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**CRITICAL DEMOGRAPHIC AND WORKPLACE FACTORS THAT
INFLUENCE WORK ENGAGEMENT IN NURSING PRACTICE IN
PENNSYLVANIA**

A Dissertation in
Workforce Education and Development
by
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Abstract

The purpose of this study was to identify the critical demographic and workplace factors that influence work engagement in nursing practice in Pennsylvania. This study represents descriptive, correlational research (Morgan, Gliner, & Harmon, 2006, pp. 69-72).

The definition of work engagement used for this research was “a positive work-related state of mind that is characterized by a three-factor structure characterized by vigor, dedication and absorption” (Schaufeli, & Bakker, 2004, p. 295). The Utrecht Work Engagement Scale (UWES-17) was used to measure these factors. The Michigan Organizational Assessment Questionnaire (MOAQ) was used to measure job satisfaction and turnover intention. Short-answer questions were used to gather information about job resources that positively and negatively affect work engagement, as well as the perceived availability of those resources. The dependent variable was work engagement, as defined by vigor, dedication, and absorption. The independent variables were demographics, factors related to the nursing position, and job satisfaction.

Data were gathered online from nurses in the Pennsylvania State Nurses’ Association (PSNA) database using a 42-question survey, self-response questionnaire. Quantitative measures were analyzed using the SPSS explore program. Grounded theory qualitative analysis methods were used for short-answer responses (Auerbach & Silverstein, 2003). Two types of analysis were used to answer the research questions: (a) block multiple regression, and (b) grounded theory qualitative analysis.

The results suggested that (a) job satisfaction is the single most important variable (based on beta values) in explaining variability in scores for the three dimensions of work

engagement. Nurses reporting higher levels of job satisfaction also reported higher levels of absorption, vigor, and dedication. The regression analysis in this case showed that age is a significant independent variable for overall work engagement ($\beta=.234$), and specifically for the factors of absorption ($\beta=.249$) and dedication ($\beta=.294$). Because the significance figures are positive, they show that the older the respondent, the stronger the relationship between age and work engagement. The factors that respondents believed increase engagement were *having an impact, team* (strong relationship with their immediate peers, physicians and leadership), and *variety* (expanded job opportunities, uniqueness of the types of patients). The factors that decreased engagement were *workload, lack of impact, and politics* (internal). The resources most important for performing the job effectively were *effective management, information/data, and continuing education*. Respondents reported that these resources were only available about 50% of the time. Sixty percent of the respondents do not intend to leave their jobs in the coming year, while 40% were either unsure or definitely seeking a new position.

The findings have implications for employers, educators, policy makers and scholars as ideas are evaluated for increasing the supply of nurses in the face of impending shortages. Those implications as well as recommendations for future research are discussed.

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Chapter 1

Introduction

Historical Perspective

The Registered Nurse (RN) workforce in the United States is the largest in the world (Aiken, 2007). There were nearly 3 million RNs as of 2004, and that number grew by 1.4 million between 1980 and 2004 [U.S. Department of Health and Human Services (USDHHS), 2006]. RNs play a critical role in healthcare delivery, but since 1998, the United States has experienced an increasing deficit, largely because of the aging nursing workforce at a time when the aging population is demanding more care (Juraschek, Zhang, Ranganathan, & Lin, 2012). In the United States, there is a projected shortage of nurses of 260,000 RNS by 2025 (American Association of College Nurses, 2012). In Pennsylvania alone, there is a projected shortage of 38,000 nurses by the year 2020 (National League for Nursing, 2011). Other factors of the RN workforce include the predominance of females in the nursing profession and the lack of diversity that is reflective of the population as a whole. These looming shortages and representation issues come at a time when forty percent of hospital nurses have burnout levels that exceed the norms for healthcare workers, and job dissatisfaction levels four times greater than the average for all U.S. workers (Aiken, Clark, Sloane, Sochalski, & Silber, 2002). One in five hospital nurses report that they intend to leave their current jobs within a year. We clearly need to understand the situation of our current RN workforce in order to more effectively plan recruitment and retention strategies for the future.

The average age of RNs in the United States is increasing. In 2004, the average age of an RN was 46.8 years (U.S. Department of Health and Human Services, 2006). According to the same study, in 1980 more than half of the licensed RNs were under the

age of 40, whereas in 2004 only 25% were under the age of 40. Proportionally, the number of RNs over the age of 54 years increased from 17% in 1980 to 25% in 2004. This aging population has created significant challenges to a field that is physically and emotionally demanding (Aiken & Cheung, 2008). Some researchers project that the average age of RNs will continue to rise, with a peak in 2016 (Auerbach, Buerhaus, & Staiger, 2007).

While the majority of RNs are currently employed in the hospital setting, hospitals have experienced a declining share of the stock of available nurses. This shift is due to the availability of nursing positions outside of the hospital environment that are less physically and emotionally demanding and provide for a more balanced work life. Those care settings include ambulatory and outpatient centers as well as insurance companies.

With respect to licensed RN training, there are three educational pathways and a licensure requirement that is the same regardless of educational pathway: four year Baccalaureate programs (674 programs), three year Associate programs (846 programs), and three year hospital diploma programs (69 programs) (Aiken & Cheung, 2008). There have been shifts in graduations from each of these program settings, with the largest shift being away from hospital diploma programs and toward the Associate programs. Despite the rapidly growing demand for nurses with the four-year degree, graduations from the Baccalaureate programs have remained flat. As a result, not enough nurses are being produced with the degrees necessary to pursue faculty positions, advanced practice clinical roles, and administrative roles (Aiken & Cheung, 2008). This lack of production

is resulting in qualified nursing applicants being turned away from programs because of lack of faculty.

In addition to age, increasing racial and ethnic diversity of the U.S. population and the inherent racial/ethnic disparities in health status have caused growing concern about the lack of racial and ethnic diversity in the health professions (Coffman, Rosenoff, & Grumback, 2001).

The Problem

The purpose of this study is to identify the critical demographic and workplace factors that influence work engagement in nursing practice in Pennsylvania. With the projected shortage of nurses for the United States and internationally, measuring the current level of nurse engagement is important in order that employers, educators and policy makers can understand what influences engagement and can act accordingly.

Significance of Study

A study of the critical demographic and workplace factors that influence work engagement in nursing practice is important for a number of reasons. For employers of nurses, understanding the relationships will enable them to create work environments that support and encourage work engagement. For educators, this understanding can help them to better attract and train students to increase the supply of nurses. For policy makers, understanding the relationships can help them to create policies that better identify labor pools and encourage the selection of nursing as a profession. For scholars, knowing the impact of the relationships will add a more extensive study of nurses to the body of research.

Pennsylvania was selected for this research study because of the ability to access nurse input through the Pennsylvania State Nurses' Association, and for the opportunity to provide input for better future planning. In a recently conducted study, Pennsylvania received a "C" with respect to its planning for the demands of 2030 (Juraschek, Zhang, Ranganathan, & Lin, 2012). Like other states, Pennsylvania's RN population is not reflective of the diversity of the Commonwealth's population. Table 1.1 demonstrates the demographic distribution compared to Commonwealth population, PSNA membership, and respondent population. Table 1.1 demonstrates that the respondent population was reflective of PSNA membership, and all RNs in Pennsylvania.

Table 1.1

Demographic Distribution of RNs Compared with Overall Pennsylvania Population, PSNA Membership, and Respondents

	Ethnicity			Gender	
	White	Black	Hispanic	Female	Male
PA Overall	78.8%	11.4%	6.1%	51.2%	48.8%
RNs in PA	93.7%	3.5%	0.9%	93.8%	6.2%
PSNA RNs	89%	3.7%	0.1%	94.3%	5.7%
Respondent RNs	95.20%	3.0%	0.7%	94.5%	5.5%

The average age of the Pennsylvania RN is 46.1 years, with the following breakdown of ages: 20-34 (16.1%), 35-49 (44.3%) and 50-64 (36.4%). Nurses over the age of 35 are represented at higher than the overall population, and those below 35 are

represented at less than the overall population, signifying that there may be an engagement with the field issue for younger workers, or other options that are more appealing for a variety of reasons (National League for Nursing, 2011). Rothwell, Sanders, & Soper (2006) suggest that organizationally, these trends will require the following from workforce training and development: (a) more attention to culture-specific, gender-specific, and age-specific workplace interventions that facilitate learning and increased performance; (b) increased focus on the importance of learning styles in development; (c) use of technology to customize learning programs for each individual; and (d) awareness of diversity and individual differences in the development setting.

Research Questions

This study will use the Utrecht Work Engagement Scale (UWES-17), the Michigan Organizational Assessment Questionnaire (MOAQ) and open-ended short answer questions to answer the following research questions:

1. To what extent are vigor, dedication, and absorption correlated with the following factors:
 - a. Demographic (Age, gender, and educational level)
 - b. Factors related to their nursing position (years as an RN, years with current organization, organizational financial status, current position, current work status, and current primary work setting)
 - c. Job satisfaction
2. What are the self-described aspects of the job that positively and negatively affect nurse work engagement?

3. What resources are most important to nurses and how do nurses describe the availability of these resources?
4. What is the turnover intention of the nurse population surveyed?

Limitations

The population to be studied is limited to RNs licensed in the Commonwealth of Pennsylvania with contact information available through the Pennsylvania State Nurses' Association, and may not be generalizable to a broader population. The sample is random, so there is no targeted selection of any particular type of nurse.

Definition of Terms

These frequently recurring terms require clarification.

Work engagement. Work engagement is defined as “a positive work-related state of mind that is characterized by a three-factor structure characterized by vigor, dedication and absorption” (Schaufeli, & Bakker, 2004, p. 295). Engaged employees are energetic about their work, feel connected to their work, and are better able to deal with job demands (Schaufeli & Salanova, 2007b). Vigor is characterized by “high levels of energy, an experience of mental resilience while working, a willingness to invest effort in one’s endeavor, and persistence in the face of difficulties” (Schaufeli & Bakker, 2004, p. 295). Dedication is described as a “strong involvement in one’s vocation, characterized by feelings of significance, enthusiasm, and pride” (Schaufeli & Bakker, 2004, p. 295). Absorption characterizes a “state of full concentration ...in which time seems to pass quickly and individuals often experience difficulty detaching themselves from the endeavor” (Schaufeli & Bakker, 2004, p. 295).

Job satisfaction. Job satisfaction is described as the affective orientation that an employee has toward his or her work (Price, 2001). It can be considered as a global feeling about the job or as a related constellation of attitudes about various aspects or facets of a job (Spector, 1997).

Burnout. Burnout is described as a state of exhaustion, where the individual is cynical about occupational values, and is doubtful about their performance capabilities (Maslach, Jackson, & Leiter, 1996; Schaufeli & Bakker, 2010).

Utrecht Work Engagement Scale (UWES). A self-report questionnaire that measures work engagement based upon the factors of absorption, dedication and vigor (Bakker, 2003).

Job demands. Characteristics of a job that have the potential to evoke strain that may exceed the employee's adaptive capability (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). Examples include time and work pressure, demands of a client, an ineffective physical work environment, or lack of role clarity.

Job resources. The working conditions that provide resources for the individual employees that impact the physical, psychological, social or organizational aspects of the job. These conditions might (a) reduce job demands, (b) are conducive to the achievement of work goals, (c) stimulate personal growth and development (Demerouti, Bakker, DeJonge, Janssen, & Schaufeli, 2001). These job resources may be at the organizational level (salary); interpersonal and social relations (co-worker support); organization of work (role clarity); and task (performance feedback) (Bakker, Demerouti, & Verbeke, 2004).

Health impairment process. A process where the employee works in a constant state of overload without the opportunity to replenish their physical and mental energy (Schaufeli & Bakker, 2004).

Work motivation. A set of energetic forces that come from within the individual and determine the form, direction and intensity of work-related behavior (Latham & Pinder, 2005).

Hispanic ethnicity. Any RN indicating that they are of Hispanic descent when they complete their application for RN licensure, regardless of country of origin.

White-non-Hispanic ethnicity. Any RN indicating that they are of White or Caucasian descent when they complete the survey.

Black-non-Hispanic ethnicity. Any RN indicating that they are of Black descent when they complete the survey.

Other ethnicity. Any RN not in one of the previous categories when they complete the survey. They will have the opportunity to specify, if they wish.

Prefer not to respond. Any RN may opt not to provide information on any particular demographic question.

Assumptions

The researcher accepts that the instrument being used to measure work engagement (UWES-17) is cross-culturally validated (Shimazu, Schaufeli, Miyataka, & Iwata, 2010). Therefore, the instrument should not be influenced by the ethnic culture of the respondents. The Michigan Organizational Assessment Questionnaire (MOAQ) (Cammann, Fichman, Jenkins, & Klesh, 1983) was used to assess job satisfaction and turnover intention. The MOAQ is designed as a semi-standardized questionnaire that

can be used to identify a larger number of organizational characteristics through the perceptions of the members of that organization. In its entirety, it consists of approximately 350 items that are combined to produce approximately 100 scales addressing areas such as job characteristics, employee satisfaction and other attitudes, work group functioning and characteristics, leadership style and supervising behavior, organizational structure, compensation and performance evaluation, intergroup relations, employee beliefs, values and characteristics. For purposes of this study, only five questions were used and were specifically related to job satisfaction and turnover intention. The researcher also assumes that surveying nurses through the Pennsylvania State Nurses' Association will produce a random sample that reflects the representation of nurses in Pennsylvania, as was discussed on page 4.

Theoretical Framework

The theoretical model chosen for this study is the Job Demands-Resources Model (JD-R). This model is used to study the relationship between demands and resources on overall engagement. Work engagement is higher when job resources are high in relation to job demands, and work engagement is lower when job demands are high, but job resources are low. (Bakker & Demerouti, 2007). This model assumes that job resources may play an internal motivational role by fostering the employee's growth, learning, and development. Job resources may also play an external motivational role because they are necessary for achieving work-related goals. Therefore, job resources have the potential to motivate the worker and will lead to high work engagement and excellent performance (Bakker & Demerouti, 2008). The primary psychological state of the JD-R model is work engagement.

The JD-R model makes an important distinction with respect to the concepts of burnout and work engagement. In the burnout model, Maslach and Leiter (1997) assert that burnout and work engagement are opposite ends of the same pole, with burnout being the negative pole characterized by exhaustion, cynicism and reduced professional efficacy and work engagement being the positive pole as characterized by energy, involvement and efficacy. Ergo, if employees are not burned out, they must be engaged. With the JD-R model, Schaufeli and Bakker (2004) assert that burnout and work engagement are really two different concepts and should be measured independently. This position means that a burned out employee may experience work engagement and an engaged employee may experience burnout. In structured qualitative interviews to validate this assumption, it was noted that Dutch employees who scored high on the Utrecht Work Engagement Scale (UWES) were agents for their organizations who take initiative at work and generate their own positive feedback (Schaufeli, Taris, Le Blanc, Peeters, Bakker & De Jonge, 2001). Their values seem to match well with the organizations for which they work and they are engaged in activities outside of work. Unlike their burned out counterparts, engaged workers, while tired, expressed a pleasant feeling as a result of having accomplished something that was satisfying. For the engaged employee, working is fun and their motivation for work is that sense of reward and fun.

