfalasi, 2014; Abraham, 2012).

The first version of the UWES instrument was developed by Schaufeli et al. (2002) and consisted of 24 items. Later it was reduced to 17 items (UWES-17) and included six items to measure vigor, five items to measure dedication, and six items to measure absorption (Schaufeli, Bakker, & Salanova, 2006). The Cronbach’s α for internal consistency was commonly reported as between 0.80 to 0.90 for the UWES-17. However, Schaufeli et al. (2006) further reduced the UWES instrument to nine items (UWES-9). They analyzed data from 14,521 people from ten different countries, and obtained values for Cronbach’s α between 0.85 to 0.92 for the UWES-9. Based on these results, the UWES-9 was deemed reliable and internally consistent, and was adopted for the present study. Furthermore, due to its brevity, the UWES-9 scale is expected to yield a higher response rate compared to the lengthier instruments. The UWES-9 items are measured using a seven-point Likert scale with a range from Never (0) to Always (6). The nine items that make up the instrument represent the three dimensions of work engagement—vigor, dedication, and absorption—with three items dedicated to each dimension. Examples of the items include: “At my work, I feel bursting with energy” and “My job inspires me.” All of the items focus on assessing the respondent’s state of mind regarding their current work situation.
Job Demands

Job demands represent the different dimensions of an individual’s job that may result in physical or psychological strains (Bakker & Demerouti, 2007). These job dimensions could be social, professional, or organizational factors that employees experience while practicing their roles and responsibilities. Based on the reviewed research conducted in health care facilities concerning the complexities of the roles and responsibilities in health care work, researchers identified workload, role ambiguity, and role conflict as three job demand variables of interest (Barhem, Younies, Younis, & Smith, 2011; Hansen, Sverke, & Näswall, 2009; Jourdain & Chênevert, 2010). The complexities lie in the changing work environment and culture that is driven by workflow and regulations.

Workload, as a job demand factor, was presented in some of the literature as work overload, and a number of instruments have been designed to measure it in different work settings. Some of the earlier workload instruments were designed by Beehr et al. (1976) and Kelloway and Barling (1990). The present study adopted the workload scale designed by Dekker & Barling (1995). This instrument consists of a ten-item scale with each item measured on a seven-point scale that ranges from Strongly disagree (1) to Strongly agree (7). The first six items of the instrument measure quantitative aspects of the workload, followed by four items that assess qualitative aspects of the work. Some examples of the items of the instrument include: “I often have to arrive early or stay late to get my work done” and “The amount of work I have to do is fair.”
Role ambiguity and role conflict were measured by instruments developed by Rizzo, House, and Lirtzman (1970). Szilagyi et al. (1976) reported a Cronbach’s $\alpha$ for internal consistency of 0.96 for the role ambiguity instrument and 0.99 for the role conflict instrument, while Schuler, Aldag, and Brief (1977) reported values for Cronbach’s $\alpha$ in the range of 0.71 to 0.87. The role ambiguity instrument consists of seven items, and includes statements such as, “I feel certain about how much authority I have,” and “I know exactly what is expected of me.” Both instruments are scored using a seven-point Likert scale that ranges from Strongly disagree (1) to Strongly agree (7).

**Job Resources**

The other pole of the Job Demands-Resources Model (JD-R) is job resources. According to Bakker and Demerouti (2010), job resources are unique, not only because they are able to counteract job demands, but because they are associated with work engagement, reducing cynicism, and improving job performance. In addition to job resources, the reviewed literature also examined organizational resources (e.g., Saks, 2006). In the second version of the JD-R model, Bakker and Demerouti (2007) also introduced personal resources as having a direct association with job resources and work engagement. This study will examine three job resources factors: autonomy, supervisory coaching, and performance feedback.

Job characteristics have been studied in various contexts and the most widely used instrument is the one developed by Hackman and Oldham (1975). The job characteristics instrument encompasses five distinct dimensions, and each dimension is measured on
three items. The five dimensions included in the job characteristics instrument are autonomy, skill variety, performance feedback, task significance, and task identity. However, the present study only included the nine items that measure autonomy and performance feedback. Saks (2006) used the job characteristics instrument in a study that investigated the antecedents and consequences of work engagement, and reported a Cronbach’s α of 0.79. A Cronbach’s α of 0.65 for the performance feedback scale was reported for a cross-national study conducted by Salanova & Schaufeli (2008). Furthermore, Cronbach’s α scores of 0.82 for autonomy and 0.79 for performance feedback were reported in a study by Johari, Mit, and Yahya (2010). The two scales are measured using a seven-point Likert scale that ranges from Strongly disagree (1) to Strongly agree (7). An example of an item from the autonomy scale is: “My job gives me complete responsibility for deciding how and when the work is done.” An example from the performance feedback scale is: “My job is set up so that I get constant ‘feedback’ about how well I am doing.”

Supervisory coaching that occurs in different work settings, in the form of experiences and on-the-job activities, is believed to be positively associated with learning (Ellinger, Ellinger, & Keller, 2005). The reviewed literature reflects a scarcity of instruments that measure supervisory coaching. The eight-item instrument developed by Ellinger, Ellinger, and Keller (2005) is based on the behavioral themes given in Bostrom’s (1999) examination of managerial coaching. The eight-item instrument was reported to have a Cronbach’s α of 0.86. The instrument uses a seven-point Likert scale that ranges from Almost never (1) to Almost always (7). Items include statements such
as, “My supervisor provides me with resources so that I can perform my job more effectively” and “My supervisor provides me with constructive feedback.”

**Job Satisfaction**

Many factors that appear to enhance job satisfaction have been studied. The maintenance or improvement of job satisfaction is an important goal for many organizations because of its well-studied association with positive organizational outcomes (Chang & Lee, 2007; Locke, 1970; Williamson, Pemberton & Lounsbury, 2012). In the present study, physicians’ and nurses’ job satisfaction are measured using a scale adapted from the Michigan Organizational Assessment Questionnaire (MOAQ). The MOAQ has been reported to demonstrate adequate levels of construct validity with different antecedents and correlates. Bowling and Hamond (2008) conducted a meta-analysis of the construct validity of the MOAQ and confirmed its consistency with relation to different antecedents (e.g., autonomy, feedback, role conflict, and role identity), correlates (e.g., organizational commitment, job involvement, and emotional exhaustion), and consequences (e.g., job performance and turnover intentions; Hackman & Oldham, 1980). The scale was originally designed using a seven-point Likert scale, but, later, five-point and six-point Likert scale versions were used in different studies. This study employs the original seven-point Likert scale, which ranges from Strongly disagree (1) to Strongly agree (7). One example of the items on the job satisfaction instrument is: “All in all, I am satisfied with my job.”
Data Collection

Data collection was conducted implementing the following steps: (a) Development and posting of the online survey questionnaire; (b) testing instrument content validity and reliability, (c) obtaining Institutional Review Board (IRB) approvals for the protection of participants, and (d) collecting the data from the health care institutions in Oman and the UAE.

Development and Posting of the Online Survey

The survey questionnaire was developed in accordance with the study’s specific research questions and guided by the JD-R conceptual framework (see Figure 2). The survey included items from the eight different instruments described above, plus five open-ended questions and nine demographic information items. As summarized in Tables 4-7, the eight instruments measured work engagement, job resources (i.e., autonomy, supervisory coaching, and performance feedback), job demands (i.e., workload, role ambiguity, and role conflict), and job satisfaction. The open-ended questions focused on exploring the personal perceptions of work engagement, job resources, and job satisfaction of the study’s participants. The demographic information section of the survey included line items for: country, gender, age, profession, years of experience, position, job setting, nationality status, and level of education. The completed survey was then posted online via the Qualtrics application, which was provided by the Pennsylvania State University (See appendix C and D for consent and survey).
Content Validity and Reliability

The UWES and some of the other instruments used in the study have never been used in the health care context either in Oman or the UAE. Therefore, to ensure the credibility of the study with respect to both geographical and professional contexts, the survey instruments were evaluated for content validity and reliability (Fowler, 2014). Content validity was established by asking a panel of experts from both countries to review the instruments and provide feedback regarding their content in terms of appropriateness and relevance to the health care context in general and for the professions of medicine and nursing. The panel of experts included the following: (a) a physician at an executive level, (b) a nurse at an executive/superintendent level, (c) a head-of-unit physician, (d) a nursing supervisor, (e) a general practicing physician, and (f) a registered staff nurse. The feedback provided by the panel of experts was positive with regards to the clarity, appropriateness, relevance, level of language, and overall content validity.

The reliability of the instrument was established by conducting a pilot test that included a total of 75 participants from both countries (Oman= 40 and the UAE= 35). All the instruments used in the survey reflected an acceptable Cronbach’s $\alpha$ of internal consistency of $> 0.722$). According to Urdan (2010), a score of around 0.70 or above is an acceptable score for Cronbach’s $\alpha$.

Institutional Review Board (IRB) Approvals

Institutional Review Board (IRB) approvals for the protection of human participants were obtained from the Pennsylvania State University’s IRB and the Ministries of Health in Oman and the UAE. The Office for Research Protections
determined that the proposed study did not require formal IRB review because the research met the criteria for exempt research according to the policies of the Pennsylvania State University and the provisions of applicable federal regulations (see Appendix A). The Ministry of Health’s Research and Ethical Review and Approval Committee also approved the study and the method of data collection within the health care institutions (see appendix B). Therefore, in compliance with the regulations of the Pennsylvania State University and the Ministries of Health in both countries, as well as those of the individual hospitals, human subject protection was obtained prior to the administration of the survey questionnaire for data collection.

Data Collection Method

The method for collecting the survey questionnaire data followed the recommendations based on Dillman’s (2014) Tailored Design Method (TDM). The researcher communicated with the four hospitals in Oman and the UAE seeking permission to conduct the study and for the IRB approval. The heads of departments concerned with training and continuing professional development were contacted by email or telephone and provided with an overall explanation of the study, the intended procedure for data collection, and the expected timeframe for completing the data collection. Because the survey questionnaire was created using Qualtrics, a web survey system, the researcher sent an introductory email, including a recruitment letter (see Appendix E), to the departments of training and continuing professional development. A week after sending the initial email, the researcher disseminated a second email to the
study participants, which included a cover letter, instructions on how to complete the survey, and a hyperlink to the research survey in Qualtrics. Upon opening the survey, participants were guided through a confidentiality and implied consent document, to which they had to agree before answering the survey questions (Appendix C). The survey data were collected within a period of eight weeks during which the researcher sent a reminder email to potential participants every two weeks (Dillman, 2014).

Ethical concerns were addressed at every step of the data collection process (Appendix C) through IRB approvals, documentation and full disclosures of any potential risks, privacy and confidentiality assurances (to the extent that the technology allowed), and the guarantee of anonymity regarding the participants’ identity and responses (Cresswell, 2014).