The basis for the JD-R model can be traced back to several models that examined the relationship between work and job stress. These models are known as demand-control models (DCM). According to these models, job stress is caused by high job demands and low job control. The DCM's singular focus on only one type of job

demand (psychological workload) and one type of job resource (job control) makes it appealing because of its simplicity. However, Bakker and Demerouti (2007) argue that its simplicity may also be its most important weakness because the complex reality of working for an organization cannot be reduced to two variables. They also assert that the model is static, not dynamic. It is their assertion that job resources and demands can vary from one work setting to another depending upon context and the nature of work. The JD-R is felt to be superior because it includes the examination of two specific sets of working conditions, job demands and job resources in its prediction of employee well-being (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). Generally, job demands and job resources are negatively correlated because high job demands may prevent the mobilization of job resources (Bakker & Demerouti, 2007). Therefore, high job demands and a lack of resources can cause burnout and reduced work engagement (Schaufeli & Bakker, 2004), while high job resources combined with high or low job demands may result in high motivation and engagement (Bakker & Demerouti, 2007). A key assumption of the JD-R model is that job resources and job demands may cause two psychologically different reactions (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004): (1) a health impairment process where high job demands drain the employee's mental and physical resources and lead to ill-health; and (2) a positive, motivating process where job resources encourage engagement and commitment to the organization. Hakanen and Roodt (2010) have concluded in their studies that according to the JD-R model, job resources lead to many gains on the individual, work-unit and organizational levels regardless of the external demands and threats. They also found that regardless of job or profession, it is possible to feel vigorous, dedicated and absorbed at work. By

focusing on the balance between the resources and job demands, employees will be able and willing to give their best performance at work. In this study, the theoretical model is examined through analysis of demographics, positive and negative job aspects, resources and satisfaction for the target population. The theoretical framework for this study is provided in APPENDIX A.

Chapter 2

Review of Related Literature

The purpose of this chapter is to review the literature related to this proposed study of the critical demographic and workplace factors that influence work engagement in nursing practice in Pennsylvania. Independent variables have been identified as ethnicity, age, gender, job aspects, job resources and job satisfaction as measured by dependent variables absorption, dedication and vigor. There are four sections in this chapter: context of employee engagement, population review; work engagement as a concept; and the impact the demographic and workplace factors on engagement.

Context of Work Engagement

Work engagement has become a popular topic for a number of reasons, notwithstanding the economic impact of disengaged employees to the workplace. Avery, McKay, and Wilson (2007) have estimated that disengaged employees cost United States organizations more than \$300 billion per year in lost productivity. Needleman, Buerhaus, Stewart, Zelevinsky, and Mattke (2006) found that if hospitals increased RN staffing and hours of nursing care per patient, more than 6,700 patient deaths and four million days of care in hospitals could be prevented each year. Kular, Gatenby, Rees, Soan, and Truss (2008) found in their research that employee engagement is on the decline and there is a deepening disengagement among employees today. A study by the Gallup organization (Buckingham, 2001) of a large sample of the UK workforce identified three discreet groups of employees: engaged employees, non-engaged employees, and actively disengaged employees. A majority (63%) of employees were in the non-engaged category. Non-engaged employees are described as those who get the job done but are not bound by loyalty to their organizations. Therefore, they could easily be recruited

away to other organizations for money. Seventeen percent were engaged employees, as characterized by being loyal, committed and task effective in their jobs. Actively disengaged employees made up the final 20% of the sample and were described as being physically present but psychologically absent. They were negative, un-cooperative and at times hostile. The study also showed that the longer employees remained at an organization, the more disengaged they became. Brim (2002) and Truss (2006) identified an inverse relationship between employee engagement and the length of service. Brim (2002) noted that the best year on the job was the first, and experience declined thereafter. The researcher proposed that this relationship occurs because instead of building upon the strengths of the employees, organizations continually remind employees of their shortcomings which can lead to a disengaged workforce.

In 2004, International Survey Research (ISR) conducted a major survey into the nature and causes of employee engagement in the workplace with the idea to also discover what companies can do to improve engagement and hence business performance. The survey was conducted in the following countries: Australia, Brazil, Canada, France, Germany, Hong Kong, the Netherlands, Singapore, the United Kingdom and the United States. The survey involved 160,000 employees across many industries. There were many variations found in levels of engagement with the message being that people are engaged differently across the globe. Furthermore, Johnson (2004) found that in the United States, approximately half of all Americans in the workforce are not fully engaged or are disengaged. Seijts and Crim (2006) report that a Towers Perrin survey involving 85,000 worldwide employees working for large and mid-sized firms, found that only 14% were highly engaged in their job. The same survey also found that engagement

is substantially higher in the non-profit sector than in other sectors examined. Blizzard (2009) found that only 18% of U.S. nurses reported that they were actively engaged in their work.

The intention of workers to leave their organization is often a strong measure of how people feel about their work (Kular, et al., 2008). Engaged employees are more likely to have a greater attachment to their organization (Schaufeli, & Bakker, 2004). If employee engagement decreases over time, and the less engaged employee is more likely to leave an organization, the risk is high for organizations to lose some of their more valued senior employees. Therefore, it is important to keep employees engaged by addressing the issues rather than letting the employer-employee relationship decline over time.

Kular (2008) found that there might be a link between engagement levels and organizational performance. Where there are human resources practices that have a strong focus on people, there are notable impacts on productivity, satisfaction and financial performance. As a result, Frank, Finnegan, and Taylor (2004) suggest that employee engagement needs to be viewed as a broad organizational strategy involving all levels of the organization, a string of actions and steps (Shaw, 2005), and consistent, continuous and clear communication (Truss et al., 2006).

Understanding nurse work engagement is also critically important because of the reported error rates in care reported by hospitalized adults who had received healthcare in the past two years: Australia (n=702, error rate = 27%), Canada (n=752, error rate=30%), New Zealand (n=704, error rate=25%), UK (n=1770, error rate 22%), US (n=1527, error rate=34%) and Germany (n=1503, error rate=23%) (Schoen, Osborn,

Huynh, Doty, Zapert, Peugh, & Davis, 2005). Numerous studies have demonstrated that low staffing levels of RNs are associated with unsafe patient care conditions (Institute of Medicine, 2003; Weech-Maldonado, Merit-Hanke, Neff, & Mor, 2004). The Joint Commission on Accreditation for Healthcare Organizations (2002) reported that low nurse staffing levels were a contributing factor in 24% of the 1,609 cases of unanticipated problems resulting in death or injury to hospitalized patients. With the projected nurse workforce shortages, engaging those in the workforce is critically important to contributing to staffing levels that are safe.

When studying work engagement, it is also important to consider the related concept of job satisfaction and whether measures of job satisfaction are measuring the same or different factors from work engagement. According to Schaufeli and Bakker (2010), measures of job satisfaction and measures of work engagement are distinctly different. In a recent study of the Gallup Q12 tool of work engagement, Schaufeli and Bakker (2010) report that the Q12 assesses the perceived level of resources in the employee's job (antecedents of work engagement), not the level of engagement because the tool does not measure involvement, satisfaction, and enthusiasm. Harter, Schmidt, Killham, & Apslund (2006), confirm this position by noting that the Q12 assesses "antecedents to positive affective constructs as job satisfaction" (p.209). Thus, this researcher accepts that measures of work engagement have added-value over job satisfaction.

Population Review

Workforce. The Registered Nurse (RN) workforce in the United States is the largest in the world (Aiken, 2007). There were nearly 3 million RNs as of 2004, and that

number grew by 1.4 million between 1980 and 2004 [U.S. Department of Health and Human Services (USDHHS), 2006]. RNs play a critical role in healthcare delivery, but since 1998, the United States has experienced an increasing deficit, largely because of the aging nursing workforce at a time when the aging population is demanding more care (Juraschek, et al., 2012). In Pennsylvania alone, there is a projected shortage of 38,000 nurses by the year 2020 (National League for Nursing, 2011). Other factors of the RN workforce include the predominance of females in the nursing profession and the lack of diversity that is reflective of the population as a whole. These looming shortages and representation issues come at a time when forty percent of hospital nurses have burnout levels that exceed the norms for healthcare workers, and job dissatisfaction is four times greater than the average for all U.S. workers. One in five hospital nurses report that they intend to leave their current jobs within a year (Aiken, et al., 2002). The United States Department of Health and Human Services (1996) made the following projections from 1995-2025:

- 24 million immigrants will be added to the U.S. population.
- Asian, American Indian and Hispanic populations will all grow rapidly.
- The elderly population will double in 21 states.
- Age and ethnicity will contribute to an increasingly diverse workforce.

In a recently conducted study, Pennsylvania received a “C” with respect to its planning for the demands of 2030 (Juraschek, et al., 2012). Like other states, Pennsylvania’s RN population is not reflective of the diversity of the Commonwealth’s population. Ninety-three point eight percent of Pennsylvania nurses are female, compared to 51% of the Pennsylvania population being female. Only 6.2% of nurses are

male, compared to 48.8% of the Pennsylvania population being male. In Pennsylvania, 93.7% of nurses are white, 3.5% are black and 0.9% are Hispanic. Comparatively speaking in Pennsylvania, whites comprise 87.2% of the adult population, blacks comprise 8.9% of the adult population, and Hispanics comprise 6.0% of the adult population (National League for Nursing, 2011). The average age of the Pennsylvania RN is 46.1 years, with the following breakdown of ages: 20-34 (16.1%), 35-49 (44.3%) and 50-64 (36.4%). Nurses over the age of 35 are represented at higher than the overall population, and those below 35 are represented at less than the overall population, signifying that there may be an engagement with the field issue for younger workers, or other options that are more appealing for a variety of reasons (National League for Nursing, 2011).

The recent recession, and the healthcare reform law will have an impact on the RN workforce. During recessions, people who have lost their insurance due to job loss will put off their healthcare unless it is an emergency. As a result, some institutions have had to reduce their workforces, which decreased the number of jobs available to newly graduating RNs, which in turn discourages prospective nursing students in the coming years (Rosseter, 2010). In the meantime, coverage through the Affordable Care Act is being expanded to 31 million Americans, thereby increasing demand for health services and RN jobs (Yamey, 2010). The lower reimbursement from health reform may cause providers to pay less for RN positions, thereby making the field less attractive. However, regardless of the dynamics, with the retirement of aging nurses who comprise 40% of the current healthcare workforce, there will be a dramatic reduction in RN supply (Buerhaus, 2008).

Healthcare workforce implications. Borkowski, Amann, Song and Weiss (2007) noted that the demand for nurses is being fueled by several factors: (a) a growing and aging U.S. population, (b) high demand for the highest quality of care, (c) an RN workforce at or approaching retirement age, (d) difficulties attracting new nursing and retaining the existing workforce. Kaplan (2010) noted that

Findings from studies conducted by the American Hospital Association revealed that U.S. hospitals had 116,000 vacant positions for registered nurses at the end of 2006, and 44 percent of hospital CEO's nationwide reported that they had major staffing difficulties in terms of recruiting enough RN's to work in their institutions in 2005 and 2006 (p. 20).

The healthcare environment is experiencing a decreasing labor pool (Aiken & Cheung, 2008) and they are facing an increasing diversity among their patient base, especially among Hispanics (United States Census Bureau, 2006).

While the majority of RNs are employed in the hospital setting, hospitals have experienced a declining share of the stock of available nurses. This shift is due to the availability of nursing positions that are less physically demanding and provide for a more balanced work life. Those care settings include ambulatory and outpatient centers as well as insurance companies.

With respect to licensed RN training, there are three educational pathways and a licensure requirement that is the same regardless of educational pathway: four year Baccalaureate programs (674 programs), three year Associate programs (846 programs), and three year hospital diploma programs (69 programs) (Aiken & Cheung, 2008). There have been shifts in graduations from each of these program settings, with the largest shift being away from hospital diploma programs and toward the Associate programs. Despite the rapidly growing demand for nurses with the higher education, graduations from the

Baccalaureate program have remained flat. As a result, not enough nurses are being produced with the degrees necessary to pursue faculty positions, advanced practice clinical roles and administrative roles (Aiken & Cheung, 2008).

Because of these RN shortages, United States healthcare organizations have recruited nurses from abroad for over 50 years (Brush & Berger, 2002). In 1994 through 2006, the annual number of newly licensed RNs from abroad tripled to nearly 21,000 making the United States the largest importer of RNs in the world (National Council of State Boards of Nursing, 2007). There are an estimated 220,000 foreign born nurses in the United States with more than one third of them from the Philippines and one fourth of them coming from the Caribbean and Latin America (Aiken & Cheung, 2008). These foreign-born nurses are most highly concentrated in California, New York, New Jersey, Florida and Illinois, making up 29% of the nurse workforce in California and 24% of the nurse workforce in Florida (Aiken & Cheung, 2008). Nearly 72% of them work in hospitals compared to 59% of native-born nurses (Aiken & Cheung, 2008).

Work Engagement Models

The definition of engagement can be confusing. The term has often been used to describe a psychological state (e.g., involvement, commitment, attachment) performance construct (e.g., effort or observable behavior including prosocial and organization citizenship behavior), disposition (e.g., positive affect), or some blend (Macey & Schneider, 2008). Some of the confusion exists because engagement is defined by some as an attitude and others as a behavior. It is important in any engagement discussion to be clear about the kind of engagement being addressed. In order to aid in the understanding of this dilemma, Macey and Schneider (2008) have developed a

conceptual model providing a framework for the various components that engagement might include. They posit that engagement as a disposition (i.e., trait engagement) can be thought of as the orientation to experience the world from a particular point of view (e.g., positive affectivity characterized by feelings of enthusiasm) and that this trait is reflected in psychological state engagement. They conceptualize psychological state engagement as an antecedent of behavioral engagement, which they define as discretionary effort. Trait is defined as one's view of life and state is defined as feelings of energy or absorption (Schaufeli & Bakker, 2004; Macey & Schneider, 2008). One definition by Erickson (2005) states the following:

Engagement is above and beyond simple satisfaction with the employment arrangement or basic loyalty to the employer—characteristics that most companies have measured for many years. Engagement, in contrast, is about passion and commitment—the willingness to invest oneself and expend one's discretionary effort to help the employer succeed. (p. 14)

Erikson (2005) goes further to suggest that engagement also differs from satisfaction. He indicates that engagement implies activation, whereas satisfaction implies satiation...two very different psychological states. Therefore, state engagement (feelings of energy, absorption) is reflected by satisfaction (viewed as energy and not satiation), involvement, commitment and empowerment; and trait engagement (positive view of life and work) is reflected by proactive personality, autotelic personality (having a purpose in and not apart from itself), trait positive affect and conscientiousness (Macey & Schneider, 2008).

Macey and Schneider (2008) regard engagement in their model as “directly observable behavior in the work context” and position engagement behaviors as extra-role behaviors, or those that go beyond typical or expected in-role performance. Their model identifies engagement behaviors as organizational citizenship behavior (OCB),

proactive/personal initiative, role expansion and adaptation. Therefore, trait engagement (personality factors) and state engagement (feeling of energy, absorption) are manifested in behavioral engagement as described by observed behaviors reflective of engagement definitions, as displayed in Figure 2.1.

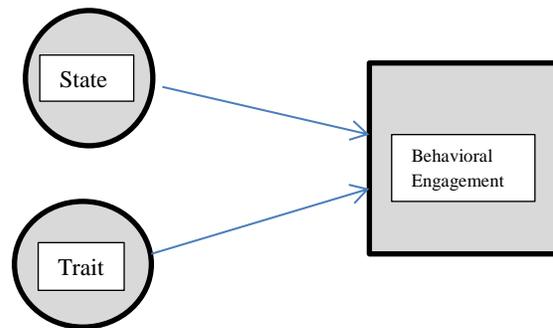


Figure 2.1. Relationship of state engagement and trait engagement to behavioral engagement.

Schaufeli and Bakker (2010) note that because of the lack of universal agreement on a definition of engagement, and because of the perception that descriptions of engagement look like an old concept made new again, it is important to discuss similar, yet alternative concepts to engagement. In this discussion, there is a question of whether or not academia's entry into the field of engagement has added any value that is over and above traditional concepts. They argue that the more popular measures of engagement (Gallup Q12) in the consulting context are really measures of job satisfaction. Schaufeli and Bakker (2010) have identified eight concepts that either refer to behaviors (extra-role behavior, personal initiative), beliefs (job involvement, organizational commitment) or affect (job satisfaction, positive affectivity) that are prototypes for work

engagement, or refer to a more complex psychological states (flow, workaholism), and have concluded the following:

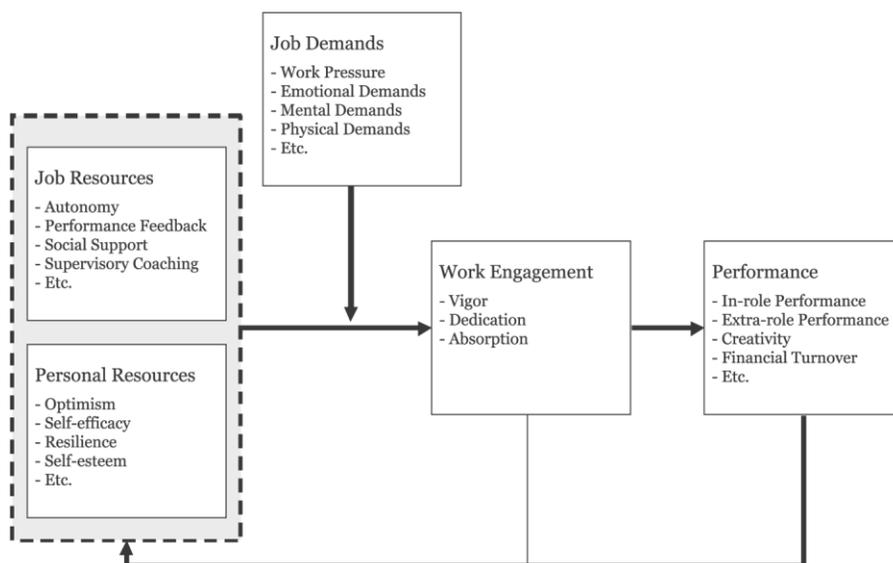
- **Extra-role behavior.** Engagement is not just about going beyond the expected behaviors. The engaged employee also brings unique behaviors to how they approach the job. Therefore, extra-role behavior is not a prerequisite for engagement and should not be considered an essential element (Organ, 1997; Schaufeli and Bakker, 2010).
- **Personal initiative.** Frese and Fay (2001) and Schaufeli and Baker (2010) define personal initiative as self-starting behavior, proactivity, and persistence. Because personal initiative is about the quality of the person's work behavior and not the quantity, Schaufeli and Bakker (2010) believe that it is more closely aligned with a behavioral component of work engagement.
- **Job involvement.** Schaufeli and Bakker (2010) cite a classic definition of job involvement (Lohdalh and Kejner, 1965) that describes job involvement as the degree that work is a key part of a person's self-image. It is the opposite of cynicism and is closely related to engagement, but not an equivalent.
- **Organizational commitment.** Work engagement is about being involved in the work role or the work itself, not being committed to an organization. Therefore, like job involvement has some connection but is not the same (Mowday, Steers, & Porter, 1979; Schaufeli and Bakker, 2010).
- **Job satisfaction.** Schaufeli and Bakker(2010) cite Locke's (1976) definition of job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job" (p. 1300). Therefore, job satisfaction is about being

content at work, not being activated personally by one's work. Engagement is focused on the employee's mood at work where job satisfaction is focused on the affect about or toward work (Schaufeli and Bakker, 2010).

- **Positive affectivity.** Schaufeli and Bakker (2010) indicate that work engagement can be considered a psychological state that corresponds with affectivity, which is a trait. Measures of positive affect include some but not all of the traits of engagement, therefore, it is expected that some employees are more prone to engagement than others are.
- **Flow.** Schaufeli and Bakker (2010) cite Csikszentmihalyi's (1990) definition of flow as a state of optimal experience characterized by focused attention and being absorbed by one's work. Because of its focus on short-term "peak" experience and absorption being more persistent over time, Schaufeli and Bakker (2010) believe that flow is only a part of engagement.
- **Workaholism.** The distinction between workaholism and engagement is that engaged employees work hard because the work is fulfilling and fun, while the workaholics are driven to work by a strong, inner, irresistible urge that they cannot resist (Schaufeli, Taris, & Bakker, 2006b). In this context, workaholism is viewed as a negative state, and engagement is viewed as a positive state.

While there are partial overlaps between engagement and personal initiative, job involvement, positive affectivity and flow, engagement are seen as distinct from extra-role behavior, organizational commitment, job satisfaction and workaholism. Therefore, work engagement has added value over these related concepts (Schaufeli & Bakker, 2010).

The Job Demands-Resources (JD-R) Model (Bakker and Demerouti, 2007) has been the model most frequently seen as a framework for work engagement in the current research. This model assumes that job resources may play an internal motivational role by fostering the employee's growth, learning and development. Job resources may also play an external motivational role because they are necessary for achieving work related goals. Therefore, job resources have the potential to motivate the worker and will lead to high work engagement and excellent performance (Bakker & Demerouti, 2007). The primary psychological state of the JD-R model is work engagement.



Source: Based on Bakker & Demerouti (2007)

Figure 2.2. Job-Demands Resources Model (Bakker & Demerouti, 2007).

The JD-R model makes an important distinction with respect to the concepts of burnout and work engagement. Unlike the JD-R model, Maslach and Leiter (1997) assert that burnout and work engagement are opposite ends of the same pole, with burnout being the negative pole as characterized by exhaustion, cynicism and reduced professional efficacy and work engagement being the positive pole as characterized by energy, involvement and efficacy. Ergo, if the employees are not burned out, they must

be engaged. Another tool, the Oldenburg Burnout Inventory (OLBI) also holds the same view of work engagement as the Maslach Burnout Inventory (MBI) (Schaufeli & Salanova, 2011). Further research, however, has suggested that burnout and work engagement are independent constructs (Demerouti, Bakker, de Jonge, Janssen, & Schaufeli, 2001; Langelaan, Bakker, van Doornen, & Schaufeli, 2006). With the JD-R model, (Demrouti, Bakker, Nachreiner and Schaufeli (2001); Bakker and Demerouti, 2008) also assert that burnout and work engagement are really two different concepts and should be measured independently. This position means that a burned out employee may experience work engagement and an engaged employee may experience burnout.

In structured qualitative interviews to validate this assumption, it was noted that Dutch employees who scored high on the Utrecht Work Engagement Scale (UWES) were agents for their organizations who take initiative at work, and generate their own positive feedback. (Schaufeli, Taris, Le Blanc, Peeters, Bakker & De Jonge, 2001). Their values seem to match well with the organizations for which they work and they are engaged in activities outside of work. Unlike their burned out counterparts, engaged workers, while tired, expressed a pleasant feeling because of having accomplished something that was satisfying. For the engaged employee, working is fun and their motivation for work is that sense of reward and fun. As a result, most researchers studying work engagement choose to use the UWES (Nerstad, Richardsen, & Martinussen, 2010; Schaufeli, Salanova, et al., 2002; Kim, Kolb, & Kim, 2012).

The basis for the JD-R model can be traced back to several models that examined the relationship between work and job stress. These models are known as demand-control models (DCM). According to these models, job stress is caused by high job

demands and low job control. The DCM's singular focus on only one type of job demand (psychological workload) and one type of job resource (job control) makes it appealing because of its simplicity. However, Bakker and Demerouti (2007) argue that its simplicity may also be its most important weakness because the complex reality of working for an organization cannot be reduced to two variables where one is high and one is low. It is their assertion that job resources and demands can vary from one work setting to another depending upon context and the nature of work. Therefore, to claim that the relationship between work and stress only occurs when job demands are high and job control is low is too static. The JD-R is felt to be superior because it includes the examination of two specific sets of working conditions, job demands and job resources in its prediction of employee well-being (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). Generally, job demands and job resources are negatively correlated because high job demands may prevent the mobilization of job resources (Bakker & Demerouti, 2007). Therefore, high job demands and a lack of resources can cause burnout and reduced work engagement (Schaufeli & Bakker, 2004), while high job resources combined with high or low job demands may result in high motivation and engagement (Bakker & Demerouti, 2007). Therefore, a key assumption of the JD-R model is that job resources and job demands may cause two psychologically different reactions (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004): (1) a health impairment process where high job demands drain the employee's mental and physical resources and led to ill-health; and (2) a positive, motivating process where job resources encourage engagement and commitment to the organization. Hakanen and Roodt (2010) have concluded in their studies that according to the JD-R model, job resources lead to many gains on the individual, work-

unit and organizational levels regardless of the external demands and threats. They also found that regardless of job or profession, it is possible to feel vigorous, dedicated and absorbed at work. By focusing on the balance between the resources and job demands, employees will be able and willing to give their best performance at work.

With so many different approaches, it can be difficult to determine the one that best captures the essence of work engagement. Schaufeli and Bakker (2003) argue that work engagement consists of three dimensions. Vigor is characterized by “high levels of energy, an experience of mental resilience while working, a willingness to invest effort in one’s endeavor, and persistence in the face of difficulties” (Schaufeli & Bakker, 2004, p. 295). Dedication is described as a “strong involvement in one’s vocation, characterized by feelings of significance, enthusiasm, and pride” (Schaufeli & Bakker, 2004, p. 295). Absorption characterizes a “state of full concentration ...in which time seems to pass quickly and individuals often experience difficulty detaching themselves from the endeavor” (Schaufeli & Bakker, 2004, p. 295).

Engaged employees are energetic about their work, feel connected to their work, and are better able to deal with job demands (Schaufeli, Bakker, & Salanova, 2006b). In summary, vigor measures energy and resilience toward work. Dedication measures the level of pride and sense of significance from work. Absorption measures the general level of happiness from the work. From these definitions, Schaufeli and Bakker (2003) developed the Utrecht Work Engagement Survey (UWES). The survey includes 17, 12, nine and six question versions and includes questions such as “At my work, I feel bursting with energy” (vigor); “I am enthusiastic about my job” (dedication); and “I get

carried away when I am working” (absorption) (Song, Kolb, Lee, & Kim, 2012; Kim, Kolb, & Kim, 2012).

While there have been criticisms of the UWES and other scales (Christian, Garza, & Slaughter, 2011; Shuck & Wollard, 2010; Rich, LePine, & Crawford, 2010), for not capturing the essence of engagement, the three-factor UWES scale is a widely used method of measuring engagement (Halbesleben, 2010; Schaufeli & Bakker, 2010; Shuck, 2011; Song, Kolb, Lee, & Kim, 2012). The UWES has been validated in a number of studies and has been used in 21 countries including the United States (Bakker & Bal, 2010; Salanova, Agut, & Piero, 2005; Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008).

Work Engagement and Individual Differences

There is much evidence in the literature to support the idea that individual differences impact upon work performance; however, there are some conflicts as to whether work engagement is produced by aspects of the workplace (McCashland, 1999; Miles 2001) or whether employee engagement is something that the individual brings to the workplace (Goddard, 1999). Kahn (1990) suggested that psychological differences might impact an individuals’ ability to engage or disengage in their role performance. He felt that these psychological differences could also influence whether a person chooses to be involved or committed at work. Robinson (2006) further proposes that individual differences play an important role in determining a person’s potential level of engagement. He asserts that individuals make sense of their environments by applying their own unique personal frame of reference that reflects their personality, past experiences, knowledge, expectations and current needs, priorities and interests.

Ethnicity. According to the Institute of Medicine (2004), the lack of diversity in nursing is increasingly correlated to overall quality of care. The IOM (2004) found that when the diversity within the medical field increases to better match patient diversity, the result is better access to care for racial and ethnic minority patients, greater patient choice, better patient satisfaction, and better patient-provider communication. At a time when nurse workforce shortages are looming, the relationship between diversity of care provider and the diversity of the patient population must be considered as strategies are developed to recruit and retain nurses to the field. According to Borkowski, et al., (2007), White-non-Hispanic nurses (50%) indicated that they were more likely to consider leaving the profession than were nurses of the minority groups (35%). Of the minority nurses reporting in their study, only 4% reported that they were considering leaving the profession because of benefits. They further found that White-non-Hispanic nurses have higher job dissatisfaction levels compared to all other nurses, most likely due to age, which it is a factor affecting satisfaction.

Gender. Male nurses make up 5.7% of the nurses working in the profession (Zysberg & Berry, 2005). That number has changed little since 2000, in spite of efforts to attract more men to the field. There are two factors that contribute to this dynamic. Men have a higher dropout rate from nursing school, even though they make up 13% of the nursing students. Their dropout rate is 8% vs. 4% for females (Sochalski, 2002). Approximately 7.5% of new male nurses leave the profession within four years of graduating from nursing school compared to 4.1% of females (Sochalski, 2002). Sochalski posits that the male attrition rate may be attributable to job satisfaction, which is lower for male nurse than for female nurses. For newer nurses, job satisfaction for

males was 67% and for females was 75%. As careers are more established, male satisfaction rate declines to 60% for males and 69% for females. Farella (2000) and Hilton (2001) attribute lower male nurse satisfaction to resistance in the workplace from female nurses, administrators and patients.

Johnson (2004) found that gender differences have been found in engagement research. Men experience enrichment from work to family, but women experience depletion from work to family. Women experience enrichment from family to work, but men experience no links from family to work (Rothbard, 2004). Johnson (2004) also found another gender related difference related to engagement is that female managers have a higher percent of actively disengaged workers than do male managers.

Borkowski, et al., (2007) found that more men reported in a study that they were considering leaving the nursing profession than were women, although the results were not significant. However, there was statistical significance when comparing White-non-Hispanic and minority nurses' responses. For males, and White-non-Hispanic nurses, benefits were a more important factor to their intent to leave the profession than for females and minority nurses. Males indicated 39% of the time that benefits were a contributing factor for leaving, compared to 18% of the females. The study further found that nurses who are male and White-non-Hispanic are more inclined to leave the profession than are females.

Age. Avery, McKay, and Wilson (2007) conducted a study of situational factors and how they relate to work engagement. One of those factors was age and the perceived age similarity among co-workers in relation to engagement. They found that the level of satisfaction with older and younger co-workers had a significant relationship to job

satisfaction. Age similarity and engagement were linked more closely among older than younger employees, as long as the younger were satisfied with their older colleagues. These findings are significant for management of engagement across employee age groups. As the worker ages, it is important that management create a culture of competence with opportunities to grow, and that the older workers retained by their companies are perceived as proficient in their job performance. If not, they can cause other older workers to become disengaged, which may result in other performance shortcomings. Organizational strategies for managing this older workforce dynamic may include surrounding older employees with efficient, reliable, and knowledgeable peers. This action should create psychological conditions in the workplace that would increase their engagement, thereby decreasing turnover and absenteeism and enhancing customer service, safety, and performance (Harter, Schmidt, Killham, & Asplund, 2006). Borkowski, et al., 2007 found that white nurses are older on average than minority nurses are, and they reported higher levels of job satisfaction.

Chapter Summary

The Registered Nurse (RN) workforce in the United States is the largest in the world (Aiken, 2007). RNs play a critical role in healthcare delivery, but since 1998, the United States has experienced an increasing deficit, largely because of the aging nursing workforce at a time when the aging population is demanding more care (Juraschek, et al., 2012). In Pennsylvania alone, there is a projected shortage of 38,000 nurses by the year 2020 (National League for Nursing, 2011). Other factors of the RN workforce include the predominance of females in the nursing profession, aging of the nursing workforce, and the lack of diversity that is reflective of the population as a whole. These looming

shortages and representation issues come at a time when forty percent of hospital nurses have burnout levels that exceed the norms for healthcare workers, and job dissatisfaction is 4 times greater than the average for all U.S. workers. One in five hospital nurses report that they intend to leave their current jobs within a year (Aiken, et al., 2002). The Institute of Medicine (2004) reports that the lack of diversity in nursing is increasingly correlated to overall quality of care. With these many issues facing healthcare, an industry vital to our population health, we clearly need to understand the situation of our current RN workforce in order to more effectively plan recruitment and retention strategies.