The researcher used multiple techniques to increase the response rate of the participants throughout the eight-week period. These included bi-weekly email reminders, requests for department heads to encourage employee participation, and two site visits. The researcher distributed the survey to approximately 1,600 physicians and nurses in Oman and the UAE (800 in Oman and 800 in the UAE). As summarized in Table 7, the total number of individuals from both countries who completed the survey was 677; 353 respondents were from Oman and 324 from the UAE. Therefore, the response rate to the online Qualtrics survey was 42% for both countries combined, with a 44% response rate for Oman and 41% for the UAE. Initially, 1,112 individuals opened the survey, but only 677 participants consented and completed the survey. The total sample of 677 cases consisted of 548 nurses (81%) and 129 physicians (19%). The
physicians and nurses who responded to the survey reflected the overall health care workforce in both countries. There were no missing quantitative data because the researcher activated the option in Qualtrics that allowed participants to proceed to the next item only upon the completion of the previous one.

Table 7
Comparison of the survey response rates from Oman and the UAE

<table>
<thead>
<tr>
<th></th>
<th>Total Responses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>Responses/ Response</td>
<td>677</td>
<td>42%</td>
</tr>
<tr>
<td>Rate*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Oman</th>
<th>UAE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>Responses per Country</td>
<td>353</td>
<td>52</td>
</tr>
<tr>
<td>Nurses per Country</td>
<td>291</td>
<td>82</td>
</tr>
<tr>
<td>Physicians per Country</td>
<td>62</td>
<td>18</td>
</tr>
</tbody>
</table>

Note. * Total number of distributed surveys (emails sent) =1600; Oman=800; UAE=800.

Comparative Data Analysis

The data analysis procedure consisted of a number of steps, as recommended by Creswell (2014, p. 162), that reflect a comprehensive and a consistent approach to the interpretation of the results. The analysis of the survey data begins by reporting the numbers and percentages of the individuals who responded and did not respond (response
rate). Table 7 concisely summarizes the response rate including a breakdown of the number of cases for each country and profession category. When collecting data using a survey instrument there is always a risk of response bias. According to Fowler (2014), response bias is the effect of the number of non-respondents on the survey analysis results. In the case of low response rates, the researcher should check for response bias by performing a respondent-nonrespondent analysis. Following the procedure described by Creswell (2014), the respondent-nonrespondent test for response bias is performed by contacting a few of the non-respondents by phone in order to determine whether their responses differ greatly from those of the actual survey respondents. The response rate obtained for this study was 42%, representing a total of 677 physicians and nurses (Oman = 353; UAE = 324). Because the number of respondents that completed the survey was greater than the estimated required sample size of 384 employees, there was no need to conduct a response-nonresponse analysis.

After the data collection period expired and the Qualtrics application was closed, the data were downloaded into the IBM Statistical Package for the Social Sciences version 23 (SPSS-23) and coded in preparation for analysis. As recommended by Dillman (2014) and Fowler (2014), an exploratory analysis was performed on the collected data to identify missing values, outliers, out of range values, normality of distribution, as well as to provide an overall feel for the data variables and participants. The basis for this analysis is illustrated in tables (i.e., frequency, percentage, means, standard deviation, skewness, and kurtosis) and graphs (i.e., histograms and boxplots) comparing the character of the data from the two countries. Separating the data by
country clarifies the discussion of the conclusions in subsequent chapters of the study (see Chapter 4), and provides a practical baseline for developing relevant recommendations. Because the comparative nature of the present study is of paramount importance, descriptive and inferential statistics were used extensively to illustrate similarities or differences between the data sets. Such a comparative approach (Maxwell 2005) was designed to highlight how the health care employee populations in the two countries under consideration might differ. The comparative approach also allows for the identification of variation across sites as reflected in the data.

Following the descriptive and exploratory analyses of the collected data, the researcher embarked on an inferential statistical analysis to answer the three quantitative research questions set forth in Chapter 1. In order to address these research questions, the following statistical procedures were conducted: (a) Calculating the mean for all items in each summed Likert scale then combining them to create a single variable value for that scale; calculating Pearson’s correlation coefficients through multiple regression; and conducting a one-way analysis of variance (ANOVA) to test for differences between the data for the two countries. The rationale for choosing these statistical tests is to examine the relationships between the different predictor, or independent, variables (i.e., demographics, job demands, and job resources) and the outcome, or dependent, variable (i.e., the dimensions of work engagement). To examine the reliability of the measurement scales, Cronbach’s $\alpha$ was used to assess the internal consistency of the scores for the summed Likert scales used in the present study. Cronbach’s $\alpha$ results ranged from 0.68 to 0.90; all the scales measured between 0.70 and 0.90 except the autonomy scale, for
which a value of 0.68 was obtained. Although Urdan 2010 recommended that an
acceptable reliability measurement should be above .70, others considered the autonomy
score as acceptable if above .60 (Sax et al., 1972).

**Qualitative Data**

The qualitative data were collected to refine our understanding of the meaning of
the dependent and independent variables, and how the moderating variables influence
them. The subjective comments of the participants add depth to the discussion and
analysis of the findings for both cultural contexts and the two professional categories.
The qualitative data were collected concurrently with the quantitative data for the sake of
using the data collection time efficiently. As summarized in Table 8, the qualitative data
items consisted of five open-ended questions. The main purpose of collecting such
qualitative responses from participants is to enrich the research study with narrative
responses that support the analysis of the findings suggested by the quantitative data. This
combination of approaches provides a deeper understanding of what the concept of “work
engagement” means to health care professionals, and how they explain its relationship to
their work processes.

**Table 8**

*The research questions corresponding to the qualitative survey items.*

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Survey Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ4: How do the physicians and nurses in Oman and the UAE describe their experiences of the following:</td>
<td>1. What does it mean to you to be engaged in your work?</td>
</tr>
<tr>
<td></td>
<td>2. Considering your current job and position, what makes you increase your level of work engagement?</td>
</tr>
</tbody>
</table>
Research Questions | Survey Items
--- | ---
(a) Work engagement, (b) job resources, and (c) job satisfaction? | 3. Considering your current job and position, what makes you decrease your level of work engagement?
4. What makes you feel satisfied with your current job?
5. What makes you feel dissatisfied with your current job?
6. What job resources (physical, psychological, or emotional) contribute to you feeling a state of engagement in your current job?

The qualitative data collected using the open-ended questions were analyzed using a thematic analysis format guided by emerging themes and the researcher’s intuition regarding the two professions and cultures. The researcher employed a convergent parallel mixed design method whereby quantitative and qualitative data are first analyzed separately—first reporting the results of the quantitative analysis and then revealing the themes that emerge from the qualitative findings—followed by an interpretation of the findings in tandem (Creswell, 2014). The results of this parallel convergent approach are evident in the Discussion section of Chapter 5. Although 677 physicians and nurses completed the survey, only 389 participants completed the open-ended question section. These responses provided a wealth of descriptive data related to the participants’ understanding of their work engagement, job resources, and job satisfaction. Three themes were identified from the responses and analyzed to describe the nurses’ and physicians’ experiences of work engagement, job resources, and job satisfaction.
Chapter Summary

This chapter systematically covers the different procedures implemented in the realization of the current study and outlines how the comprehensiveness and rigor of these procedures were ensured. Studying work engagement and its predictors in two populations of health care workers is a complex venture. This is due to the unique resources, skill sets, demands, and overall work environment that the health care professional experiences within their organizations. In this comparative international study, a sample of physicians and nurses were selected from public hospitals in Oman and the UAE to complete an online survey. The survey incorporated eight different instruments tested for validity and reliability when applied in different industrial and cultural contexts. Data collection focused on the variables of work engagement, job resources, job demands, and job satisfaction. The moderating influence of work demands on work engagement was analyzed to better understand its special effects on physicians and nurses.

Data analysis included both descriptive and inferential analyses of data collected from 677 participants (42% response rate) from Oman and the UAE. All eight instruments used in data collection were determined to have a reliability value of 0.68 or above as measured by Cronbach’s α. The data were tested for normality via evaluation for skewness and kurtosis in preparation for regression analysis. The online survey also included five qualitative, open-ended questions that focused on a better understanding of the participants’ view of work engagement, job resources, and job satisfaction. Thematic analysis was used to generate three themes from the responses to the qualitative
questions. The descriptive themes were used to assist in the interpretation of the results of the quantitative analysis following a convergent parallel mixed design method. Chapter five details all the results of the quantitative and qualitative analyses, and includes a presentation of statistical assumptions, graphical procedures, tabular procedures, and the qualitative narrative.
Chapter 4

Results

This chapter reports the data analysis results for this comparative international study. The results consisted of quantitative statistics that address the first three research questions and qualitative descriptive analysis to address the fourth research question. The purpose of this comparative international study was to examine the relationships between demographic characteristics, job resources, job demands, job satisfaction, and the level of work engagement in the health care workforce in Oman and the UAE.

Research Questions

The present study investigated the extent of relationships between the independent variables and the dependent variable in the health care workforces (i.e., physicians and nurses) of Oman and the UAE. The following research questions guided the study and its analytical methodology:

1. To what extent do the demographic characteristics of health care professionals (i.e., professional specialty, level of education, age, gender, years of experience, and job position) influence work engagement?

2. What is the extent of the correlation of job resources, job demands, and job satisfaction with work engagement?

3. What similarities and differences are exhibited in the relationships between demographic characteristics, job resources, job demands, and job satisfaction


and work engagement among health care professionals in Oman as compared with those in the UAE?

4. How do physicians and nurses in Oman and the UAE describe their experiences in the workplace in terms of work engagement, job resources, and job satisfaction?

**Demographic Information and Respondent Profile**

The researcher electronically distributed a total of 1,600 surveys to 800 physicians and nurses in Oman and 800 physicians and nurses in the UAE through the departments of training and continuing professional development in four public (government) health facilities. As summarized in Table 7 of Chapter Three, the response rate for the study survey was 42% ($n = 677$). There were no missing data because the researcher selected the Qualtrics option that does not allow submission of the survey unless all items are completed. The minimum sample required (power analysis) from the target population of health care professionals working in public hospitals in Oman and the UAE is 384. The obtained sample of 677 respondents exceeded the required minimum, and constituted the data set that was used for the quantitative analysis portion of the study.

The analysis of the demographic information from the respondents is summarized in Table 9. Of the total number of participants, 52% were from Oman and 48% were from the UAE. The gender distribution of respondents was 76% male and 24% female. Of the Oman respondents, 75% were female and 25% were male. The UAE respondents were 79% female and 11% male. With respect to age, 88.3% of the
respondents from both countries were between 30 and 49 years of age; 61.6% fell in the 30 to 39 years of age category, and 26.7% in the 40 to 49 years of age category. With respect to profession, nurses represented 81% of the respondents and physicians the remaining 19%. This ratio is common in the health care industry, and more than 95% of nurses are female in most countries (Smith & Topping, 2001; Spence & Leiter, 2006). With regard to the highest level of education, 53% of the respondents had a Bachelor of Science degree. Fifty-five percent were either registered staff nurses or general practitioner physicians. The majority of respondents, 67%, had 10 years or less work experience.