The business and academic interest in studying work engagement resulted from research into the topic of job burnout (Maslach, Schaufeli, & Leiter, 2001). The study of work engagement, however, concentrates on the positive psychology of work and unlike burnout, focuses on what facilitates health and well-being in the workplace (Snyder and Lopez, 2002). Therefore, engaged employees are felt to be healthy, productive workers that contribute positively to the overall success of the organization. The definition of engagement can be confusing. The term has often been used to describe a psychological state (e.g., involvement, commitment, attachment) performance construct (e.g., effort or observable behavior including prosocial and organization citizenship behavior), disposition (e.g., positive affect), or some blend (Macey & Schneider, 2008). While there are partial overlaps between engagement and personal initiative, job involvement, positive affectivity and flow, engagement is seen as distinct from extra-role behavior, organizational commitment, job satisfaction and workaholism. Therefore, work engagement has added value over these related concepts (Schaufeli & Bakker, 2010).

The Job Demands-Resources (JD-R) Model (Bakker and Demerouti, 2008) has been the model most frequently seen in the current research. It measures the employee's level of vigor, dedication and absorption with respect to the job. This model assumes that job resources may play an internal motivational role by fostering the employee's growth, learning and development. Job resources may also play an external motivational role because they are necessary for achieving work related goals. Therefore, job resources have the potential to motivate the worker and will lead to high work engagement and excellent performance (Bakker & Demerouti, 2007).

Understanding the influence of demographic and other workplace factors such as job resources and job aspects is important to understanding work engagement levels because it may contribute to our further understanding of the how generalizable the concept of work engagement is across cultures (Shimazu, Schaufeli, Miyanaka, & Iwata, 2010). Some studies have been done to see if there is a relationship between work engagement and culture (Borkowski, et al., 2007; Hofstede & Minkov, 2010), work engagement and age (Sochalski, 2002; Farella, 2000; Hilton, 2001; and Johnson, 2004), and work engagement and gender (Avery, et al., 2007; Borkowski, et al., 2007), but not using the UWES-17 for a specific population of nurses.

Chapter 3

Methodology

The purpose of this study is to identify the critical demographic and workplace factors that influence work engagement in nursing practice in Pennsylvania. As was noted in Chapter 2, many studies of work engagement utilize the Utrecht Work Engagement Scale (UWES) to measure the dimensions of work engagement (vigor, dedication, and absorption). Further, many studies utilize the Job Demands-Resources Model to examine the influence of job demands and job resources on work engagement. This study examines the relationship between demographic factors, factors related to the nursing position, job satisfaction, and the dimensions of work engagement (vigor, dedication, absorption), as well as the influence of job resources, and job aspects on the dimensions of work engagement.

Pennsylvania nurses were chosen because of access to nurses through the Pennsylvania State Nurses' Association, and because of the need to understand work engagement levels as knowledge to guide long term staffing planning.

Pennsylvania is doing an average job with respect to planning for future demands (Juraschek, et al., 2012). The RN population is not reflective of the diversity of the Commonwealth's population, and is under-represented by males and all non-white ethnic groups (Zysberg & Berry, 2005). Like other parts of the country, the average age of nurses is increasing and the supply of students entering the field will not meet demand (National League for Nursing, 2011; Buerhaus, 2008). By 2016, the shortage will grow to 23% or 38,000 RNs (National League for Nursing, 2011). Therefore, it is important to understand the current state of nurse work engagement and to examine the relationships between demographic factors, job aspects, resources, satisfaction, and work engagement.

This chapter summarizes the study procedures and consists of four sections: (a) research design, (b) instrumentation, (c) data collection and (c) data analysis.

Research Questions

This study uses the Utrecht Work Engagement Scale (UWES-17), the Michigan Organizational Assessment Questionnaire (MOAQ), and specific open-ended short answer questions to answer the following research questions:

1. To what extent is vigor, dedication, and absorption correlated with the following factors:
 - a. Demographic (Age, gender, and educational level)
 - b. Factors related to their nursing position (years as an RN, years with current organization, organizational financial status, current position, current work status, and current primary work setting)
 - c. Job satisfaction
2. What are the self-described aspects of the job that positively and negatively affect nurse work engagement?
3. What resources are most important to nurses and how do nurses describe the availability of these resources?
4. What is the turnover intention of the nurse population surveyed?

Research Methodology

This study represents descriptive, correlational research (Morgan, Gliner, & Harmon, 2006, pp. 69-72). A quantitative methodology was used to examine the demographic and workplace factors that influence nurse work engagement in Pennsylvania. However, short-answer, qualitative information was also gathered to

provide more in-depth descriptions of the population studied. A quantitative methodology was selected because there were two validated instruments already available for use (the UWES-17, and the MOAQ). The qualitative questions were structured to gather information related to job aspects that increase or decrease work engagement and job resources, consistent with the construct of the JD-R model of workforce engagement. The research questions and the related instrument items are displayed in Table 3.1 and APPENDIX B.

Table 3.1

Data Matrix of the Relationships between the Variable Name, Research Question, and Item on Instrument

Variable Name	Research Question	Item on Instrument
Vigor	To what extent is the domain of vigor correlated with demographics, nursing position factors, and job satisfaction?	UWES-17: Q1, Q4, Q8, Q12, Q15, Q17 MOAQ: Q1, Q2, Q3
Dedication	To what extent is the domain of dedication correlated with demographics, nursing position factors, and job satisfaction?	UWES-17: Q2, Q5, Q7, Q10, Q13 MOAQ: Q1, Q2, Q3
Absorption	To what extent is the domain of absorption correlated with demographics, nursing position factors, and job satisfaction?	UWES-17: Q3, Q6, Q9, Q11, Q14, Q16 MOAQ: Q1, Q2, Q3
Job Aspects	What are self-described aspects of the job that positively and negatively affect nurse work engagement?	Considering your current job, what is it about your job that (a) Increases your engagement (b) Decreases your engagement
Job Resources	What resources are most important to nurses and how do nurses describe the availability of these resources?	What resources are most essential to you in performing your job? What comments do you have about their availability?
Turnover Intention	What is the turnover intention of the nurse population surveyed?	MOAQ: Q4, Q5

Target Audience

Urduan (2010) defines a population as an individual or group that represents *all* members of a certain group or category of interest. He defines a sample as “a subset drawn from a larger population. The following characteristics must be kept in mind about population data: (a) a population does not need to be large to count as a population; (b) populations do not have to only include people; and (c) the researcher defines the population, either implicitly or explicitly (Urduan, 2010). It is important to determine the population of interest so that the reader of the study can determine how well the results of the sample generalize to the larger population...meaning how well the results are indicative of behavior or characteristics of the larger population. The use of inferential statistical methods, allows the researcher to use the sample data to reach some conclusions about the characteristics of the larger population, while descriptive statistics only speak to the members of the specific sample or population and are not generalizable (Urduan, 2010).

For purposes of this study, the researcher used a sample from a larger target population of Pennsylvania licensed RNs. In 2013, the number of RNs with active licenses in the Commonwealth of Pennsylvania was 211,000. Responses from nurses in Pennsylvania were obtained through the Pennsylvania State Nurses' Association (PSNA). PSNA's purpose is to build and maintain strong relationships with Pennsylvania's leaders; to serve Pennsylvania's nurses with tools that refine and sharpen their knowledge and professional skill; to connect nurses with timely, relevant educational resources, news, and information; and to promote the life-changing calling to the nursing profession and to the communities where we live and work (PSNA, 2013). PSNA membership

consists of nearly 2,000 nurses in Pennsylvania, and they advocate for all licensed RNs in Pennsylvania.

Variables

Urdu (2010) describes a variable as anything that can be codified and has more than a single value (e.g. income, gender, height, attributes, scores). Independent variables are those that may cause variation or changes in the dependent variable. The independent variable is something that does not change (gender, ethnicity), while the dependent variable can be influenced (opinion, outcome scores).

The independent variables in this study are the demographics, factors related to the nursing position, and job satisfaction. This self-report data were gathered through the Utrecht Work Engagement Scale (UWES) survey, The Michigan Organizational Assessment Questionnaire (MOAQ), and an accompanying short-answer survey. The survey is contained in APPENDIX C.

The dependent variable is work engagement which consists of the vigor, dedication and absorption dimensions as measured using the UWES-17 (Utrecht Work Engagement Scale). Work engagement is defined as “a positive work-related state of mind that is characterized by a three-factor structure characterized by vigor, dedication and absorption” (Schaufeli & Bakker, 2004, p. 295). Engaged employees are energetic about their work, feel connected to their work, and are better able to deal with job demands (Schaufeli & Salanova, 2006b). Vigor is characterized by “high levels of energy, an experience of mental resilience while working, a willingness to invest effort in one’s endeavor, and persistence in the face of difficulties” (Schaufeli & Bakker, 2004, p. 295). Dedication is described as a “strong involvement in one’s vocation, characterized

by feelings of significance, enthusiasm, and pride” (Schaufeli & Bakker, 2004, p. 295). Absorption characterizes a “state of full concentration ...in which time seems to pass quickly and individuals often experience difficulty detaching themselves from the endeavor” (Schaufeli & Bakker, 2004, p. 295). A measure of work engagement is derived by the outcomes of summated Likert scores in these three areas. A high score means that the employee has a sense of energetic and effective connection with his/her work activities. The UWES uses a 7-point Likert-type format. Therefore, the scale of measurement for the dependent variables in this study is ordinal in nature, and typically is classified as approaching interval type data (Huck 2008).

Bakker & Schaufeli (2003) point out that the UWES tool does have one psychometric shortcoming. That shortcoming is that all items in each subscale are all framed in the same direction. Therefore, all vigor, dedication and absorption items are phrased positively. From a psychometric viewpoint, one-sided scales are viewed as inferior to scales that include items that are both positively and negatively worded (Price & Mueller, 1986). It is important to keep this view in mind when interpreting the data.

Instrumentation

In order to answer the research questions posed in this study, both quantitative and qualitative strategies were used and the data were collected concurrently. The primary quantitative data collection was achieved using the UWES-17 survey instrument, and selected questions from the Michigan Organizational Assessment Questionnaire (MOAQ). Demographics and short-answer responses were gathered from the respondents. The survey instrument is contained in APPENDIX C.

For the UWES-17, participants were asked to assign a number between 0 and 6, with 0 being “never” and 6 being “always.” Vigor is assessed by six items that refer to

high levels of energy and resilience, the willingness to invest effort, not being easily fatigued, and persistence in the face of difficulties, as follow (Bakker & Schaufeli, 2003):

1. At my work, I feel bursting with energy.
2. At my job, I feel strong and vigorous.
3. When I get up in the morning, I feel like going to work.
4. I can continue working for very long periods of time.
5. At my job, I am very resilient, mentally.
6. At my work, I always persevere, even when things do not go well.

Those who score highly on vigor, have a lot of energy and zest when working. Those who score low have less energy and stamina while working.

Dedication is assessed by five items that refer to deriving a sense of significance from one's work, feeling enthusiastic and proud about one's job, and feeling inspired and challenged by it, as follow (Bakker & Schaufeli, 2003):

1. I find the work that I do full of meaning and purpose.
2. I am enthusiastic about my job.
3. My job inspires me.
4. I am proud of the work that I do.
5. To me, my job is challenging.

Those who score high on dedication identify with their work because they see it as meaningful, inspiring and challenging. They also usually feel enthusiastic and proud of their work.

Absorption is measured by six items that refer to being totally and happily immersed in work and having difficulties detaching oneself, so that time passing quickly and one does not notice other things around them, as follow (Bakker & Schaufeli, 2003):

1. Time flies when I'm working.
2. When I am working, I forget everything else around me.
3. I feel happy when I am working intensely.
4. I am immersed in my work.
5. I get carried away when I am working.
6. It is difficult to detach myself from my job.

Those scoring highly on absorption feel that they are usually happily engrossed in their work, feel immersed by their work and have difficulties detaching because it carries them away. Time seems to fly for them.

Schaufeli, Taris, LeBlanc, Peeters, Bakker and DeJonge (2001) found that employees who scored high on the UWES are active agents of their work, take initiative at work and generate their own positive feedback. Their values seem to match well those of their employer organization and they also seem to be engaged in activities outside of work.

For the questions selected from the Michigan Organizational Assessment Questionnaire (MOAQ) measuring job satisfaction and turnover intention, participants were asked to rate their level of agreement with the statements on a scale of 1 to 5, with 1 being “strongly disagree”, and 5 being “strongly agree”. The MOAQ questions selected were focused on job satisfaction and turnover intention as follow:

Job Satisfaction

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.

Turnover Intention

1. I will probably look for a new job in the next year.
2. I often think about quitting.

The qualitative data were collected concurrently and the survey is provided in APPENDIX C. The intent of the qualitative response questions was to provide the researcher with information that allowed for a deeper understanding of the quantitative findings by assessing aspects of the job aspects and job resources that contribute to work engagement among nurses.

Validity

Quantitative instrument. Validity of an instrument refers to whether or not that instrument measures what it is intended to measure. The UWES is used mostly in Western countries. There are currently 21 language versions available: Afrikaans, Brazilian, Chinese, Czech, Dutch, English, Estonian, Finnish, French, Italian, German, Greek, Japanese, Norwegian, Polish, Portuguese, Romanian, Russian, Spanish, Swedish and Turkish.

Bakker (2003) reported the following results that address validity of the instrument:

Factorial validity. For the UWES-17, the three-factor model (vigor, dedication and absorption) fits slightly better to the data than the one-factor model for the samples from the Western countries.

Inter-correlations. Confirmatory factor analysis indicates that the UWES-17 has a three-dimensional structure and that the dimensions are closely related. Schaufeli, Salanova, et al. (2002) found that in a Spanish sample, results indicated that although subscales were correlated (mean $r=.63$ and $.70$), a three-factor structure fit the data well.

Cross-national invariance. In a cross-national study that included samples from 10 mostly Western countries, results showed factorial invariance of the three-factor structure of the UWES-17 across samples from various countries (Schaufeli et al., 2006). Therefore, the factor structure of the UWES is similar and does not vary between countries (Shimazu, Schaufeli, Miyanaka, & Iwata, 2010).

The construct validity of the MOAQ was assessed by Bowling and Hammond (2008) using a meta-analysis. Of the 18 hypothesized antecedents, the only one that did not yield the expected relationship with the MOAQ-JSS was role overload ($\rho = -.03, k = 12, N = 3259$). As a whole, therefore, these results regarding the hypothesized causes of job satisfaction are consistent with the nomological network.

Qualitative response items. Maxwell (2005) proposes that validity of the qualitative study instrument is the most important part of a study because it is where the researcher addresses the aspects of the research that will either make the reader believe or disbelieve the conclusions drawn by the researcher. Bosk (1979) stated that “all fieldwork done by a single field-worker invites the question, Why should I believe it?” (p. 193). While there are many threats to validity during a study, Maxwell further

suggests that those threats fall into two broad categories: researcher bias and reactivity. Researcher bias occurs when the researcher selects data that fits their existing theory or preconception of what they think the outcome should be (Miles & Huberman, 1994; Schweder, 1980). Reactivity occurs when the research environment is influenced by the researcher's behavior, as can be seen in subject interviews (Hammersley & Atkinson, 1995). Maxwell proposes that there are eight strategies that a researcher could consider to ensure the validity of their research. The focus of these strategies is not to verify the conclusions, but to test the validity of the conclusions.

1. *Intensive long-term involvement* allows the researcher to interact with the research material over a period of time such that spurious associations and premature theories might not be made (Becker and Geer, 1957).
2. *Rich data* implies more than one data source, such as interviews and observations, and allows the researcher to collect a varied and detailed idea of what is happening in the target population (Becker, 1970).
3. *Respondent validation* has the researcher soliciting feedback from the participants as a way to crosscheck conclusions (Bryman, 1988).
4. *Intervention* allows the researcher to interact with the study population to change something about an interaction to more clearly identify a causative factor (Maxwell, 2005).
5. *Searching for discrepant evidence and negative cases* has the researcher specifically identifying evidence that does not fit with the pattern of findings and then checking the data with others to check biases, assumptions and flaws in logic or methods (Maxwell, 2005).