Table 9
*Summary of demographic information (n = 677).*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Type</th>
<th>Number of Respondents</th>
<th>Percentage</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Oman</td>
<td>353</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>UAE</td>
<td>324</td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>516</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>161</td>
<td>24</td>
<td>100</td>
</tr>
<tr>
<td>Age (years)</td>
<td>29 or less</td>
<td>59</td>
<td>8.6</td>
<td>8.6</td>
</tr>
<tr>
<td></td>
<td>30 – 39</td>
<td>416</td>
<td>61.6</td>
<td>70.2</td>
</tr>
<tr>
<td></td>
<td>40 – 49</td>
<td>181</td>
<td>26.7</td>
<td>96.9</td>
</tr>
<tr>
<td></td>
<td>50 – 59</td>
<td>16</td>
<td>2.2</td>
<td>99.1</td>
</tr>
<tr>
<td></td>
<td>60 or more</td>
<td>5</td>
<td>0.9</td>
<td>100</td>
</tr>
<tr>
<td>Profession</td>
<td>Nurse</td>
<td>548</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Variables</td>
<td>Type</td>
<td>Number of Respondents</td>
<td>Percentage</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------</td>
<td>-----------------------</td>
<td>------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Physician</td>
<td></td>
<td>129</td>
<td>19</td>
<td>100</td>
</tr>
<tr>
<td>Diploma</td>
<td></td>
<td>123</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Bachelors</td>
<td></td>
<td>356</td>
<td>53</td>
<td>71</td>
</tr>
<tr>
<td>Masters</td>
<td></td>
<td>131</td>
<td>19</td>
<td>90</td>
</tr>
<tr>
<td>PhD or DNP</td>
<td></td>
<td>36</td>
<td>5</td>
<td>95</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>31</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Level of Education</td>
<td>ICU/ Emergency Care</td>
<td>156</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Surgical/ Operating</td>
<td>75</td>
<td>11</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Room</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Medical</td>
<td>122</td>
<td>18</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Oncology</td>
<td>29</td>
<td>4</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>OBGYN</td>
<td>59</td>
<td>9</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>236</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>Job Location</td>
<td>5 or less</td>
<td>225</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>6 – 10</td>
<td>216</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>11 – 15</td>
<td>126</td>
<td>18</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>16 – 20</td>
<td>88</td>
<td>14</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td>21 or more</td>
<td>22</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>Executive level/ GM</td>
<td>16</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Superintendent</td>
<td>9</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Head of unit/</td>
<td>82</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>department</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervisor/ in-charge</td>
<td>111</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Resident/Medical officer</td>
<td>14</td>
<td>2</td>
<td>34</td>
</tr>
<tr>
<td>Variables</td>
<td>Type</td>
<td>Number of Respondents</td>
<td>Percentage</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------</td>
<td>-----------------------</td>
<td>------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Specialist/ Senior</td>
<td></td>
<td>71</td>
<td>11</td>
<td>45</td>
</tr>
<tr>
<td>RN/ General practice</td>
<td></td>
<td>374</td>
<td>55</td>
<td>100</td>
</tr>
</tbody>
</table>

### Reliability of the Instruments

In preparation for the analysis of the collected data from the respondents in both countries, the reliability of the survey instrument was assessed. All the instruments used in this study had previously been used in different cultural contexts and industries, and were reported to have had an acceptable level of reliability. Cronbach’s $\alpha$, which measures internal consistency, was used as the standard of reliability in the present study. The Cronbach’s $\alpha$ results for all eight instruments ranged from 0.68 to 0.90, with all scales measuring between 0.70 and 0.90 except for the Autonomy scale, which measured 0.68. The researcher removed the second item on the Autonomy scale and the third item on the Performance Feedback scale to improve the level of reliability. The Cronbach’s results were consistent with previous research that used the same instruments and produced acceptable levels of reliability (Sax et al., 1972; Urdan, 2010). Table 10 summarizes basic descriptive statistics (i.e., mean and standard deviation) and Cronbach’s $\alpha$ for the different measures used to quantify work engagement, job resources, job demands, and job satisfaction.
Table 10
Basic descriptive statistics and Cronbach’s alpha (n = 677)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of Items</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Engagement</td>
<td>9</td>
<td>5.23</td>
<td>.966</td>
<td>.86</td>
</tr>
<tr>
<td>Job Resources</td>
<td>11-combined</td>
<td>4.38</td>
<td>1.078</td>
<td>.90</td>
</tr>
<tr>
<td>Autonomy</td>
<td>3</td>
<td>4.72</td>
<td>1.296</td>
<td>.68</td>
</tr>
<tr>
<td>Supervisory Coaching</td>
<td>8</td>
<td>3.85</td>
<td>1.304</td>
<td>.90</td>
</tr>
<tr>
<td>Performance Feedback</td>
<td>3</td>
<td>4.56</td>
<td>1.317</td>
<td>.70</td>
</tr>
<tr>
<td>Job Demands</td>
<td>24-combined</td>
<td>4.88</td>
<td>.568</td>
<td>.74</td>
</tr>
<tr>
<td>Workload</td>
<td>10</td>
<td>4.94</td>
<td>.851</td>
<td>.70</td>
</tr>
<tr>
<td>Role Ambiguity</td>
<td>6</td>
<td>4.90</td>
<td>1.156</td>
<td>.89</td>
</tr>
<tr>
<td>Role Conflict</td>
<td>8</td>
<td>4.81</td>
<td>1.031</td>
<td>.82</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>3</td>
<td>5.33</td>
<td>1.237</td>
<td>.83</td>
</tr>
</tbody>
</table>

Testing for Normality

The test for normality is an assessment of the distribution of the interval, quantitative data points. It is important to examine how well the distribution of values approach normality before performing statistical techniques. For the survey data obtained, the values for skewness and kurtosis were examined and are summarized in Table 11. The skewness values were all fairly normally distributed (i.e., −1.5 < skewed < 1.5; Schumacker & Lomax, 2004), where the actual value for all the variables were (−1.0 < skewed < 1.0). The data corresponding to “Years of Experience” was the most
positively skewed (1.045), while the data for the “Job Satisfaction” variable was the most negatively skewed (−1.057). The kurtosis value for the different variables of the study ranged between −1.608 and 2.092 and reflected a fairly normal distribution.

Table 11

*Summary of normality assessment (skewness and kurtosis; n = 677)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.879</td>
<td>2.092</td>
</tr>
<tr>
<td>Level of Education</td>
<td>0.749</td>
<td>-0.024</td>
</tr>
<tr>
<td>(ordered categories)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of Experience</td>
<td>1.045</td>
<td>1.151</td>
</tr>
<tr>
<td>Position (ordered categories)</td>
<td>-0.926</td>
<td>-0.488</td>
</tr>
<tr>
<td>Specialty (ordered categories)</td>
<td>-0.080</td>
<td>-1.608</td>
</tr>
<tr>
<td>Work Engagement</td>
<td>-0.869</td>
<td>1.068</td>
</tr>
<tr>
<td>Autonomy</td>
<td>-0.586</td>
<td>0.247</td>
</tr>
<tr>
<td>Supervisory Coaching</td>
<td>0.069</td>
<td>-0.463</td>
</tr>
<tr>
<td>Performance Feedback</td>
<td>-0.620</td>
<td>0.032</td>
</tr>
<tr>
<td>Workload</td>
<td>-0.220</td>
<td>0.183</td>
</tr>
<tr>
<td>Role Ambiguity</td>
<td>-0.372</td>
<td>-0.465</td>
</tr>
<tr>
<td>Role Conflict</td>
<td>-0.480</td>
<td>-0.199</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>-1.057</td>
<td>1.044</td>
</tr>
</tbody>
</table>
Bivariate Correlation

The survey data were entered in SPSS to examine the relationships between the different variables using Pearson’s bivariate correlation to address research questions one and two. The next two sections provide an explanation of the correlation results examining the relationships of demographic characteristics, job resources, job demands, and job satisfaction might have on work engagement.

Demographic Characteristics and Work Engagement

The demographic characteristics of physicians and nurses in Oman and the UAE are of interest considering the comparative goals of the study. The first research question focuses on the extent of relationship between the health care employees’ demographic characteristics (i.e., age, years of experience, level of education) and work engagement. Of the respondents in the present study, 52% were health care employees working in Oman and 48% worked in the UAE. Out of the total number of respondents, 76% were nurses and 24% were physicians (see Table 9 on page 65 for complete demographic information). The demographic variables of age, level of education, and years of experience are of particular interest with respect to their respective individual influence on the dependent variable, work engagement. Table 12 summarizes the bivariate correlation results for these three demographic characteristics with work engagement for the respondents from Oman and the UAE.
Table 12

Bivariate correlation of demographic characteristics and work engagement (n = 677)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Oman (n = 353) Work Engagement</th>
<th>UAE (n = 324) Work Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Engagement</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>- .022</td>
<td>-.088</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>-.009</td>
<td>.048</td>
</tr>
<tr>
<td>Level of Education:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effect Education_1</td>
<td>-.004</td>
<td>-.017</td>
</tr>
<tr>
<td>Effect Education_2</td>
<td>.009</td>
<td>.132*</td>
</tr>
<tr>
<td>Effect Education_3</td>
<td>.013</td>
<td>.149**</td>
</tr>
<tr>
<td>Effect Education_4</td>
<td>-.012</td>
<td>.124*</td>
</tr>
</tbody>
</table>

Note. Education: Effect 1 = BS vs Diploma, Effect 2 = MS vs Diploma, Effect 3 = PhD/DNP vs Diploma, and Effect 4 = Other vs Diploma.
**Significant at the 0.01 level; * Significant at the 0.05 level.

When analyzing the data for the two countries separately, the results indicated that bivariate correlations between the respondents’ age, years of experience, and level of education and the dependent variable, work engagement, were low to non-existent. The UAE group’s level of education had a slightly higher correlation with work engagement, but it was nonetheless a low association. The demographic variable, level of education, was recoded using simple effect contrast coding.

Job Resources, Job Demands, and Job Satisfaction with Work Engagement

The second research question focuses on the relationships between work engagement and the predictor variables: job resources, job demands, and job satisfaction.
As summarized in Table 13, the strongest positive relationship for work engagement was with job satisfaction ($r = 0.562$). The scatterplot in Figure 3 shows the positive association between engagement and job satisfaction; however, there is still quite a bit of scatter around the regression line (see Appendix H for other scatterplots of the relationships between the study variables). Consequently, a correlation of $r = 0.562$ is still a high moderate correlation. Work engagement had a moderate positive association of $r = 0.425$ with job resources (i.e., autonomy, supervisory coaching, and performance feedback scores combined).

Furthermore, the results of simple bivariate regression revealed that the correlations between work engagement and the three subscales dimensions of job demands were either non-existent or low-positive: workload = 0.210; role ambiguity = 0.361; and role conflict = −0.091. This could be explained by the competitiveness engendered by the work in health care settings. Nurses and physicians, especially individuals working in critical care and emergency settings (34% of respondents worked in critical, emergency, or operating rooms), are competitive by nature, and, as the stakes become higher, their engagement level increases. The work demands variables, notably workload, have been reported to be important predictors of both work engagement and burnout in health care employees; however, the majority of studies concluded that workload is negatively associated with work engagement (Fiabane, et al., 2013; Mauno, Kinnunen, & Ruokolainen, 2007). Other factors that might contribute to this result are discussed in Chapter Five.
Table 13

Mean, Standard Deviation, Cronbach’s Alpha, and Bivariate Correlation (n = 677)

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>α</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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</thead>
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<td>.432**</td>
<td>-.20**</td>
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</tbody>
</table>

Note. α = Cronbach’s Alpha; M = mean; SD = standard deviation; **significant at the 0.01 level; * significant at the 0.05 level.
Figure 3. Scatterplot of the relationship between Work Engagement and Job Satisfaction.