6. *Triangulation* is the collecting of information from a diverse range of individuals and settings using a number of different methods (Maxwell, 2005).
7. *Quasi-statistics* allow the researcher to apply simple numerical results to the data such that the qualitative results are viewed through a quantitative lens (Becker, 1970).
8. *Comparison* is an approach of comparing between two different study groups, such as an intervention and control group (Maxwell, 2005). This method allows for the identification of variation across sites that may affect the data gathered.

This researcher used four of the eight methods to ensure validity of the data (2), (3), (5), and (6). *Rich data* were gathered using both quantitative and qualitative tools to allow the respondents to provide the researcher with a clear perspective of their own work engagement with respect to demographic and workplace factors. *Respondent validation* was used in the pilot study where the researcher used the input from a sample group to determine if the survey construct was providing the desired information. This pilot study was conducted to determine whether nurses understood the survey tool. Sampson (2004) notes, a pilot cannot only be used to refine research instruments, but also to highlight data gaps and excessive or off-target data collection to make the research more efficient and more targeted to the research question. Pilot interviews also help the researcher to identify any barriers to data collection so that may be eliminated prior to launching the survey to the target population (Marshall & Rossman, 2011). A random sample of 20 nurses from the target population completed the pilot survey. At the end of the survey, they had the opportunity to express any problems with interpretation of the meaning of any questions they found confusing, as well as to make suggestions that

would improve their understanding. The researcher reviewed the responses from the nurse pilot to see if any changes were required prior to administering the survey to the target population.

Triangulation was achieved by members of the doctoral committee and adviser's review of the short-answer questions to ensure content validity. External triangulation was achieved by gathering information from a broad variety of nurses across multiple work settings. The answers to the short-answer question were organized by question and were analyzed for themes. The researcher and an independent second coder (a nurse trained in data coding) reviewed the data and identified the common themes by question by noting patterns in the responses of the participants (Marshall & Rossman, 2011). The two sets of data were compared and the researcher and coder came to consensus on the themes.

Reliability

Quantitative instrument. Reliability measures the frequency with which the instrument yields consistent results. The following measures of reliability were used with the UWES-17 (Bakker, 2003):

Internal consistency. The internal consistency of the three models is good. In all cases, the Cronbach's alpha is equal to or exceeds the critical value of .7.

Test-retest reliability. Two longitudinal studies were used in the international database for purposes of assessing the stability of the UWES-17 over time. The scores were shown to be stable across time.

Bakker (2003) asserts that the psychometric results confirm the factorial validity of the UWES-17 and that the pattern of relationships is observed across other countries,

thereby confirming cross-national validity of the three-factor test. This means that engagement is comprised of three related aspects that are measured by three internally consistent scales. The reliability estimates for vigor ($\alpha=.83$), dedication ($\alpha=.92$), and absorption ($\alpha=.82$) were reported for a Dutch sample ($N=2,313$). They further found that all scales of the UWES are highly internally consistent.

Bowling and Hammond (2008) found that scores on the job satisfaction scale had an overall internal consistency reliability of .85.

This study showed internal consistencies for vigor ($\alpha=.776$), dedication ($\alpha=.987$), and absorption ($\alpha=.791$). Job satisfaction demonstrated internal consistencies of $\alpha=.916$. Therefore, the findings of this study were very consistent with findings of the developers of the instruments.

Table 3.2

Summary reliability information for work engagement and job satisfaction (n = 256)

Scale Name	# of Items	Summated Scale Mean	Scale Standard Deviation	Cronbach's Alpha (Internal Consistency)	Mean Inter Item Correlation
Vigor	6	5.17	.91	.776	.382
Dedication	5	5.76	1.08	.897	.642
Absorption	6	5.17	1.03	.791	.410
Total Work Engagement	17	5.34	.92	.925	.446
Job Satisfaction	3	4.07	.96	.916	.785

Note: Likert Response Scale for Vigor, Dedication, Absorption, and Total Work Engagement: 0=Never; 1= Almost Never-a few times a year; 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; and 6=Always-everyday

Note: Likert Response Scale for Job Satisfaction: 1=Strongly Disagree; 2=Disagree; 3=Neither Agree nor Disagree; 4=Agree; and 5=Strongly Agree

Qualitative response questions. Reliability of the qualitative data process calls for predetermined strategies to allow for consistency of effort across a number of

researchers (Miles & Huberman, 2004). To ensure the reliability of interpretation of the qualitative survey questions, two coders (the researcher and a trained coder) independently coded the data to identify common themes. The researcher compared the coder's results with her own. Differences discovered were related to scope of theme chosen, and upon discussion were quickly resolved. The overall themes per question were determined and rank ordered in terms of frequency mentioned. The inter-rater reliability was very high in that both coders consistently identified the top three themes and agreed upon their contents in each category of questions.

Data Collection

Human subject protection. The information gathered included demographics of the respondents and short answer responses; however, the names of the respondents were not gathered unless they chose to receive a summary of the findings, thereby protecting their information as required by the Healthcare Information Portability and Protection Act (HIPPA). Approval for human subject protection was obtained from The Pennsylvania State University. Because there is no minimal risk to the participants, the level of research protection requested and approved was an exemption review.

Collection. The UWES survey, the MOAQ survey, and short-answer questions were initially sent electronically via the Pennsylvania State Nurses' Association (PSNA) to a sample population. Seventy-five nurses were randomly selected to receive the e-mail invitation with a goal of 20 responses. The nurses received an e-mail from the PSNA leadership encouraging participation, a letter from the researcher, and a link to the survey. There were no reminders sent. After two weeks, the goal of 20 responses had not been met, so an additional 50 nurses received the e-mail invitation and letter. After two more

weeks, with a reminder after the first week, 20 nurses had responded to the invitation to complete the survey. The sample respondents suggested the addition of one question to the original survey (What is your highest level of education?) which the researcher accepted and incorporated into the final version of the survey. The researcher also concluded that given the slow response rate, an incentive to complete the survey should be offered for the full survey solicitation.

The researcher utilized Dillman's Total Design Method (Dillman, 2006) to guide the survey distribution. Dillman's Total Design Method guides the development of survey designs that use common procedures that are grounded in social exchange theory on why people do and do not respond to surveys. Therefore, attention was focused upon motivating the person to respond to the survey, and providing multiple points of contact to encourage response. Motivation was achieved in three ways: (1) a letter of invitation clearly stating the intention of the survey, the importance of their input in influencing future strategy, and in reassurances about the confidential nature of their responses.; (2) the ability to participate in a drawing for one of six \$50 VISA gift cards, and (3) the opportunity to receive a summary of the survey results. The decision to offer multiple chances to win an incentive prize was based on research conducted by Cobanoglu and Cobanoglu (2003). Their research found that offering the opportunity to participate in a prize drawing had some impact on increasing participation rates, therefore, the incentive was adopted.

Multiple contacts were achieved by utilizing the following schedule: (1) Initial invitation sent with a stated deadline of two weeks later; (2) A two-week break in communication was observed due to a holiday; (3) A second invitation was sent with a

stated deadline of two weeks later; (4) Follow-up reminder sent one week later; and (5) Final follow-up reminder sent one day prior to the end of the survey. The PSNA also posted a link to the survey on their website. The targeted time span for data collection was 60 days. All participants were offered a one-page summary of the results, if they so desired. The letter of invitation to participate in the study sample is located in APPENDIX D.

The targeted study population was the RNS on the PSNA mailing list. Details regarding the response rate are presented in Table 3.3.

Table 3.3

Response rate

Emails Sent	Emails Opened	Surveys Completed	Response Rate
1929	756	275	36.4%

Approximately 1,900 e-mails were sent via the Pennsylvania State Nurses' Association. As illustrated in Table 3.3, 756 were confirmed as opening the e-mail by the PSNA, and 275 completed the survey, for a response rate of 36.4%. Bartlett (2005) notes that there is a decreasing response rate in research using on-line (emailing) survey method, therefore this response rate is fairly typical for electronic surveys.

Profile of the respondents. Table 3.4 represents the distribution of respondents by demographic variables. Among the total respondents (n=275), 97% were female; 95% were White, 3% were Black, Non-Hispanic, 1% were Hispanic, and 1% were Other; 47% worked in hospitals, and 42% were in other settings, mostly education; and 63% were in staff positions.

Table 3.4

Demographic information

Variables	Values	Respondents=275		
		Frequency	%	Cumulative %
Gender	Male	15	5.50	5.50
	Female	256	94.50	100.00
Age	23-43 years	53	22.90	24.30
	24-52 years	58	21.10	46.70
	53-58 years	70	25.50	73.70
	59 +	68	24.70	100.00
Ethnicity	White	258	95.20	95.20
	Black	8	3.00	98.20
	Hispanic	2	.70	98.90
	Other	3	1.10	100.00
Work Position	Management	99	37.50	37.50
	Staff	165	62.50	100.00
Years as RN	1-9 years	60	21.80	23.80
	10-24 years	58	21.10	46.80
	25-34 years	68	24.70	73.80
	35+	66	24.00	100.00
Years with current organization	1-2 years	49	17.80	23.80
	3-7 years	54	19.60	46.80
	8-19 years	64	23.30	74.20
	20+ years	58	21.10	100.00
Organization Type	Hospital	127	47.70	47.70
	Physician Office	9	3.30	51.00
	Long term care	11	4.04	55.04
	Outpatient	11	4.04	59.04
	Other	114	40.96	100.00
Position	Full time	185	67.51	67.51
	Part time	75	27.40	94.91
	PRN	14	5.10	100.00
PSNA Member	Yes	253	93.40	93.40
	No	18	6.60	100.00
Gender of Supervisor	Male	43	16.10	16.10
	Female	224	83.90	100.00
Organizational Designation	For Profit	64	24.00	24.00
	Not for Profit	203	76.00	100.00
Highest Degree	PhD	30	11.00	11.00
	Masters	110	41.00	52.00
	Bachelors	90	33.00	85.00
	Diploma	14	5.0	90.00
	Associate	27	10.0	100.00
Total		275	100%	

Work engagement dimensions and job satisfaction examined by ethnicity, gender, and age. Table 3.5 summarizes the values by ethnicity for work engagement factors of vigor, dedication, and absorption and job satisfaction.

Table 3.5

Descriptive statistics for work engagement by ethnicity

Ethnicity		Vigor	Dedication	Absorption	Job Satisfaction
1 White, non-Hispanic	Mean	5.16	5.77	5.17	4.08
	N	248	252	248	250
	Std. Deviation	.908	1.059	1.015	.952
2 Black, non-Hispanic	Mean	5.08	5.65	5.10	4.08
	N	8	8	7	8
	Std. Deviation	.772	1.401	.937	.972
3 Hispanic	Mean	5.92	6.00	5.42	4.50
	N	2	2	2	2
	Std. Deviation	1.532	1.414	2.239	.707
5 Other (Specify)	Mean	5.25	5.20	4.89	3.56
	N	2	3	3	3
	Std. Deviation	1.768	1.600	1.540	1.018
Total	Mean	5.16	5.76	5.17	4.08
	N	260	265	260	263
	Std. Deviation	.910	1.072	1.020	.949

Note: Likert Response Scale for Vigor, Dedication, and Absorption: 0=Never; 1= Almost Never-a few times a year; 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; and 6=Always-everyday.

Note: Likert Response Scale for Job Satisfaction: 1=Strongly Disagree; 2=Disagree; 3=Neither Agree nor Disagree; 4=Agree; and 5=Strongly Agree

Table 3.6 summarizes the values by gender for work engagement factors of vigor, dedication, and absorption and job satisfaction.

Table 3.6

Descriptive statistics for work engagement by gender

Gender		Vigor	Dedication	Absorption	Job Satisfaction
1 Male	Mean	4.96	5.55	4.49	3.78
	N	14	15	14	15
	Std. Deviation	.677	1.013	.766	1.036
02 Female	Mean	5.17	5.77	5.19	4.10
	N	246	250	246	248
	Std. Deviation	.924	1.093	1.034	.946
Total	Mean	5.16	5.76	5.16	4.08
	N	260	265	260	263
	Std. Deviation	.913	1.088	1.033	.953

Note: Likert Response Scale for Vigor, Dedication, and Absorption: 0=Never; 1= Almost Never-a few times a year; 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; and 6=Always-everyday.

Note: Likert Response Scale for Job Satisfaction: 1=Strongly Disagree; 2=Disagree; 3=Neither Agree nor Disagree; 4=Agree; and 5=Strongly Agree

Table 3.7 summarizes the values by age for work engagement factors of vigor, dedication, and absorption.

Table 3.7

Descriptive statistics for work engagement and job satisfaction by subscale age

AGE Group		Vigor	Dedication	Absorption	Satisfaction_Subscale
22-43 YRS	Mean	4.89	5.41	4.67	4.01
	N	61	62	62	60
	Std. Deviation	.917	1.157	1.068	.972
24 - 52 YRS	Mean	4.98	5.63	5.04	3.98
	N	57	58	56	58
	Std. Deviation	.967	1.120	.977	.998
53-58 YRS	Mean	5.38	5.99	5.43	4.21
	N	68	69	69	67
	Std. Deviation	.724	.750	.828	.805
59 and older	Mean	5.36	6.09	5.52	4.22

	N	63	65	62	66
	Std. Deviation	.910	.977	.896	.844
	Mean	5.16	5.79	5.18	4.11
Total	N	249	254	249	251
	Std. Deviation	.901	1.036	.997	.905

Note: Likert Response Scale for Vigor, Dedication, and Absorption: 0=Never; 1= Almost Never-a few times a year; 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; and 6=Always-everyday.

Note: Likert Response Scale for Job Satisfaction: 1=Strongly Disagree; 2=Disagree; 3=Neither Agree nor Disagree; 4=Agree; and 5=Strongly Agree

Turnover intention of participants. Turnover intention is summarized by

question in Figure 3.1 and Figure 3.2.

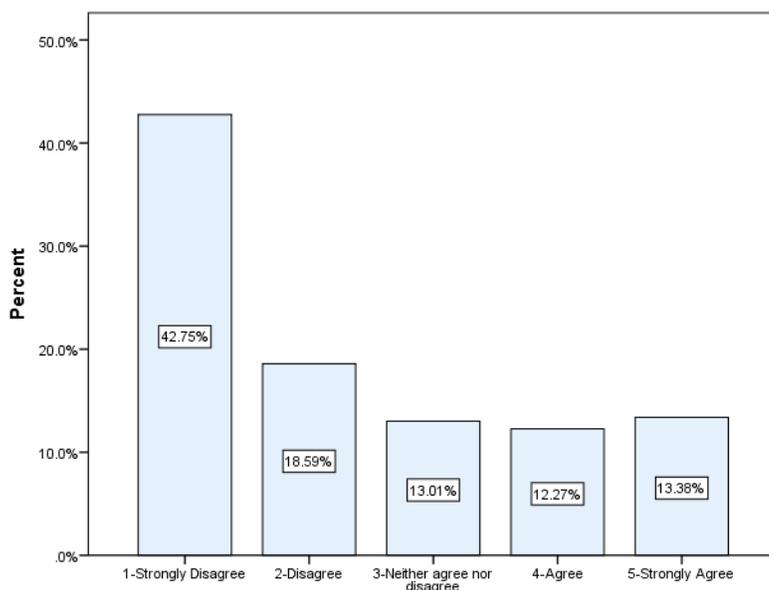


Figure 1. I will probably be looking for a new job in the next year (n=269).