Multiple Block Regression

An examination of the relationship between the independent variables and the dependent variable was conducted by performing a multiple block regression. Based on research questions one through three and the researcher’s knowledge of the data and the study context, three blocks using the independent variables were created and regression analysis was performed with the dependent variable, work engagement. Tables 14 and 15 summarize the extent to which job resources, job demands, and job satisfaction explain physicians’ and nurses’ work engagement in Oman and the UAE. The influence of the independent variables on the dependent variable was analyzed independently, then collectively, according to the different regression models.

Table 14 summarizes the results of the multiple block regression for the data from all respondents from Oman and the UAE, while a comparison of the results for each
country separately is given in Table 15. To address the third research question, the first model of the regression analysis included the demographic characteristics of age, years of experience, and level of education (recoded to examine simple contrasts). In the first model, no significant differences in work engagement could be attributed to demographic characteristics ($p > 0.05$; see Table 14). In the second model, three job resource subscales (autonomy, supervisory coaching, performance feedback) and job satisfaction were added to the demographic variables. When the second regression model was run, the autonomy and job satisfaction variables were shown to be statistically significant. The significance level for autonomy ($\beta = 0.129, p = 0.001$) indicated that, as the autonomy of health care employees increases, their work engagement increases. Job satisfaction had an even greater contribution in explaining work engagement increases ($\beta = 0.405, p < 0.001$).

In the third regression model, the moderating variables (i.e., job demands) workload, role ambiguity, and role conflict were added to the variables used in the first and second models. The rationale for adding the job demands subscales was to examine their influence (whether positive or negative) on the health care employees’ work engagement, and to determine whether the results were consistent with those of previous studies (Ott & Longnecker, 2010). Regression results for the third model showed that the cumulative influence of years of experience, autonomy, workload, and role ambiguity were statistically significant. Experience was statistically significant ($\beta = -0.076, p = 0.049$); however the low beta value indicates a very low influence for experience on work engagement. Autonomy ($\beta = 0.082, p = 0.043$) and job satisfaction ($\beta = 0.342, p < 0.001$) remained statistically significant. Interestingly, two job demands variables also produced
significant results: workload ($\beta = 0.141, p < 0.001$), and role ambiguity ($\beta = 0.181, p < 0.001$). These results are consistent with work settings in hospitals where the challenging nature of providing urgent patient care can lead to higher levels of employee work engagement. This will be discussed further in Chapter 5.

**Table 14**

*Multiple Block Regression of Work Engagement with the Independent Variables* ($n=677$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
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<td>Beta</td>
<td>p-value</td>
<td>Beta</td>
<td>p-value</td>
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*Note.* Work engagement is the dependent variable. *Education:* Effect 1 = BS vs Diploma, Effect 2 = MS vs Diploma, Effect 3 = PhD/DNP vs Diploma, and Effect 4 = Other vs Diploma.
Table 15.

Comparison of the results of Multiple Block Regression for the data from Oman vs the UAE.

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<th>Variable</th>
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<td>Model 2</td>
<td>Model 3</td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
<td>Model 1</td>
<td>Model 2</td>
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<td>Beta</td>
<td>p-Value</td>
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</table>

Note. Work engagement is the dependent variable. *Education: Effect 1= BS vs Diploma, Effect 2= MS vs Diploma, Effect 3= PhD/DNP vs Diploma, and Effect 4= Other vs Diploma

Comparative Analysis Using Multiple Block Analysis

The third research question focused on examining the similarities and differences that exist in the relationships between the independent variables (demographic characteristics, job resources, job demands, and job satisfaction) and the dependent variable (work engagement) for health care professionals in Oman compared to those in the UAE. To address this research question, the data were first separated by country and then subjected to multiple block analysis. The three models used in this comparative regression analysis included the same variables used in the regression analysis based on the aggregated data (see Table 13). The results of the comparison using the first regression model, summarized in Table 15, indicate that differences in work engagement could not be attributed to demographic variables in either group \((p > 0.05)\).

First, each of the job resources and job demands subscale variables were analyzed independently (see Table 15), and then analyzed collectively by treating the three job resources subscales as a single variable and the three job demands subscales as a single variable (see Table 16). In the second regression model, the positive predictors of work
engagement—autonomy, supervisory coaching, performance feedback, and job satisfaction—were added. The results indicated that autonomy ($\beta = 0.153, p = 0.004$) and job satisfaction ($\beta = 0.445, p < 0.001$) were statistically significant, indicating that as autonomy and job satisfaction increase among Omani physicians and nurses, work engagement is likely to increase. Compared with the Oman sample, the UAE group showed job satisfaction ($\beta = 0.338, p < 0.001$) was less influential (lower beta values) in positively influencing the employees’ level of work engagement.

In the third model, the job demands variables—workload, role ambiguity, and role conflict—were examined for their moderating effect and contribution to employees’ work engagement. The results indicate that the statistically significant variables in the Oman group were job satisfaction ($\beta = 0.376, p < 0.001$) and role ambiguity ($\beta = 0.291, p < 0.001$). In the UAE group, the variables job satisfaction and workload were statistically significant (both at $\beta = 0.311, p < 0.001$). A difference of one unit (or standard deviation) in the role ambiguity measurement for the Oman group and one in the workload measurement for the UAE group resulted in an increase in work engagement by .29 and .31 standard deviation units. One of the explanations for these results, is there is a threshold below which job demands/stressors may promote growth and achievement (Hakanen & Roodt, 2010), which will be discussed in more detail in Chapter Five. The competitive environment and the challenges in some hospital settings may have contributed to the significance of job demands in this analysis.
Table 16
Comparison of the results of multiple block regression showing the relationship between the combined Job Resources, combined Job Demands, and Job Satisfaction variables on Work Engagement.

<table>
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<tr>
<th>Variables</th>
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<th>UAE (n = 325)</th>
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</thead>
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<td>Model 2</td>
<td></td>
<td>Model 1</td>
</tr>
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<td>Beta</td>
<td>p-value</td>
<td>Beta</td>
<td>p-value</td>
</tr>
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<td>.000</td>
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<td>Job Demands</td>
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<td></td>
</tr>
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</table>

*Note. Work engagement is the dependent variable.*

Comparing Computed Job Resources, Demands, and Satisfaction

In order to examine the combined influence of job resources and job demands on work engagement, the means of the three subscale variables that defined job resources and job demands were computed. The means of the variables autonomy, supervisory coaching, and performance feedback were used to create a single new job resources variable. Similarly, a new job demands variable was calculated using the mean of the values for workload, role ambiguity, and role conflict. As summarized in Table 16, the results using the first regression model indicated that there was a difference in the Oman group’s work engagement attributable to job resources (β = 0.236, p < 0.001) and job satisfaction (β = 0.452, p < 0.001). Similarly, for the UAE group job resources (β = 0.171, p = 0.008) and job satisfaction (β = 0.343, p < 0.008) were both statistically significant in their positive influence on job engagement.
In the second model using the combined job demands variable, the results indicated that, in the Oman group, combined job resources ($\beta = 0.219, p < 0.001$) and job satisfaction ($\beta = 0.444, p < 0.001$) were statistically significant, and that the combined job demands were statistically insignificant ($\beta = 0.074, p = 0.107$). However, results for the UAE group showed that the job resources ($\beta = 0.116, p = 0.066$) were insignificant and that job satisfaction ($\beta = 0.303, p < 0.001$) and job demands ($\beta = 0.254, p < 0.001$) were statistically significant. Job satisfaction maintained statistical significance in all of the models.

**Qualitative Data Analysis**

Qualitative analysis of the data was conducted by examining the collected responses of the participants to the six open-ended questions, coding them to build thematic data structures, and incorporating personal reflective writings based on experience (Charmaz, 2002). A descriptive analysis approach was used to integrate the collected data by identifying emerging themes informed by the researcher’s knowledge of the two cultures. The themes that were identified, along with examples from the participants’ responses, are discussed in the next section. The following qualitative data analysis of the open-ended survey questions addresses the fourth research question of the present study regarding how physicians and nurses in Oman and the UAE describe their experiences of work engagement, job resources, and job satisfaction.
Qualitative Results

Although 677 physicians and nurses completed the survey, only 389 participants completed the open-ended question section and provided data that could be used in the qualitative analysis. Their responses provided a wealth of description related to the participants’ understanding of work engagement, job resources, and job satisfaction. Because the aim of collecting qualitative data is to support and explain the quantitative results, the researcher managed to identify three themes that specifically addressed the fourth research question. The three themes that emerged from the qualitative data analysis (summarized in Table 17) are: The health care dimensions of work engagement; job satisfaction gained through autonomy, goal achievement, and positive outcomes; and investment in building psychological, emotional, and physical capital.

Table 17

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
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<td>How do the physicians and nurses in Oman and UAE describe their experiences of the following: (a) Work engagement, (b) job resources, and (c) job satisfaction?</td>
<td>1. Health care dimensions of work engagement.</td>
</tr>
<tr>
<td></td>
<td>2. Job satisfaction through autonomy, goal achievement, and positive outcomes.</td>
</tr>
<tr>
<td></td>
<td>3. Investment in building psychological, emotional, and physical capital.</td>
</tr>
</tbody>
</table>
Theme One

Health care dimensions of work engagement

The most widely used definition of work engagement formulated by Schaufeli, Salanova, Bakker, and Gonzales-Roma (2002, p. 74) defined engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption.” Engagement is regarded as a personal characteristic that describes an individual’s positive state of mind. The first theme that emerged from analyzing the qualitative data focused on describing what the concept of work engagement meant to the physicians and nurses in Oman and the UAE. The majority of the respondents in the study related their personal experience of being engaged in their work to their professional and moral responsibilities as physicians and nurses. Health care employees, especially ones working in demanding settings, frequently experience personal, professional, and organizational factors that lead to decreased work engagement and overall health status (Fiabane, Giorgi, Sguazzin, & Argentero, 2013). The physicians and nurses in the present study adapted to this challenging environment, and described their work engagement in terms of their professional skill sets and the organizational support that they received to attain a mental state of engagement. The following are some representative statements from the participants about this theme:

Participant 1 (physician): I feel that I am engaged when the team that I work with supports my contribution and we make our patients’ health status improve. When I work with a team that collectively is efficient in completing their roles and responsibilities, I become more engaged in contributing to the overall care of my patients.
Participant 2 (nurse): I like the competitive nature of the emergency room and the more patients we get the more I feel I am immersed in providing efficient and effective care. It gets crowded and busy at times, but that makes me more want to help my patients.

Participant 3 (nurse): Sometimes we have disagreements with our supervisor and feel unhappy, but when it comes to providing care to our patients we forget everything and become fully engaged and committed to providing the best patient care.