Figure 3.1. Turnover intention. Percentage of respondents agreeing or disagreeing with the statement “I will probably be looking for a new job in the next year”. Source: Michigan Organizational Assessment Questionnaire (Cammann, C., Fichman, M., Jenkins, G.D., and Klesh J.R. (1983). *Assessing the attitudes and perceptions of organizational members*. In S.E. Seashore, E.E. Lawler, P.H. Mirvis, & C.C. Cammann (Eds.), *Assessing Organizational Change* (pp. 71-138). New York: Wiley.

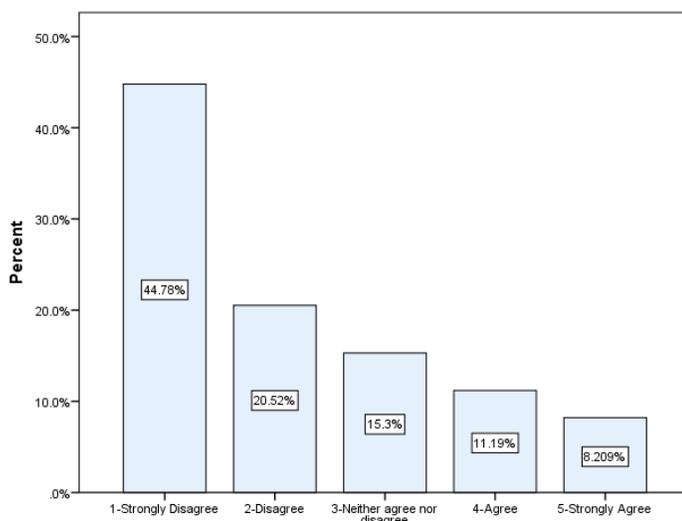


Figure 2. I often think about quitting (n=268).

*Figure 3.2. Turnover intention. Percentage of respondents agreeing or disagreeing with the statement “I often think about quitting”. Source: Michigan Organizational Assessment Questionnaire (Cammann, C., Fichman, M., Jenkins, G.D., and Klesh J.R. (1983). *Assessing the attitudes and perceptions of organizational members*. In S.E. Seashore, E.E. Lawler, P.H. Mirvis, & C.C. Cammann (Eds.), *Assessing Organizational Change* (pp. 71-138). New York: Wiley.*

Data Analysis

Quantitative data were analyzed using a combination of basic descriptive (mean, standard deviation, frequency, and relative percent) statistics and inferential statistics (block multiple regression analysis).

Quantitative. Multiple regression allows us to determine (1) the collective influence the predictor variables (demographics, factors of the nursing position, and job satisfaction) have upon work engagement; (2) the strength of the relationship between each predictor variables and work engagement while controlling for other predictor variables and work engagement while controlling for other predictor variables, (3) the relative strength of each predictor variable, and (4) where there are interaction effects between predictor variables (Urdan, 2010).

For the multiple regression analysis, the assumptions of linearity and normality were examined prior to the actual use of regression analysis. To examine the assumption of univariate normality for interval/ratio scale of measurement variables (such as the dimensions of work engagement, job satisfaction, and demographic variables such as years as an RN, etc.) skewness and kurtosis values were examined, box plots were examined for outliers and median, and mean and trimmed mean values were examined using the SPSS explore program. To assess the extent of linearity between interval/ratio predictor variables and the dependent variable, the SPSS curve estimation procedure and ANOVA results were examined. These results were acceptable based on the standards of Tabachnick and Fidell (2007). Thus, the researcher judged the assumption of normality and linearity were satisfied.

After the regression analyses were conducted, diagnostic information related to collinearity was examined using Tolerance values and Condition Index values and normality plots. Residuals were examined using partial plots and PP plots. The information indicated collinearity was not an issue and the residuals were normally distributed using the guidelines of Tabachnick and Fidell (2007).

Grouping of predictor variables by block.

Block 1 variables. Block variables were identified as age in years, gender, and highest education level. Each variable was examined for missing or incorrectly formatted data, and errors were corrected. For example, a number of respondents wrote “9 years” in the response box instead of just the number “9.” Dot plots and bar graphs were created to visually represent the data. Ethnicity was not chosen as a Block 1 variable because the

distribution of respondents was 95.2% White as seen in Figure 3.3 and that there was not enough diversity in each of the ethnic subgroups.

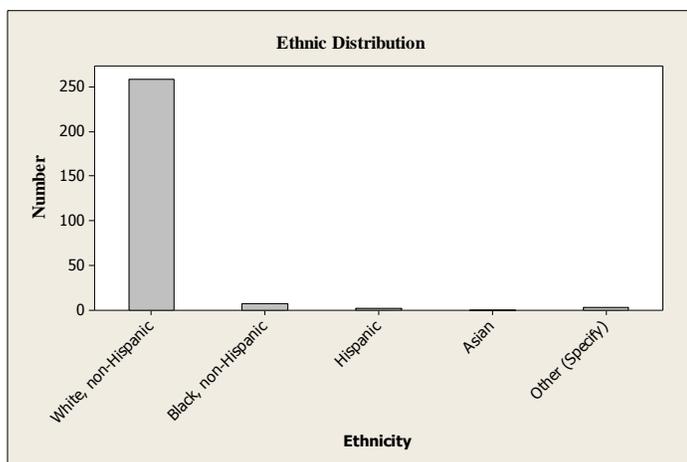


Figure 3.3. Ethnic Distribution of Respondents.

The dot plot of age in years showed a fairly normal distribution, as seen in Figure 3.4. Average age of the sample population was 49.61 years of age, with a minimum of 24 years and a maximum of 77 years. The standard deviation was 11.67 years. Therefore the study participants are slightly older than the current average age of nurses in the field which is 46.8 years (U.S. Department of Health and Human Services, 2006).

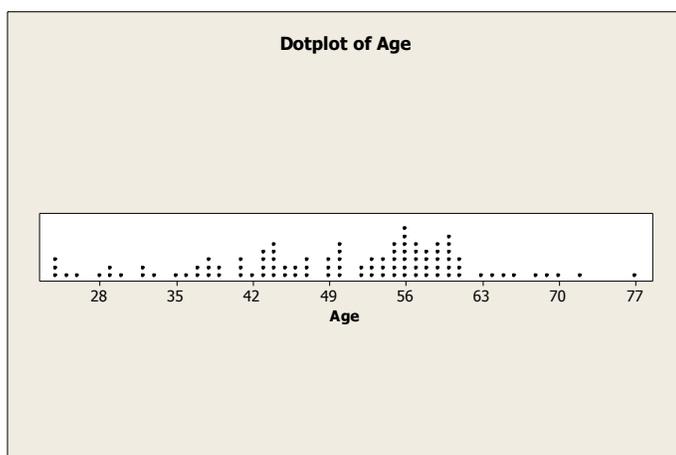


Figure 3.4. Age in years

Descriptive Statistics: Age

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3
Age	101	0	49.61	1.16	11.67	24.00	42.50	52.00	58.00

Variable	Maximum
Age	77.00

Figure 3.5 shows that the population was highly represented by females (94%).

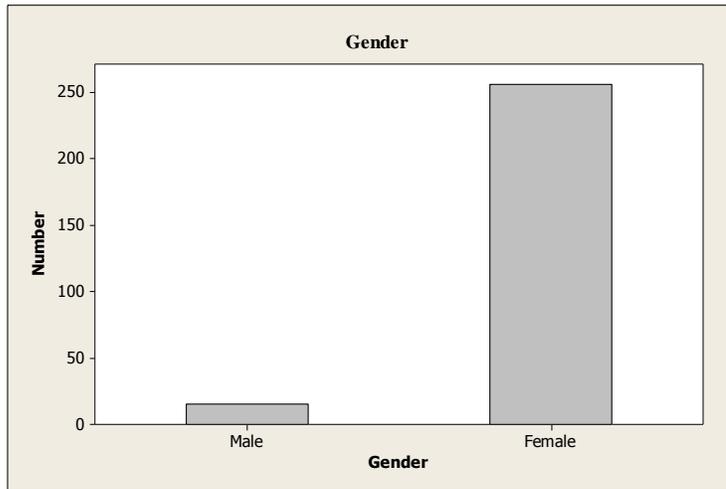


Figure 3.5 Distribution of Gender

Figure 3.6 shows that the most frequent highest level of education of the respondents was a Master's degree (41%), with the Bachelor's degree (33%) the second most mentioned educational level.

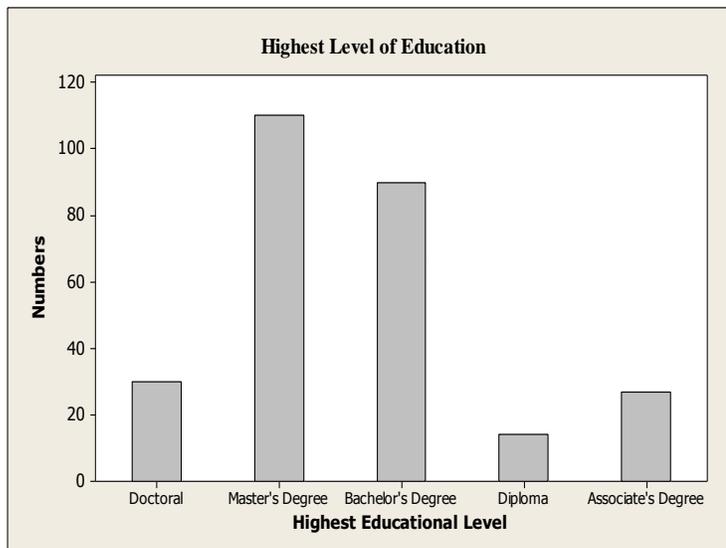


Figure 3.6. Highest reported level of education

Block 2 variables. Block 2 variables were identified as factors that are part of the job, such as years as an RN, years with the current organization, financial status of the organization, current position, gender of direct supervisor, current work status, and current primary work setting. Each variable was examined for missing or incorrectly formatted data, and errors were corrected. Dot plots and bar graphs were created to visually represent the data. Figure 3.7 shows that years as an RN had a fairly normal distribution with a slight negative (skewness=-.19). There was some clustering around those with eight years or less, 16 years, and 30-35 years. The average number of years is 22.28, with a minimum of one year and a maximum of 56 years. The standard deviation is 14.43 years.

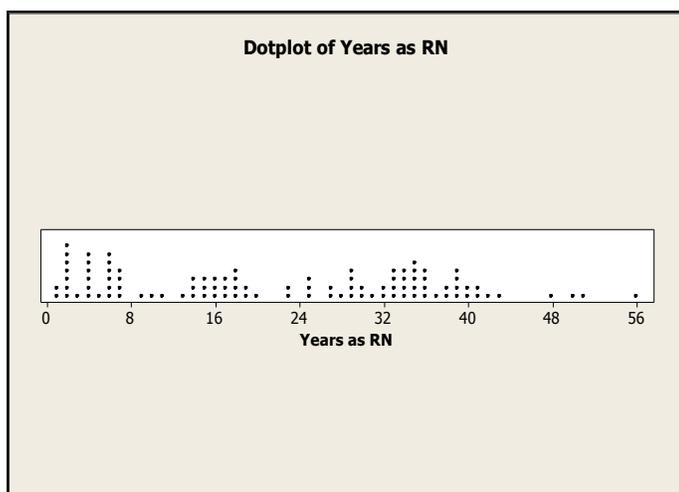


Figure 3.7 Years as an RN.

Descriptive Statistics: Years as RN

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3
Years as RN	101	0	22.28	1.44	14.43	1.00	7.00	23.00	35.00

Variable	Maximum
Years as RN	56.00

Figure 3.8 shows that the indicator years with the current organization is slightly positively skewed (skewness = 1.022), with a substantial number of respondents with less than 15 years of service with the current organization. The average number of years with the current organization was 13.37, with a minimum of <1 and a maximum of 43 years. The standard deviation was 12.04 years.

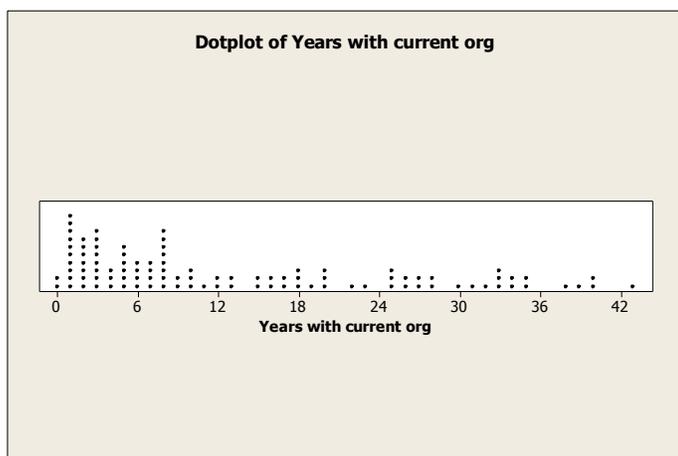


Figure 3.8. Years with current organization

Descriptive Statistics: Years with current org

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Years with current org	101	0	13.37	1.20	12.04	0.00	3.00	8.00

Variable	Q3	Maximum
Years with current org	22.50	43.00

Figure 3.9 shows that the majority of respondents work for organizations with not-for-profit status (76%).

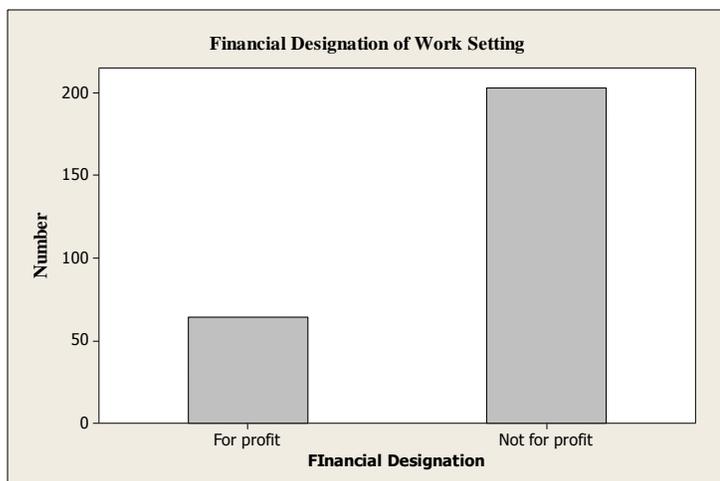


Figure 3.9. Financial designation of work setting

As shown in Figure 3.10, the majority of respondents were in staff positions (63%).

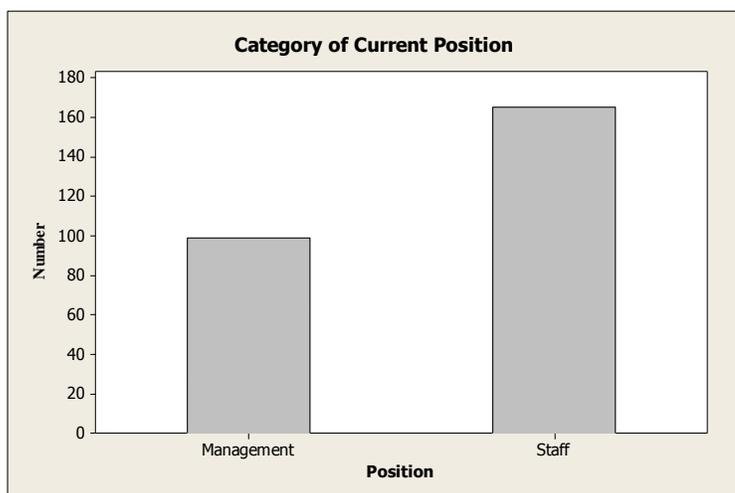


Figure 3.10. Category of Current Position

Figure 3.11 demonstrates that the gender of the supervisor was predominantly female (84%), slightly less than the concentration of female RNS (93.8%) (National League for Nursing, 2011).

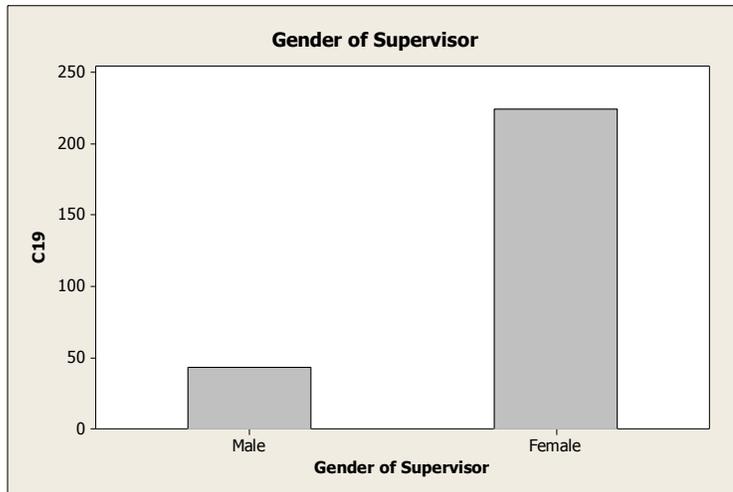


Figure 3.11. Gender of supervisor

Figure 3.12 shows that the majority of the respondents were working full time (69%), with the remainder working part-time or PRN (31%).

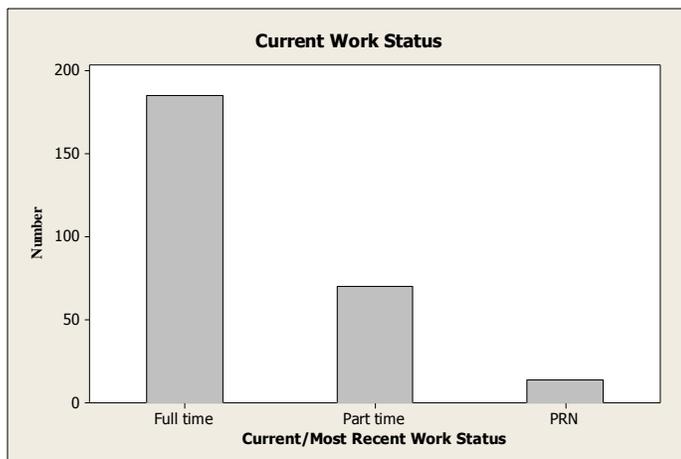


Figure 3.12. Current work status

Figure 3.13 shows that the respondents work primarily in a hospital setting (47%), with other being the second highest category (42%). Figure 4.14 shows that of that 42%, 39% were in educational roles.

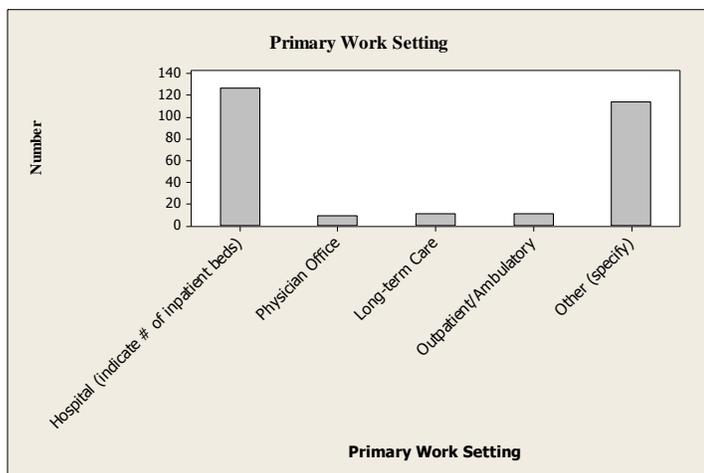


Figure 3.13. Primary work setting

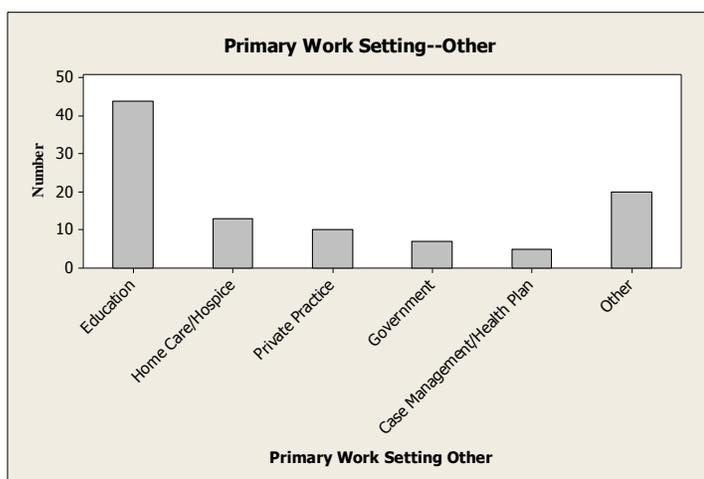


Figure 3.14. Primary work setting-other

Block 3 Variables.

The Block 3 variable was job satisfaction. Job satisfaction was measured by three questions specific to job satisfaction from the MOAQ. Responses were measured by a Likert scale with “1” being strongly disagree, and “5” being strongly agree. The mean for overall satisfaction with the job was 4.01.

Table 3.8

Job satisfaction measures

Statistic	All in all, I am satisfied with my job.	In general, I don't like my job.	In general, I like working here.
Min Value	1	1	1
Max Value	5	5	5
Mean	4.01	1.88	4.04
Variance	1.09	1.19	0.98
Standard Deviation	1.05	1.09	0.99
Total Responses	269	266	268

Note: The second item was subsequently reverse coded to create the overall job satisfaction scale.

Note: Likert Response Scale for Job Satisfaction: 1=Strongly Disagree; 2=Disagree; 3=Neither Agree nor Disagree; 4=Agree; and 5=Strongly Agree

Qualitative. Grounded theory qualitative analysis methods were used for short answer responses (Auerbach & Silverstein, 2003). The analysis of the open-ended short answers began with the grouping of contextually similar concepts and seed concepts were selected to begin to create themes. Next, major categorical themes were created for grouping the clustered items. Line-by-line analysis was then conducted to verify that the responses were grouped into the appropriate category. Finally, code categories and frequency of responses were compared between coders to finalize the data clusters for each short answer question. Frequency of responses were collected and used to rank order the responses.

Chapter Summary

This chapter addressed relevant methodological issues, including the target population, intended sample, research variables, research questions, instruments, data collection process, and data analysis strategies. An electronic survey was distributed to

the membership list of the Pennsylvania State Nurses' Association. Of the approximately 1,900 employees recruited as participants, 759 opened the e-mail, and 275 completed the survey, for a 36.4% response rate. Regarding the demographics of the respondents, 97% were female; 95% were White, 3% were Black, Non-Hispanic, 1% were Hispanic, and 1% were Other; 47% worked in hospitals, and 42% were in other settings, mostly education; and 63% were in staff positions. The instruments used for the study included the Utrecht Work Engagement Survey (UWES-17), select questions from the Michigan Assessment of Organizations Questionnaire (MOAQ), and short-answer questions. The chapter also described the data analysis strategies around the use of a block multiple regression analysis, in addition to basic descriptive statistics.

Chapter 4

Findings

Chapter 4 outlines the results of this study. The chapter is structured around three sections. The first section briefly reviews the study regarding purpose, research questions, research method, and data analysis procedures. The second section presents the study results for each research question. Finally, a summary of each research question is presented in tables.

Review of the Study

The purpose of this study was to examine the influence of demographic and workplace factors on work engagement in nursing practice. Data were analyzed using multiple regression quantitative analysis, with short-answer questions being used to provide context for the quantitative findings. The following research questions were examined:

1. To what extent is vigor, dedication, and absorption correlated with the following factors:
 - a. Demographic (Age, gender, and educational level)
 - b. Factors related to their nursing position (years as an RN, years with current organization, organizational financial status, current position, current work status, and current primary work setting)
 - c. Job satisfaction
2. What are the self-described aspects of the job that positively and negatively affect nurse work engagement?

3. What resources are most important to nurses and how do nurses describe the availability of these resources?
4. What is the turnover intention of the nurse population surveyed?

Demographics, factors related to the nursing position and job satisfaction were the independent variables used in determining influence upon the dependent variable, work engagement. Work engagement was measured using 22 Likert-scale rated questions from two validated instruments, the Utrecht Work Engagement Scale (UWES-17) and the Michigan Organizational Assessment Questionnaire (MOAQ). Self-described aspects of the job, and resource type and availability were included to determine whether or not they may also impact work engagement and were obtained using 10 short-answer questions at the end of the quantitative survey instrument. The significance level of .05 was set for all statistical data sets. Respondents were solicited through the Pennsylvania State Nurses' Association (PSNA) mailing list.

Research Findings

Research question 1. To what extent are vigor, dedication, and absorption correlated with the following factors:

- a. Demographic (Age, gender, and educational level)-Block 1
- b. Factors related to their nursing position (years as an RN, years with current organization, organizational financial status, current position, current work status, and current primary work setting)-Block 2
- c. Job satisfaction-Block 3

Table 4.1 summarizes the collective influence of the independent variables on the various scores for the three dimensions of work engagement. Table 4.1 was generated using the

contents of the correlation table for regression (APPENDIX E). The final results summarized in Table 4.1 indicate that the respective (fully saturated) regression model for absorption, vigor, and dedication are statistically significant ($p < .001$). The results indicate job satisfaction is the single most important variable (based on beta values) in explaining variability in scores for the three dimensions of work engagement. Nurses reporting higher levels of job satisfaction also report higher levels of absorption, vigor, and dedication.

Absorption—Collectively, the 11 independent variables explain 45.5% of the variability in the absorption subscale scores. Three independent variables are significant ($p < .05$) predictors of absorption (age of nurse— $\beta = .249$; current primary work setting— $\beta = -.143$; and job satisfaction— $\beta = .481$) when statistically accounting for other variables in the analysis.

Vigor—Collectively, the 11 independent variables explain 43.8% of the variability in the vigor subscale scores. One independent variable is a significant ($p < .05$) predictor of vigor (job satisfaction— $\beta = .557$) when statistically accounting for other variables.

Dedication—Collectively, the 11 independent variables explain 69.1% of the variability in dedication subscale scores. Two independent variables are significant ($p < .05$) predictors of dedication (age of nurse— $\beta = .234$; job satisfaction— $\beta = .778$) when statistically accounting for other variables.

Table 4.1

Work engagement dimensions and overall work engagement regressed on selected independent variables

Block and Variable	Absorption Beta (sig)	Vigor Beta (sig)	Dedication Beta (sig)	Work Engagement Beta (sig)
Block 1				
Age in Years	.249 (.015)	.142 (.170)	.294 (<.001)	.234 (.008)
Gender (Female)	.074 (.189)	-.003 (.957)	-.044 (.289)	.015 (.765)
Highest Education Level (Ph.D. & M.S.)	.010 (.080)	-.071 (.304)	-.800 (.107)	-.041 (.492)
Block 2				
Years as RN	-.017 (.878)	.028 (.804)	-.032 (.692)	-.012 (.901)
Years with Current Org.	-.020 (.767)	-.069 (.306)	-.028 (.565)	-.029 (.616)
Financial Status Current Org. (Non Profit)	.102 (.086)	-.048 (.432)	.018 (.689)	.021 (.683)
Current Position (Staff)	-.113 (.077)	-.081 (.206)	-.065 (.169)	-.092 (.096)
Gender of Current Direct Supervisor (Female)	.037 (.500)	-.049 (.386)	.067 (.103)	.021 (.659)
Current Work Status (40 Hr/Week)	.117 (.060)	.117 (.064)	-.016 (.735)	.093 (.092)
Current Primary Work Setting (Hospital)	-.143 (.020)	-.106 (.090)	-.074 (.101)	-.128 (.018)
Block 3				
Job Satisfaction	.481 (.020)	.557(<.001)	.778 (<.001)	.649 (<.001)
Model Summary Information				
df	11/189	11/188	11/193	11/183
F	14.327	13.30	39.187	24.78
p	<.001	<.001	<.001	<.001
R Square	.455	.438	.691	.598
Adj. R Square	.423	.405	.673	.574

The regression analysis in this case shows that age is a significant independent variable for overall work engagement (.234), and specifically for the factors of absorption (.249)

and dedication (.294). Because the significance figures are positive, they show that the older the respondent the stronger the relationship between age and work engagement.

Research question 2. What are the self-described aspects of the job that positively and negatively affect nurse work engagement?

Two short answer questions were asked regarding this research question. The first question asked about the things that increase your work engagement, and the second question asked about the things that decrease your work engagement.

Table 4.2 shows the responses, ranked highest to lowest in order of response frequency.

Table 4.2

Factors that increase or decrease work engagement

Increases Engagement	Decreases Engagement
Having an impact (160)	Workload (170)
Team (83)	Lack of Impact (90)
Variety (54)	Politics (79)

Note: Numbers indicate the number of times mentioned by respondents.

Having an impact in the workplace was mentioned most frequently as the factor that most increases engagement in the workplace. Respondents repeatedly cited the need to have their ideas heard by management, and to have the autonomy to make and implement decisions as descriptions for having an impact. The importance of a working together in a team-oriented environment was also critical. The respondents described team as a strong relationship with their immediate peers, physicians and leadership. Respondents also found variety to be a key factor in work engagement. They liked the variety that they have been able to find in their nursing careers in the form of expanded job opportunities, as well as the variety presented to them by the uniqueness of the types of patients they serve.

Workload was mentioned most frequently as a factor that decreases engagement. Workload was most often described as not enough staff to handle the assigned patient load. Many respondents talked about the level of stress caused by having too many demands, and their fear that they would not be able to serve their patients to the best of their ability. The lack of impact was mentioned second most often. Lack of impact was most often described as management that does not listen to their input, feeling helpless to change things in their immediate work space (lack of autonomy), as well as a general feeling of not being respected, or taken for granted in the workplace. Politics was the third most mentioned factor that decreased engagement. Politics was most often described as behaviors that impeded their ability to do what was right for their patients. Those behaviors were attributed to management, co-workers and physicians.

Research question 3. What resources are most important to nurses and how do nurses describe the availability of these resources?

Two short answer questions were asked regarding this research question. The first question asked about the resources most important to performing their jobs, and the second question asked about the availability of those resources. Table 4.3 shows the responses, ranked highest to lowest according to frequency.

Table 4.3

Most important resources for performing the job and their availability

Resource Need	Availability
Effective Management (150)	50/50
Information/data (103)	50/50
Continuing Education (47)	50/50

Note: Numbers indicate the number of times mentioned by respondents.

The most mentioned resource needed was effective management. Effective management was most often described as supervisors with the training and experience to lead them,

leadership of what they do in the workplace, leadership support of their material resource needs, and management's involvement in proactive problem resolution. Information and data was most often described in terms of electronic availability. Respondents expressed a desire to have information and data readily available on workstations that are easily accessible and plentiful. Continuing education was the third most mentioned resource needed for performing their jobs. Respondents most typically indicated a desire for not only external education to advance their in job skills, but also for external education to increase their management skills and increase their job opportunities. The availability of these resources was reported to be about 50/50.

Research question 4. What is the turnover intention of the nurse population surveyed?

Two questions were asked from the MOAQ that were specifically focused on turnover intention. The first question asked respondents to respond to the statement "I will probably be looking for a new job in the next year". Figure 4.4 demonstrates that 61.34% of the respondents disagreed with this statement, meaning that they do not intend to experience job turnover in the next year. Approximately 39% of the respondents indicated that they neither agreed nor disagreed with the statement or agreed with it. Therefore, approximately 60% of respondents do not have an intention to turnover in their jobs next year.