Theme Two

Job satisfaction through autonomy, goal achievement, and positive outcomes

Health care settings are highly professional environments with demanding performance standards. Nurses and physicians must be skilled and qualified to provide effective care to their patients. In addition to being professional and meeting high standards of care, nurses and physicians must possess certain interpersonal skills, such as communication skills and the ability to motivate others (Bellamy, Goldstein, & Tekanoff, 2000); Hansen, Sverke, & Näswall, 2009). To meet job standards and exercise effective interpersonal skills usually require that health care professionals act with autonomy in order to achieve desired outcomes. Therefore, nurses and physicians who are satisfied with their jobs measure it against their ability to help others, get involved in making decisions, and being happy in the process. Some of the things that led to job satisfaction for this study’s participants were: having control, a cooperative environment, being valued, and being appreciated by their clients and leaders. The following are some representative statements from the participants about this theme:
Participant 1 (nurse): I don’t mind working hard for hours with my patients and the rest of the care team, as long as we achieve our goal and help our clients. It feels that it was all worth it! I feel so satisfied that I did my best to improve the health of another human being.

Participant 2 (physician): Although it rarely happened in our unit, we get so excited when our department head meets with us and appreciates the hard work we did following a long night of procedures in the OR. I am not sure what it is, but it completes that sense of being satisfied with what you do as a doctor.

Participant 3 (nurse): I feel very satisfied with my job when I feel valued by the rest of my department. This is especially true when I am involved in making a decision about a new treatment or procedure in our oncology clinic. Sometimes I provide information that others did not know and help with the overall decision about the product.

**Theme Three**

*Investment in building psychological, emotional, and physical capital*

Most participants in the present study indicated that health care employees require superior psychological, emotional, and physical resources in order to be engaged in what they practice. The high standards that health care professionals’ must meet are sometimes a burden rather than a way of ensuring quality practice, especially if the employees are not equipped with necessary job resources (Jourdain & Chênevert, 2010). The participants indicated that their need for specific job resources depends on an employees’ personal job resources, type of health care setting, type of patients cared for, and level of leadership support. Some of the job resources identified by the physicians and nurses in this study included: respect, leadership support, decreased workload, performance feedback, rewards, and other types of recognition. Therefore, an investment in providing
and developing health care employees’ psychological, emotional, and physical capital is of value to any health care organization. This is because of its well-documented benefits to the organization, the clients and families, and to the community (Bakker & Leiter, 2010; Johnson, Hong, Groth, & Parker, 2011; Laschinger & Finegan, 2005). The following are some representative statements from the participants in concordance with this theme:

**Participant 1 (nurse):** I always feel that I am strong and I can manage different cases in the emergency room until I fail to save someone’s life. I feel the need for emotional and psychological support greatly. However, I am able and ready to care for the next challenge and client right away despite my emotional and psychological status caused by the loss of my previous patient. I guess that is the ER nurse in me!

**Participant 2 (nurse):** The first couple of years of my practice were in a general medical unit. One of the great things that our head of unit did on a bi-annual basis that had a positive influence on my work engagement was that he recognized and rewarded our efforts based on scores of health parameters that we had to improve on a regular basis.

**Participant 3 (physician):** All I ask from my ICU team members and manager is respect. When I am respected and appreciated by others for what I do and know, I feel valued and it translates into my increased engagement towards my patients and hospital.

The three themes that emerged from the short open-ended questions provided important descriptions about work engagement, job satisfaction, and job resources. The physicians and nurses referenced the same job resources and job demands analyzed in the quantitative sections, and they were described in terms of their own work experiences and work environments. Furthermore, there was an emphasis on the importance of developing
and nurturing the employees’ personal job resources to counteract negative mental, emotional, and physical stressors.

Chapter Summary

This chapter focused on reporting and illustrating the results of the quantitative and qualitative analyses performed on the survey data in order to address the four research questions that guided the study. The chapter began with a summary of the overall aim of the study and the research questions. Demographic data were collected from the 677 respondents to the Qualtrics online survey, 353 of whom were from Oman and 324 from the UAE. Out of the total respondents, 24 % were males, 76% were females, 19% were physicians, and 81% were nurses. Before the bivariate regression and multiple block regression analyses were performed, the assumption of linearity was checked using scatterplots, box plot outliers, histograms, and curve estimation. Checks for normality and missing data were also undertaken. The normality checks indicated a fairly normal distribution using the skewness and kurtosis values. Furthermore, Cronbach’s $\alpha$ was used to assess the internal consistency of the instruments used in the study. The Cronbach’s $\alpha$ results for all eight variables ranged from 0.68 to 0.90, indicating an acceptable level of reliability consistent with previous research studies.

The bivariate correlation results indicated that there were moderate to non-existent relationships between the demographic characteristics and work engagement. Job resources had a moderate to mild correlation with work engagement. Job satisfaction was moderately correlated with work engagement. Unexpectedly, the job demands also had a
mild association with the dependent variable, which could be related to the health care setting or culture where the data were collected. The first multiple block regression model indicated that the participants’ work engagement could not be attributed to any of the demographic variables. In the second model, autonomy and job satisfaction were found to be statistically significant contributors to the participants’ level of work engagement. In the third model, job satisfaction remained a statistically significant predictor of work engagement for both groups, but in the UAE workload was the other statistically significant predictor, while in the Oman group it was role ambiguity. The result that the dependent variable, work engagement, could be influenced positively by job demands was unexpected, and may be due to the specific health care settings studied. This idea will be pursued further in the next chapter. Chapter 5 will include a summary of the analytical findings, a discussion of the findings and their implications, along with recommendations for future research and applications.
Chapter 5

Summary, Discussion, Implications, and Recommendations

This chapter provides a summary of this comparative international study, discusses the findings reported in chapter four, and concludes with implications and recommendations for human resources development (HRD) scholars and practitioners in the health care industry.

Research Summary

Purpose of the Study

The main purpose of this comparative international study was to examine and compare the relationships between independent variables (demographic characteristics, job resources, job demands, and job satisfaction) and the dependent variable (work engagement) in the health care workforces of the Sultanate of Oman (Oman) and the United Arab Emirates (UAE).

Research Questions

The following research questions guided the study and its methodology:

1. To what extent do the demographic characteristics of health care professionals (i.e., professional specialty, level of education, age, gender, years of experience, and job position) influence work engagement?
2. What is the extent of the correlation between job resources, job demands, and job satisfaction with work engagement?

3. What similarities and differences are exhibited in the relationships between demographic characteristics, job resources, job demands, and job satisfaction and work engagement among health care professionals in Oman as compared with those in the UAE?

4. How do physicians and nurses in Oman and the UAE describe their experiences in the workplace in terms of work engagement, job resources, and job satisfaction?

**Research Procedures**

Based on the purpose of the study and the research questions, items from eight different instruments were combined to develop the survey used to collect data for the study. The instruments measured physicians’ and nurses’ work engagement, autonomy, supervisory coaching, performance feedback, workload, role conflict, role ambiguity, and job satisfaction in four public hospitals in Oman and the UAE. The survey also included six qualitative open-ended questions. After receiving Institutional Review Board (IRB) approval and permissions to conduct the data collection in the four hospitals, the researcher distributed a description of the study, consent forms, and a hyperlink to the research survey via email to a stratified sample of physicians and nurses in the different hospitals. The survey was delivered through Qualtrics, an online survey tool made available to the researcher through the Pennsylvania State University.
The total number of respondents to the online survey was 677 employees from both countries, representing a 42% response rate. In the final sample, 52% of the respondents were from Oman and 48% were from the UAE, while 76% of the sample total was female and 24% percent male. Among the Oman respondents, 75% were female and 25% were male, and among the UAE respondents 79% were females and 11% were male. Furthermore, nurses represented 81% of the respondents and physicians 19% of the total respondents in the study. Prior to performing the statistical correlation procedures, the collected data were explored by conducting an analysis to assess for missing values, outliers, normality of distribution, and an overall feel for the data and participants. Furthermore, the assumption of linearity was checked using scatterplots, box plots, histograms, and curve estimation (Dillman, 2014).

**Research Findings**

Cronbach’s $\alpha$ scores were used to assess the internal consistency of the instruments used in the study. The eight instruments obtained $\alpha$ scores ranging between 0.68 to 0.90. These scores indicate that the instruments are reliable and are consistent with reliability scores measured in other studies (Sax et al., 1972; Urdan, 2010). Pearson’s correlation also showed that there were no issues with multicollinearity ($|r| < 0.85$; Fowler, 2014). For the present study, skewness and kurtosis values were examined, as summarized in Table 11. The variable values were all either mildly or approximately skewed (i.e., $-1.5 < \text{skewed} < 1.5$; Schumacker & Lomax, 2004) where the actual values for the variables were ($-1.0 < \text{skewed} < 1.0$). These results indicated normality of
distribution, which was further confirmed by plotting distribution curves for the study data.

The first three research questions were addressed by conducting bivariate correlation and multiple block regression analyses. A Spearman’s correlation (SPC) analysis indicated that there were weak to nearly non-existent relationships between work engagement and the demographic characteristics for the groups of respondents from both countries ($r < 0.150$). Work engagement had a weak positive association of $r = 0.425$ with the job resources variables (i.e., autonomy, supervisory coaching, and performance feedback). The results of bivariate correlation also revealed that there was a weak correlation between work engagement and the job demands variables (for workload, $r = 0.210$; for role ambiguity, $r = 0.361$; and for role conflict, $r = -0.091$). Out of all the proposed predictors of work engagement, job satisfaction had the strongest positive correlation, a moderate correlation of $r = 0.562$, with the dependent variable. Table 13 summarizes the bivariate correlations obtained for work engagement with job resources, job satisfaction, and job demands.

The data were tested with three multiple block regression models to further investigate the research questions and to enable a comparative analysis of the data subdivided by country. In the first model, the findings indicated that the participants’ work engagement was not attributable to any of the demographic variables ($p > 0.05$). In the second model, autonomy ($\beta = 0.153, p = 0.004$) and job satisfaction ($\beta = 0.445, p < 0.001$) were statistically significant for the Omani sample, suggesting that, as Omani physicians’ and nurses’ autonomy and job satisfaction increase, work engagement will
increase. Compared to the Oman sample results, those for the UAE group showed that job satisfaction ($\beta = 0.338, p < 0.001$) was statistically significant in positively influencing the physicians’ and nurses’ work engagement. In the third block regression model, significant predictors of work engagement for the Oman group were job satisfaction ($\beta = 0.376, p < 0.001$) and role ambiguity ($\beta = 0.291, p < 0.001$). In the UAE group, the job satisfaction and workload variables were statistically significant (both at $\beta = 0.311, p < 0.001$).

**Summary of Qualitative Findings**

Out of the 677 physicians and nurses who completed the survey, only 389 participants completed the open-ended questions section that provided usable data for the qualitative analysis. The collected qualitative data generated a wealth of description related to the participants’ understanding of their work engagement, job resources, and job satisfaction. Thematic descriptive analysis was used to generate themes that assisted in describing health care employees’ experiences and understanding of work engagement and its predictors. The three themes that emerged from the collected data, as summarized in Table 17, are: Health care dimensions of work engagement; job satisfaction through autonomy, goal achievement, and positive outcomes; and investment in building psychological, emotional, and physical capital. These themes, supported by the respondents’ statements and phrases, indicated that, while the concepts of work engagement and its predictors are holistic and reflect a comprehensive nature with
organizational outcomes, they also showed that physicians and nurses had personal understandings that are influenced by their job resources, work setting, and culture.

**Discussion**

The purpose of this study is to examine the relationships between work engagement and some possible predictors (i.e., respondents’ demographic characteristics, job resources, job satisfaction, and job demands). The influence of job demands (i.e., workload, role ambiguity, and role conflict) on work engagement was examined to see to what extent they affected the relationship between the dependent variable (i.e., work engagement) and the job resources variables (i.e., autonomy, supervisory coaching, and performance feedback) and job satisfaction. The first research question of the study focused on the relationship between the demographic variables and the dependent variable, work engagement. The bivariate correlation results indicated that there was a weak correlation ($r \leq 0.150$) between work engagement and the demographic characteristics for the samples from both countries. Both the UAE group’s ($r = 0.149$) and the Oman group’s ($r = 0.013$) level of work engagement had a very weak positive correlation with level of education (i.e., effect 3; see Table 12). There was also a very weak negative correlation between the age of the respondents and their work engagement for the samples from both countries (Oman: $r = -0.022$; UAE: $r = -0.088$). Similarly, the respondents’ years of experience had a very weak correlation with work engagement (Oman: $r = -0.009$; UAE: $r = 0.048$). These findings all indicated that a change in these demographic variables did not have a significant influence on the level of work
engagement (see Table 12). The weak to almost non-existent bivariate correlation scores between work engagement and the demographic variables were similar to other comparative international studies (e.g., Schaufeli, Bakker, & Salanova, 2006; Taipale, Selander, Anttila, & Na, 2011).

The second research question proposed a relationship between work engagement and job resources, job demands, and job satisfaction. The results showed that work engagement had a weak to moderate correlation with the job resources variables: autonomy ($r = 0.374$); supervisory coaching ($r = 0.317$); and performance feedback ($r = 0.362$). These findings were statistically significant and indicated that, as the job resources increased and were made available to employees, their work engagement improved. In a national study of Dutch medical physicians, Prins et al. (2010) also found that there was a statistically significant correlation between job resources and work engagement. Job satisfaction was another positive predictor of work engagement proposed in this study. Although previous research has shown that job satisfaction and work engagement are independent and distinct concepts, the same studies have also shown a moderate to strong correlation between the two constructs (e.g., Abraham, 2012; Alarcon and Lyons, 2011; Simpson, 2009). In this study, work engagement and job satisfaction had a moderate positive correlation ($r = 0.523$). This indicates that, as job satisfaction increases, there will be an increase in work engagement. Job satisfaction also had a moderate positive correlation with the combined job resources variable ($r = 0.562$), compared to a weak positive correlation with the combined job demands variable ($r = 0.266$).
Furthermore, the bivariate correlation indicated that work engagement had a weak positive correlation with the combined job demands variable \((r = 0.299)\). When job demands were examined individually, work engagement had a weak positive correlation with workload \((r = 0.210)\) and role ambiguity \((r = 0.366)\), and a weak negative correlation with role conflict \((r = -0.091)\). While this was not an expected finding, it could be explained by the fact that the participants in the study were nurses and physicians who worked in competitive and complex environments. Additionally, 35% of the respondents worked in emergency departments, critical care units, and operating rooms. These work settings within any hospital are considered very demanding and competitive. Bakker and Leiter (2010) referred to such motivating job demands as “challenge stressors.” Consistent with the results of this study, LePine, Podsakoff, & LePine (2005) found that certain enabling stressors can act as motivators and improve employee engagement.

The third research question aimed at examining the similarities and differences between the Oman and UAE respondents with respect to the relationship of the demographic characteristics, job resources, job demands, and job satisfaction with the dependent variable, work engagement. The results of the multiple block regression analysis for work engagement are presented in Tables 14 and 15. The analysis was performed using the entire data set and then separately for each country to compare the findings. The regression analysis consisted of three models demographic characteristics only, with job resources and job satisfaction, and finally by adding job demands. In the first model, the results indicated that none of the demographic characteristics were
statistically significant in explaining the employees’ level of work engagement ($p \geq 0.05$).

In their cross-national study, Taipale et al. (2011) also found that the demographic characteristics of participants were not statistically significant in explaining their level of work engagement.

The second model indicated that autonomy ($\beta = 0.129, p = 0.001$) and job satisfaction ($\beta = 0.405, p < 0.001$) were statistically significant in explaining the employees’ level of work engagement. Physicians and nurses are trained to respond to a great variety of health situations and to make decisions quickly in order to initiate treatment for their clients. This makes independence of action (i.e., autonomy) and liking what they do (i.e., job satisfaction) important factors in optimizing their job performance. Laschinger & Finegan (2005) found that autonomy is very important in the nursing profession, and they reported that nurses perceived “having control” as important in their practice. Simpson (2009) also found in her study that job satisfaction contributed significantly to nurses’ work engagement and reduced turnover intentions.

The third model was completed with the addition of the job demands variables (i.e., workload, role ambiguity, and role conflict). The findings showed that, when the job demands were added to the model, years of experience ($\beta = -0.076, p = 0.049$), autonomy ($\beta = 0.082, p = 0.043$), job satisfaction ($\beta = 0.342, p < 0.001$), workload ($\beta = 0.141, p < 0.001$), and role ambiguity ($\beta = 0.181, p < 0.001$) were all statistically significant. These results indicate that as these predictor variables increase, health care employees’ work engagement also increases. Furthermore, when job demands were introduced, the respondents’ years of experience became significant and contributed to their work
engagement. The job demands variables—workload and role ambiguity—were also statistically significance and explained some of the variance in the respondents’ work engagement. Hakanen & Roodt (2010) explained that job demands can have a positive aspect, because certain demands or stressors can result in elevating motivation and competition among employees, which improves their work engagement as a consequence. While many studies suggest that job demands are hindering stressors that may lead to negative outcomes (e.g., Fiabane, 2013; Mauno et al., 2007; Van den Broeck et al., 2008) such as burnout, a meta-analysis by Lepine, Podsacoff, & LePine (2005) obtained results consistent with the present study that job demands act as challenge stressors.

In addition to the findings of the multiple regression analyses, the third research question was addressed by performing comparative multiple block regressions on the original sample separated into two subsamples by country of employment (Oman and the UAE). In the first model, all of the predictor variables were regressed individually against work engagement. In the second model, the variables used were the combined job resources variable, job satisfaction, and the combined job demands variable, and then regressed against work engagement. Tables 14 and 15 summarize the results of the comparative analysis. In the first multiple block regression, with all the proposed predictors of work engagement (i.e., demographics, autonomy, supervisory coaching, performance feedback, workload, role ambiguity, role conflict, and job satisfaction) included in the model, the results for the two countries were similar with a few differences.
The results showed that job satisfaction was statistically significant in both samples (Oman: $\beta = 0.376, p < 0.001$; UAE: $\beta = 0.311, p < 0.001$). This indicates that, as the job satisfaction of the physicians and nurses in Oman and the UAE increases, their work engagement also increases. None of the job resources variables were statistically significant predictors (although autonomy was statistically significant after the job demands were added to the model). The job demand, role ambiguity, was statistically significant for the Oman sample ($\beta = 0.291, p < 0.001$), which indicated that this job demand or stressor acted as a challenge stressor rather than a hindrance stressor (Hakanen & Roodt, 2010; LePine et al., 2005). For the UAE group, physicians and nurses’ workload had statistically significant effects ($\beta = 0.311, p < 0.001$). This indicated that, as the physicians’ and nurses’ workload increased, their work engagement also increased. Challenge stressors that lead to growth and achievement are common among health care professionals working in chaotic and demanding work settings. Furthermore, physicians and nurses are positively motivated by the outcomes of their care (whether saving a life or improving the health of a sick child), which positively influences their level of engagement along with other job resources (Van den Broeck et al., 2008).

The other block regression models (see Table 16) performed examined how regressing the combined means of job resources, the combined means of job demands, and job satisfaction affected work engagement. For the Oman group, the job resources ($\beta = 0.219, p < 0.001$) and job satisfaction ($\beta = 0.444, p < 0.001$) variables were statistically significant and influenced the employees’ level of work engagement. Furthermore, these findings were not affected even after the job demands variable was added in the second
model. For the UAE group, the job demands (β = 0.254, p < 0.001) and job satisfaction (β = 0.303, p < 0.001) variables were statistically significant and explained some of the variance in the employees’ work engagement. That the explanatory power of job resources was not maintained when the job demands variable was added for the UAE group suggests that job resources contributed more to the Oman physicians’ and nurses’ level of work engagement than to that of the UAE physicians and nurses.

**Implications for Scholars**

The findings of this research study have a number of implications for scholars, health care practitioners, and health care personnel managers in Oman and the UAE. The results of the data analysis suggested a few implications for HRD scholars. These implications are significantly influenced by the fact that research on work engagement within the health care industry is still scarce in Oman and the UAE and there is a wide gap to fill in the understanding of the concept of work engagement. Furthermore, an evidence-based understanding of work engagement, its predictors/antecedents, and its consequences for the health care workforce will help policy makers develop strategies that ensure the availability of job resources, the reduction of job demands, and the consequent improvement of work engagement. The study findings also indicated the importance of job resources in improving physicians’ and nurses’ work engagement and in reducing job demands. Another important implication of the study is that it attempted to account for the diversity of the health care industry workforce, which was rarely studied until the last few years. Bakker & Leiter (2010) also noted that the job demands
and resources model (JD-R) had rarely been tested to account for the diversity in different industries and for employees at various professional levels.

Another implication of this research is the importance of studying other job resources relevant to the health care workforce (i.e., organizational and personal resources, such as leadership styles, psychological capital, and work settings). Such scholarly work may provide a better understanding and more thorough conclusions about what makes a health care employee more engaged. This is vital information for health care organizations because any negative consequences due to decreased work engagement may result in negative patient outcomes, employee burnout and ill health, and overall reduced organizational effectiveness. Additionally, researchers could expand the study of engagement by examining the three dimensions of work engagement independently and as mediators between the antecedents and consequences of employee engagement.

**Implications for Practitioners**

There are a variety of implications for human resource development (HRD) professionals based on the findings of the present study. HRD practitioners should be able to perform an important role in improving the work engagement of health care employees. The results of the study provide a basis for HRD professionals to assume three different roles. The first of these roles involves the use of research findings to plan and implement programs that foster employee work engagement. The second role involves the development and implementation of training programs to enhance health
care employees’ abilities to counteract demands and improve their engagement. Their third role will be to act as facilitators and liaisons between employees in need of job resources and the organization leadership in order to develop evidence-based strategies that improve work engagement. Furthermore, the study’s findings highlight opportunities for HRD practitioners to be involved in organizational strategic planning as advocates for advancing the importance of employee work engagement to employees, patients, and the organization.

The health care leadership, in collaboration with HRD professionals, should use the JD-R Model as a guide to address employees’ job demands and to provide the necessary support and resources to counteract any negative or unhealthy long-term effects. Health care employees working in areas that are demanding should be aware of such demands, and should develop their personal resources, as well as taking advantage of the available organizational resources, to deal with them. This will result in increased levels of work engagement on the part of employees and a reduction in incidents with negative consequences.

HRD practitioners are skilled trainers with the ability to develop workshops, courses, and conferences for health care professionals to improve their knowledge of work engagement, its predictors, and consequences. The qualitative analysis revealed that the study’s respondents differed in their descriptions of engagement and their need for job resources depending on where they worked and the type of care they provided. Therefore, HRD practitioners should be aware of the roles and responsibilities of the different health care professionals in order to be able to develop and implement effective
work engagement training programs. Although the demographic characteristics in this study did not explain the employees’ level of work engagement very well, a better understanding of health care workforce demographics and diversity may lead to the development of more effective organization-based training programs and strategic initiatives.

Cross-Cultural Implications

This comparative international study examined work engagement and its predictors in the health care workforces of Oman and the UAE. The present study suggests several implications for the health care employees and the health care industry in both countries. While the selected sample in this study represents only a limited cross-section of all public (government) hospitals in each country, it provided convincing evidence for the importance of work engagement and its predictors. The findings from the data analysis for the two groups were similar and showed that job resources, job satisfaction, and some job demand variables (i.e., workload and role ambiguity) were significant predictors of work engagement. However, when the variables created using the combined means of job resources and job demands were regressed against work engagement, only the job resources score for the Oman group was statistically significant and explained the change in employees’ work engagement. For the UAE group, however, the job resources score became statistically insignificant when the combined job demands variable was added. Furthermore, the job demand scores were statistically significant and contributed positively to changes in the employees’ level of work engagement. This
means that the studied job resources (i.e., autonomy, supervisory coaching, and performance feedback) were more effective in combination in counteracting job demands and improving work engagement among the physicians and nurses in Oman. However, this was not the case with the UAE group, where the job demands (i.e., challenging stressors) explained their improved work engagement. Comparative research scholars can conduct research to look for other job resources that can counteract hindering job demands and improve work engagement. Furthermore, the findings support the assumptions of the JD-R model, which suggest that work engagement is mostly influenced by work-related resources and demands (Bakker & Demerouti, 2007). HRD professionals in both countries can play a role in identifying culturally-specific job resources and hindering demands in order to design and implement strategies to improve health care employees’ work engagement.

**Recommendations**

Based on the experience of conducting this comparative international study and interpreting the results of the data analysis, some recommendations are proposed for future research and for policy-making in health care establishments in the Sultanate of Oman and the United Arab Emirates.
Recommendations for Future Research

The scarcity of literature about work engagement in Oman and the UAE was evident prior to conducting the present study. However, the results of the study and the analysis of the similarities and differences between the two groups of respondents provide a guide for future researchers. The critical need for a qualified health care workforce and the unique work environments this workforce inhabits require future industry-specific research on work engagement. The present study included a sample of 677 physicians and nurses representing the population of health care employees in two countries. While the findings of the study are of value for the target populations, scholars, and HRD practitioners, replication of the study is strongly recommended. Of the total respondents in the study, 24% were males, 76% were females, 19% were physicians, and 81% were nurses. In order to examine employees’ work engagement in terms of gender or profession, further study of comparable groups will provide more robust findings that would be more generalizable. Furthermore, in order to be able to generalize the findings to the entire health care workforce, it is recommended that other categories of professionals be included in future research initiatives.

Another recommendation for future research that emerged as a result of the present study is the need to compare the influence of challenging demands/stressors with that of hindering demands/stressors in employees working in different industries. It will be of value to find out whether there is a threshold beyond which job demands switch from being challenging and motivating to hindering and exhausting. LePine, Podsakoff, & LePine (2005) conducted a meta-analysis to investigate challenging stressors and
hindering stressors in the workplace. They found that challenging stressors were positively related to motivation and performance. There are only a few studies that examined both challenging and hindering stressors (e.g., Mauno et al., 2007; Van der Broeck et al., 2008) in relation to work engagement, and they concluded that the two kinds of stressors were differently related to work engagement.

The relationships examined in this study revolved around some of the assumed predictors of work engagement for health care employees, and how these relationships compared in two neighboring countries. One important recommendation for future research is that additional job resources be examined in relation to the work engagement of health care employees. Job and personal resources, such as team leadership, self-efficacy, optimism, and involvement are also of relevance to health care employees’ level of work engagement and should be considered in future research. This study analyzed self-report data collected through a survey based on a combination of several quantitative instruments and six qualitative open-ended questions. To obtain a more comprehensive understanding of participants’ experiences with regard to their job resources and work engagement, future comparative international research should adopt this mixed-method approach. Such approaches provide invaluable insights based on the descriptions obtained from the participants’ point of view (Creswell, 2014).

**Recommendations for Health Care in Oman and the UAE**

A concern for health care employees’ work engagement and what is known and remains to be known about the predictors of engagement is an area of study that HRD
and health care leaders in both countries should embrace in order to attain the positive outcomes expected of health care services. Future research on employee work engagement should be comprehensive and continuous, with the findings incorporated into health care policies and strategic plans. Another recommendation is for HRD practitioners to generate regular data about work engagement within their health care organizations the same way they periodically collect data about job satisfaction, client satisfaction, and performance feedback.

Another recommendation for health care organizations in Oman and the UAE is to further examine the value of increasing employees’ work engagement. Investigating the mediating influence of the dimensions of work engagement, as well as their antecedents and consequences, may provide evidence for strategies that improve performance. Furthermore, the demographic data collected in this study indicate that the health care workforce in both countries consisted of a significant percentage of expatriate (non-permanent) employees. Out of the total number of respondents from Oman, 20% were expatriates/non-nationals. The demographic data for the UAE group showed that 74% of the respondents were expatriates/ non-nationals. It would be interesting and valuable for both countries, especially in the case of the UAE, to study the relationship between work engagement and turnover intentions, as well as to identify ways to reduce the negative consequences of low levels of work engagement.

Cross-national approaches to the study of work engagement and its predictors are still rare and there remain considerable gaps in knowledge to be filled. This study attempted to narrow the scholarly gap by examining some predictors of work engagement
in the health care workforces in Oman and the UAE. The findings are intended to stimulate much needed scholarly effort to better understand the concept of work engagement, its predictors, and consequences in the context of the health care workforces of the two countries.
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Appendix A

IRB_PSU Approval Letter for Use of Human Research Subjects

EXEMPTION DETERMINATION

Date: May 16, 2016
From: Courtney Whetzel, IRB Analyst
To: Jamal Al Khadhuri

Type of Submission: Initial Study
Title of Study: An Examination of the Predictors of Work Engagement of the Health Care Workforce in the Sultanate of Oman and United Arab Emirates
Principal Investigator: Jamal Al Khadhuri
Study ID: STUDY00005034
Submission ID: STUDY00005034
Funding: Not Applicable

Documents Approved:
- Protocol for Human Research (Version 2; 5-13-2016), Category: IRB Protocol
- Survey Instrument (Version 1; 5-11-2016), Category: Data Collection Instrument

The Office for Research Protections determined that the proposed activity, as described in the above-referenced submission, does not require formal IRB review because the research met the criteria for exempt research according to the policies of this institution and the provisions of applicable federal regulations.

Continuing Progress Reports are not required for exempt research. Record of this research determined to be exempt will be maintained for five years from the date of this notification. If your research will continue beyond five years, please contact the Office for Research Protections closer to the determination end date.

Changes to exempt research only need to be submitted to the Office for Research Protections in limited circumstances described in the below-referenced Investigator Manual. If changes are being considered and there are questions about whether IRB review is needed, please contact the Office for Research Protections.

Penn State researchers are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within CATS IRB (http://irb.psu.edu).

This correspondence should be maintained with your records.
Appendix B

Approvals to Conduct Research

Sultanate of Oman
Ministry of Health
Directorate General of Planning & Studies

Ref. MoH/DGPS/CSR/PROPOSAL APPROVED 48/2016
Date: 13.12.2016

Jamal Al Khadhuri
Principal Investigator

Study Title: "An Examination of the Predictors of Work Engagement of the Healthcare Workforce in The Sultanate of Oman and The United Arab Emirates (MoH/CSR/16/5056)"

After compliments

We are pleased to inform you that your research proposal "An Examination of the Predictors of Work Engagement of the Healthcare Workforce in The Sultanate of Oman and The United Arab Emirates." has been approved by Research and Ethical Review & Approve Committee, Ministry of Health.

Regards,

Dr. Ahmed Mohamed Al Qasmi
Director General of Planning and Studies
Chairman, Research and Ethical Review and Approve Committee
Ministry of Health, Sultanate of Oman.

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Appendix C

Implied Informed Consent Form

Implied Informed Consent Form for Social Science Research
The Pennsylvania State University

Title of Project: An Examination of the Predictors of Work Engagement of the Health Care Workforce in Oman and UAE
Jamal Al Khadhuri
Principal Investigator: 301 Keller Building, University Park, PA 16802
Phone: 814-777-8658, Email: jea218@psu.edu
Dr. Judith A. Kolb
310A Keller Building University Park, PA 16802
Phone: 814-865-1876, Email: jak18@psu.edu
Dr. William J. Rothwell
310B Keller Building University Park, PA 16802
Phone: 814-863-2581, Email: wjr9@psu.edu

Advisors:

Purpose of the Study: The purpose of this comparative international study will be to examine the relationship between the demographic characteristics, job resources, job demands, job satisfaction, and the work engagement of the health care workforce in the Sultanate of Oman and the United Arab Emirates.

Procedures to be followed: You will be asked to answer an electronic survey questionnaire.

Duration: It will take about 15 minutes to complete the survey.

Statement of Confidentiality: Your participation in this research is confidential. The data will be stored and secured in a password-protected file. However, your confidentiality will be kept to the degree permitted by the technology used. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses.

Right to Ask Questions: Please contact Jamal Al Khadhuri at 814-777-8658 or jea218@psu.edu with questions or concerns about this study.

Voluntary Participation: Your decision to be in this research is voluntary. Your employer will not know whether or not you have chosen to participate in the study. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawal from this study will lead to no penalty or loss of benefits that you would otherwise receive.

You must be 18 years of age or older to take part in this research study. Completion and submission/return of the following survey implies that you have read the information in this form and consent to take part in the research. Please print off this form for your records or future reference.
Appendix D

Survey Questionnaires

Section I. Work Engagement

This section is about how you feel at work. Please read the following statements carefully and decide if you ever feel this way in your work using the scale below. If you have never felt this feeling, indicate the “0” (zero). If you have had this feeling, indicate how often you feel it by selecting the number (from 1 to 6) that best describes how frequently you feel that way.

0 = Never
1 = Almost never (a few times a year or less)
2 = Rarely (once a month or less)
3 = Sometimes (a few times a month)
4 = Often (once a week)
5 = Very often (a few times a week)
6 = Always (everyday)

1. At my work, I feel bursting with energy.
2. At my job, I feel strong and vigorous.
3. I am enthusiastic about my job.
4. My job inspires me.
5. When I get up in the morning, I feel like going to work.
6. I feel happy when I am working intensely.
7. I am proud of the work that I do.
8. I am immersed in my work.
9. I get carried away when I’m working.
Section II. Predictors of Work Engagement

1. The statements in this section are about your workload at your job. Please use the scale below to indicate your level of agreement with each statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I often have to arrive early or stay late to get my work done.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>I often have to work through my breaks to complete my assigned workload.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>It often seems like I have too much work for one person to do.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>I sometimes have to take work home with me to complete my assigned workload.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>5</td>
<td>I am given enough time to do what is expected of me on my job.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>I have too much to do to do everything well.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>7</td>
<td>I have received adequate training to perform my job properly.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>The amount of work I have to do is fair.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>The performance standards on my job are too high.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>People who I work with are given less work to do than I am.</td>
<td>○ ○ ○ ○ ○ ○ ○</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</tbody>
</table>
B. The following Statements in this section are about role ambiguity at your job. Please use the scale below to indicate your level of agreement with each statement.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
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<td>Neutral</td>
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</tr>
</tbody>
</table>

1. I feel certain about how much authority I have.  ○ ○ ○ ○ ○ ○ ○
2. I have clear, planned goals and objectives for my job.  ○ ○ ○ ○ ○ ○ ○
3. I know that I have divided my time properly.  ○ ○ ○ ○ ○ ○ ○
4. I know what my responsibilities are.  ○ ○ ○ ○ ○ ○ ○
5. I know exactly what is expected of me.  ○ ○ ○ ○ ○ ○ ○
6. Explanation is clear of what has to be done.  ○ ○ ○ ○ ○ ○ ○

C. The statements in this section are about role conflict at your job. Please use the scale below to indicate your level of agreement with each statement.

<table>
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<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

1. I have to do things that should be done differently.  ○ ○ ○ ○ ○ ○ ○
2. I receive an assignment without the manpower to complete it.  ○ ○ ○ ○ ○ ○ ○
3. I have to buck a rule or policy in order to carry out an assignment.  ○ ○ ○ ○ ○ ○ ○
4. I work with two or more groups who operate quite differently.  ○ ○ ○ ○ ○ ○ ○
5. I receive incompatible requests from two or more people.  ○ ○ ○ ○ ○ ○ ○
6. I do things that are apt to be accepted by one person and not accepted by others.  ○ ○ ○ ○ ○ ○ ○
7. I receive an assignment without adequate resources and materials to execute it.  ○ ○ ○ ○ ○ ○ ○
8. I work on unnecessary things.  ○ ○ ○ ○ ○ ○ ○
D. The statements in this section are about your autonomy at your job. Please use the scale below to indicate your level of agreement with each statement.

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<th>5</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. My job gives me complete responsibility for deciding how and when the work is done.</td>
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<tr>
<td>2. My job denies me any chance to use my personal initiative or judgment in carrying out the work.</td>
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<tr>
<td>3. My job gives me considerable opportunity for independence and freedom in how I do the work.</td>
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</table>

E. The statements in this section are about supervisory coaching at your job. Please use the scale below to indicate how often each of the following occurs.

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<tbody>
<tr>
<td>1. My supervisor provides me with resources so that I can perform my job more effectively.</td>
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<tr>
<td>2. My supervisor sets expectations with me and communicates the importance of those expectations to the broader goals of the organization.</td>
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<tr>
<td>3. To help me think through issues, my supervisor asks questions, rather than provides solutions.</td>
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<tr>
<td>4. My supervisor provides me with constructive feedback.</td>
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<td>5. My supervisor solicits feedback from me to ensure that his/her interactions are helpful to me.</td>
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<td>6. My supervisor encourages me to broaden my perspectives by helping me see the big picture.</td>
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<tr>
<td>7. My supervisor uses analogies, scenarios, and examples to help me learn.</td>
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<td></td>
</tr>
<tr>
<td>8. To help me see different perspectives, my supervisor role-plays with me.</td>
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<td></td>
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</table>
F. The following statements in this section are about your performance feedback in your work. Please use the scale below to indicate your level of agreement with each statement.

<table>
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<td>Slightly Disagree</td>
<td>Neutral</td>
<td>Slightly Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

1. My job is set up so that I get constant “feedback” about how well I am doing.
2. Just doing the work required by the job provides many chances for me to figure out how well I am doing.
3. My job itself provides very few clues about whether or not I am performing well.

G. The following statements in this section are about your satisfaction of your job. Please use the scale below to indicate your level of agreement with each statement.

<table>
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<tr>
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<td>Slightly Disagree</td>
<td>Neutral</td>
<td>Slightly Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

1. All in all, I am satisfied with my job.
2. In general, I don't like my job.
3. In general, I like working here.
Section III. Qualitative Questions on Work Engagement

This section includes some open-ended questions about work engagement. Please read the following statements carefully and write your responses in the spaces provided. These questions are intended to help me understand what it means to you to be engaged and satisfied in your job, what are the resources that makes you become more engaged and satisfied, and to help me interpret the quantitative data in this study.

1. What does it mean to you to be engaged in your work?

2. Considering your current job and position, what makes you increase your level of work engagement?

3. Considering your current job and position, what makes you decrease your level of work engagement?

4. What makes you feel satisfied with your current job?

5. What makes you feel dissatisfied with your current job?

6. What job resources (physical, psychological, or emotional) contribute to you feeling a state of engagement in your current job?
Section IV. Demographic Information

The following are some general demographic information questions about you, your work, and your organization. Please choose only one response for each question.

1. **Which country do you work in?**
   - Oman
   - UAE

2. **What is your occupation?**
   - Nurse
   - Physician

3. **Are you a national or an expatriate of the country you currently work in?**
   - National/ Citizen
   - Non-national/ Expatriate

4. **What is your gender?**
   - Female
   - Male

5. **What is your age?**
   - 29 years or less
   - 30 – 39 years
   - 40 – 49 years
   - 50 – 59 years
   - 60 years or more

6. **How long have you been working for your current organization?**
   - Less than 2 years
   - 2 – 5 years
   - 6 – 10 years
   - 11 – 15 years
   - 16 – 20 years
   - More than 20 years
7. **What is your level of education?**
   - Diploma (3 – year college)
   - Bachelors
   - Masters
   - PhD or DNP
   - Other

8. **What is your job position?**
   - General manager/ Executive level
   - Superintendent
   - Head of department/ Unit
   - Supervisor/ ward In-charge
   - Resident/ Medical officer
   - Specialist/ Senior specialist
   - Staff nurse/ General practitioner

9. **Where do you work in your hospital?**
   - Acute/ Critical/ Emergency care
   - Surgical/ Operating room
   - General medical
   - Oncology
   - Obstetrics and Gynecology
   - Other

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Thank you for your participation in this study!
Appendix E

Recruitment Letter

Dear …………,

My name is Jamal Al Khadhuri, and I am a dual-title doctoral Candidate at the Pennsylvania State University in the U.S.A. I am conducting a study titled “An Examination of the Predictors of Work Engagement of the Health Care Workforce in Oman and UAE” This study is being conducted for research. In doing this study, I am in need of your participation. Thus, I would like to cordially invite you to participate in this international study. The health care workforce in the two neighboring countries, Oman and UAE, have a lot to offer in terms of sharing best practice and I am positive that the outcome of this study will help in better understanding work engagement and its predictors.

As a health care professional with an experience of 14 years in nursing practice, education, and health care human resource development, I intend to use the results of this study to add to the body of knowledge and to share with you the outcomes of this study and its important implications to you and your practice.

Your participation will be absolutely voluntary, private, and confidential. All collected data will only be used for the purpose of the study. You may contact me at (jea218@psu.edu, 814-777-8658) at any time if you have any questions and need additional information.

Best regards,

Jamal Al Khadhuri
Appendix F

Approval to Use Survey Instruments

3/11/2017

Gmail - Request to use UWES-9 scale for PhD dissertation research

Jamal Al-Khadhuri <jkhadhuri@gmail.com>

Request to use UWES-9 scale for PhD dissertation research

Schaufeli, W.B. (Wilmar) <w.schaufeli@uu.nl>
To: Jamal Al Khadhuri <jkhadhuri@gmail.com>

Mon, Mar 6, 2017 at 7:00 AM

Dear Mr. Kharhuri,

Thank you very much for your interest in my work.

You may use the UWES free of charge, but only for non-commercial, academic research. In case of commercial use we should draft a contract.

Please visit my website (address below) from which the UWES can be downloaded, as well as all my publications on the subject.

I've included a draft version of a paper on work engagement in Europe that you might find interesting.

Good luck with your research.

With kind regards,

Wilmar Schaufeli
Tests

Notice for potential users of the UWES and the DUWAS

- You are welcomed to use both tests provided that you agree to the following two conditions:

1. The use is for non-commercial educational or research purposes only. This means that no one is charging anyone a fee.

2. You agree to share some of your data, detailed below, with the authors. We will add these data to our international database and use them only for the purpose of further validating the UWES (e.g., updating norms, assessing cross-national equivalence).

- Data to be shared:
  For each sample, the raw test-scores, age, gender, and (if available) occupation. Please adhere to the original answering format and sequential order of the items.
  For each sample a brief narrative description of its size, occupation(s) covered, language, and country.

- Please send data to: w.schaufeli@uu.nl. Preferably the raw data file should be in SPSS or EXCEL format.

- No explicit, personal permission is required — and will be given — as long as both previously mentioned conditions are fulfilled.

- By continuing to the TEST FORMS you agree with the above statement.
Appendix G

Permission For JD-R Model Figure

Permission to publish a figure in PhD dissertation

Academic Books Permissions <mpkbookspermissions@tandf.co.uk>  
To: Jamal Al Khadhuri <jkhadhuri@gmail.com>  
Thu, Mar 23, 2017 at 10:17 AM

9781841697369 | Work Engagement | Edn. 1 | Hardback | Fig 7.2

- Further to your recent emails permission is granted for use of the requested material only in your forthcoming dissertation, subject to the following conditions:

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2. Permission is for non-exclusive, English Language rights and covers use in your dissertation only. Any further use (including storage, transmission or reproduction by electronic means) shall be the subject of a separate application for permission.

3. Full acknowledgement must be given to the original source, with full details of figure/page numbers, title, author(s), publisher and year of publication.

Best Regards

UK Book Permissions
Appendix H

Scatter Plot of Relationships Between Study Variables
CURRICULUM VITA
Jamal Al Khadhuri

Education:
Fall 2013 – Spring 2018
The Pennsylvania State University, University Park, PA USA
Dual-Title Degree: Ph.D. Workforce Education and Development
Ph.D. Comparative International Education

Spring 2002 – Fall 2003
Villanova University, Villanova, PA, USA
Master of Science in Nursing, Adult Health Education

Fall 1995 – Summer 1999
Villanova University, Villanova, PA, USA
Bachelor of Science in Nursing

Publications:


Presentations:
1. Presented at the European Medical Association Conference in Scotland, United Kingdom, in April 2014.