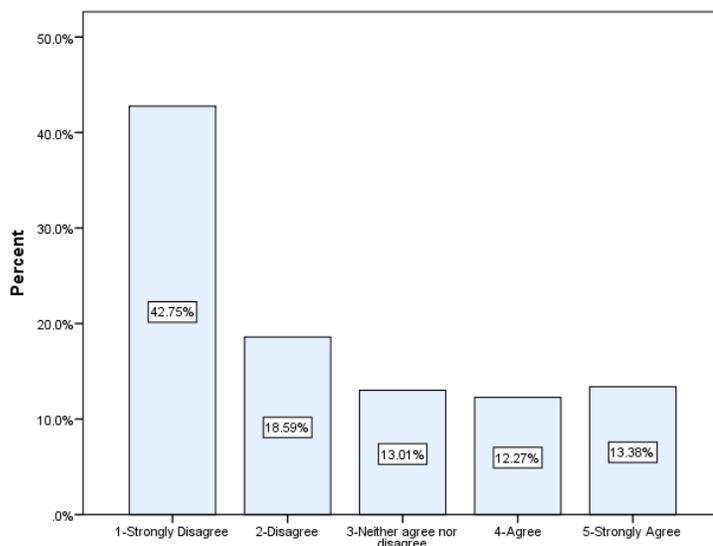


Figure 1. I will probably be looking for a new job in the next year (n=269).

Figure 4.1. Turnover intention. Percentage of respondents agreeing or disagreeing with the statement “I will probably be looking for a new job in the next year”. Source: Michigan Organizational Assessment Questionnaire (Cammann, C., Fichman, M., Jenkins, G.D., and Klesh J.R. (1983). *Assessing the attitudes and perceptions of organizational members*. In S.E. Seashore, E.E. Lawler, P.H. Mirvis, & C.C. Cammann (Eds.), *Assessing Organizational Change* (pp. 71-138). New York: Wiley.

The second question relating to turnover intention asked respondents to respond to the question “I often think about quitting my job”. Figure 4.5 shows that 65.3% of the respondents either disagreed or strongly disagreed with this statement. Approximately 35.7% neither agreed nor disagreed, or agreed or strongly agreed. The responses are a slightly stronger to the positive than for the previous question and represent closer to a 65/35 split favorable rating. Overall, both questions indicate that the majority of this population does not intend to experience job turnover at the current time.

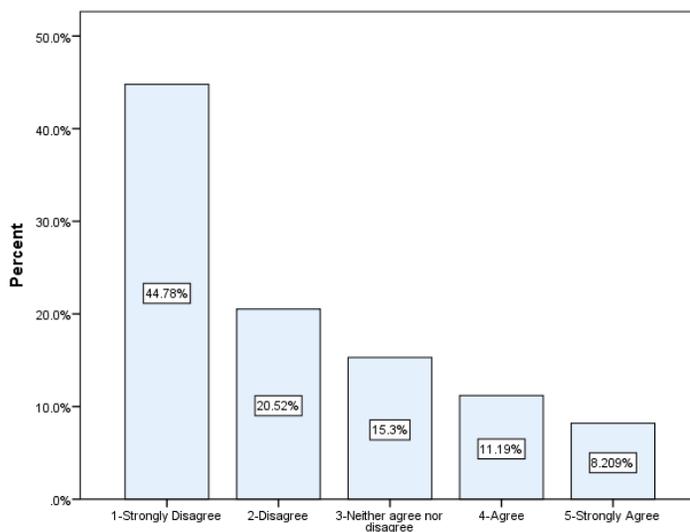


Figure 2. I often think about quitting (n=268).

*Figure 4.2. Turnover intention. Percentage of respondents agreeing or disagreeing with the statement “I often think about quitting”. Source: Michigan Organizational Assessment Questionnaire (Cammann, C., Fichman, M., Jenkins, G.D., and Klesh J.R. (1983). *Assessing the attitudes and perceptions of organizational members*. In S.E. Seashore, E.E. Lawler, P.H. Mirvis, & C.C. Cammann (Eds.), *Assessing Organizational Change* (pp. 71-138). New York: Wiley.*

Chapter Summary

This chapter provided the results of the analyses based upon the given research questions. Eleven independent variables were tested for their influence upon work engagement among nurses in Pennsylvania. The results indicate job satisfaction is the single most important variable (based on beta values) in explaining variability in scores for the three dimensions of work engagement. Nurses reporting higher levels of job satisfaction also report higher levels of absorption, vigor, and dedication. The self-reported workplace factors that positively impact work engagement are (1) having an impact; (2) working with an effective team; and (3) having variety in the job duties. The workplace factors that negatively impact work engagement are (1) workload; (2) having little impact; and (3) organizational politics that slow down or prevent access to resources

needed to do the job. The resources reported as most important to work engagement are (1) effective management; (2) access to information and data, and (3) continuing education. Respondents reported that these resources were available approximately 50% of the time. The majority of this population (>65%) does not intend to experience job turnover at the current time, therefore, turnover intention is relatively low.

Chapter 5

Summary, Conclusions, and Recommendations

The purpose of this chapter is to summarize the results of the research and to provide a discussion regarding both the practical and academic applications of the research. A summary of the statistical analyses based on the results of the research is provided. Based upon these findings, implications for strategic management and HRD practices are discussed. Also addressed are research limitations and recommendations for further research.

Summary of the Research

A study of the critical demographic and workplace factors that influence-work engagement in nursing practice is important for a number of reasons. For employers of nurses, understanding the relationships will enable them to create work environments that support and encourage work engagement. For educators, this understanding can help them to better attract and train students to increase the supply of nurses. For policy makers, understanding the relationships can help them to create policies that better identify potential labor pools and encourage the selection of nursing as a profession. For scholars, knowing the impact of the relationships will add a more extensive study of nurses to the body of research. Regardless of the situation, a better understanding can provide input to strategy development to address the looming nursing shortage in the United States, as well as world-wide. Nationally, by 2025, the United States is projected to be short 260,000 nurses (AACN, 2012). In Pennsylvania alone, there is a projected shortage of 38,000 nurses by the year 2020 (National League for Nursing, 2011).

Pennsylvania was selected for this study because of the ability to access nurse input through the Pennsylvania State Nurses' Association, and for the opportunity to provide input for better future planning. In a recently conducted study, Pennsylvania received a "C" with respect to its planning for the demands of 2030 (Juraschek, et al., 2012).

This research provides a comprehensive review of the findings from the nurse membership of the Pennsylvania State Nurses' Association. The findings from the data will be utilized by this organization for current and future planning and advocacy.

Research Questions

The primary purpose of this research study was to identify the demographic and workplace factors that influence work engagement. Block multiple regression analysis was used to study the impact of 11 independent variables on work engagement and job satisfaction. Two indicators of turnover intention were measured using the MOAQ, and short-answer questions were gathered to provide insight into the factors most frequently mentioned as increasing or decreasing engagement. Resources needed to do the job as a nurse were also assessed and the perceived availability of such resources was evaluated. The specific research questions were as follow:

1. To what extent is vigor, dedication, and absorption correlated with the following factors:
 - a. Demographic (Age, gender, and educational level)
 - b. Factors related to their nursing position (years as an RN, years with current organization, organizational financial status, current position, current work status, and current primary work setting)
 - c. Job satisfaction

2. What are the self-described aspects of the job that positively and negatively affect nurse work engagement?
3. What resources are most important to nurses and how do nurses describe the availability of these resources?
4. What is the turnover intention of the nurse population surveyed?

In order to answer these research questions, descriptive, correlational research (Morgan, Gliner, & Harmon, 2006, pp. 69-72) was utilized.

Research Procedures

The research instruments used included the Utrecht Work Engagement Survey (UWES-17) to measure work engagement comprised of the factors of vigor, dedication, and absorption; the Michigan Organizational Assessment Questionnaire (MOAQ) to measure job satisfaction and turnover intention; and a series of open-ended short answer questions to assess job resources and job aspects. The research instrument (a total of 22 items, along with 10 demographic and 10 short answer questions) was administered in an online environment, and participants were invited to participate by the Pennsylvania State Nurses' Association (PSNA) via the membership e-mail list serve.

Approximately 1,900 e-mails were sent via the Pennsylvania State Nurses' Association. Seven hundred and fifty-six nurses were confirmed as opening the e-mail by the PSNA, and 275 completed the survey, for a response rate of 36.4%. The data were analyzed using statistical techniques that included descriptive statistics, and block multiple regression analysis. The short-answer questions were coded using a thematic analysis.

Results

The research results were based on both quantitative measures and qualitative information. The quantitative information involved identifying to what extent were vigor, dedication, and absorption correlated with demographic factors, factors related to their nursing position, and job satisfaction. Quantitative factors also measured turnover intention. The quantitative information showed high internal consistency, with total work engagement having a Cronbach's $\alpha = .925$, and job satisfaction having a Cronbach's $\alpha = .916$. Factorial validity, confirmatory factor analysis and cross-national invariance all showed that the UWES was valid as a three-factor measure (Bakker, 2003). The construct validity of the MOAQ showed validity of the instrument as consistent with the nomological network.

The final results indicate that the respective (fully saturated) regression model for absorption, vigor, and dedication are statistically significant ($p < .001$). The results indicate job satisfaction is the single most important variable (based on beta values) in explaining variability in scores for each of the three dimensions of work engagement. Nurses reporting higher levels of job satisfaction also report higher levels of absorption, vigor, and dedication. Three independent variables are significant ($p < .05$) predictors of absorption (age of nurse— $\beta = .249$; current primary work setting— $\beta = -.143$; and job satisfaction— $\beta = .481$) when simultaneously statistically accounting for other variables in the analysis. One independent variable is a significant ($p < .05$) predictor of vigor (job satisfaction— $\beta = .557$) when statistically accounting for other variables. Two independent variables are significant ($p < .05$) predictors of dedication (age of nurse— $\beta = .234$; job satisfaction— $\beta = .778$) when statistically accounting for other variables. Of

the 11 independent variables measured, job satisfaction was positively correlated with work engagement on all three dimensions. Age was shown to be positively correlated with absorption and dedication, and the correlation of $\beta=.249$ indicated that the older the nurse, the more absorbed and dedicated. Current primary work setting (hospital vs. other settings) was negatively correlated ($\beta=-.143$) with absorption.

For the qualitative findings, the thematic analysis approach demonstrated a high inter-rater reliability between the coders. The respondents identified three factors that increase their workplace engagement (perceived impact, team, and variety), and three factors that decrease their workplace engagement (workload, lack of perceived impact, and politics). When asked about the resources that are important in performing their jobs, three resources were identified most frequently: effective management, access to information/data, and continuing education. Respondents reported that these resources were only consistently available approximately 50% of the time.

Discussion

The high correlation between job satisfaction and work engagement was not surprising. In a Dutch sample of a variety of workers, Schaufeli and Salanova (2007) found a correlation of .53 between job satisfaction and workforce engagement. This study found a correlation of .649. Given that Schaufeli and Salanova (2007) also showed that nurses were one of the more highly engaged professions, this slightly higher correlation is not surprising.

The theoretical model supporting this research is the JD-R Model (Bakker and Demerouti, 2007) (APPENDIX A). Bakker and Demerouti argue that job satisfaction is not really a measure of workforce engagement, but is instead a measure of the

antecedents that must be present for work engagement to occur. The antecedents are made up of job resources (i.e., autonomy, performance feedback, supervisory coaching, social support) and personal attributes (i.e., optimism, self-efficacy, resilience, self-esteem). To test this assumption, Schaufeli and Bakker (2010) examined the elements of the Gallup Q12 work engagement survey. They selected this survey because it is the only instrument with available psychometric data. In their analysis, they determined that the questions of the Gallup Q12 lined up precisely with the job resources antecedents.

As a result of these findings, this researcher accepts that job satisfaction is an antecedent to workforce engagement, and therefore believes the results found in this study further support the high correlation between the job satisfaction and work engagement. From my background as a senior hospital executive and a consultant with more than 25 years of experience working with nurses and other healthcare professionals, my personal experience further substantiates that measures of job satisfaction do not fully capture the essence of workforce engagement. Job satisfaction measures often capture the worker's pleasure or displeasure with the amount and type of resources available to them. I have seen workers be very satisfied, but not at all engaged in their jobs. They go through the motions, but the connection to the job and the organization begins and ends with their arrival and departure from work. There is no continual emotional connection to the work they do. On the other hand, the engaged worker exhibits vigor, dedication, and absorption to the job, to those they serve, to their team, and to their organization. There is a noticeable difference between what satisfied looks like in an organization and what engaged looks like in an organization. Based upon this experience, I believe that one can be satisfied, but not engaged, but not engaged without first being satisfied. Being

satisfied first means that the job resources and personal attributes are in place as a foundation for work engagement.

Schaufeli and Salanova (2007) showed a weak positive correlation between age and work engagement ($r=.10$) in their research findings. This study showed a moderate positive correlation between age and work engagement ($r=.330$), and found that the older the nurse, the more engaged. This age finding is also consistent with the research. Where the relationship between age and engagement often becomes an issue is when there is conflict between the older worker and the younger worker. In this situation, there is the potential for the older worker to feel less engaged if there is conflict with a younger co-worker, which throws the job resource of social support out of balance (Avery, McKay, and Wilson, 2007). Because resources are such an important foundational aspect of work engagement, the finding that critical job resources are only available 50% of the time is a finding that should raise concern. If indeed job resources are an antecedent to work engagement as the JD-R model theorizes, a lack of resources will limit the levels of work engagement that can be achieved.

The findings that impact team and variety contribute to workforce engagement are supported by the JD-R model. Impact (autonomy), team (social support), and variety (autonomy) are job resources. The lack of resources such as information and data (performance feedback), supervisory coaching (effective manager), and politics (negative social support) also negatively impact work engagement.

The research finding that approximately 65% of the survey respondents had no intention of leaving their jobs in the next year supports the research finding that 1 in 5

nurses intend to leave their jobs in the next year (Aiken, et al., 2012). This research showed that while 65% intended to stay, 20-25% of those surveyed (or 1 in 5) were intending to look for something different next year.

It should also be mentioned that gender and ethnicity have been studied on a limited basis with respect to influence on work engagement. Ethnicity has been shown to have little to no impact on work engagement, but lack of diversity does have an impact on overall quality of care (IOM, 2004). Borkowski, et al. (2007) did find that white, non-Hispanic nurses were slightly less satisfied than nurses of other ethnic backgrounds. Johnson(2004) found that work engagement is slightly less in men than women, but this researcher found no clear finding to say that men are less engaged than women in the workplace. Ethnicity and gender were not studied as a part of this research in the regression analysis because the representation across various gender and ethnicity levels was small in the overall respondent mix. Given that nursing is weighted disproportionately to whites (93%) and females (93%), it is not surprising that the respondents mirrored the same percentages.

The research findings support the argument that the factors which influence job satisfaction are indeed the job resources that are antecedents to work engagement, hence the strong correlation between job satisfaction and work engagement. Age was shown to have a slightly positive impact on work engagement with the older worker being slightly more engaged, and the hospital workplace setting was shown to have a slightly negative influence to work engagement. Gender, ethnicity, and other factors of the workplace had little to no correlation in this study population. It was clear among the respondents that being able to make a perceived impact and having effective management were two very

frequently mentioned contributing factors to work engagement...both key job resources and therefore antecedents to work engagement.

Implications

In this section, both the academic and practical implications of the findings to the field of HRD are discussed. With impending nursing workforce shortages, the implications with respect to further research, as well as to recommended changes in the workforce are very important for future planning endeavors.

Academic implications. With respect to academic and theoretical implications, this research has at least two: (a) validation of the strong correlation between work engagement and job satisfaction in the context of registered nurses, and (b) a block multiple regression approach that simultaneously controlled (accounted for) the influence of demographic, job-related factors, and job satisfaction.

With regard to the correlation between work engagement and job satisfaction, one of the most common discussions between the business field and the academic field are whether or not job satisfaction and work engagement are the same or different constructs (Schaufeli and Bakker, 2010). They argue that the constructs are indeed different, and that job satisfaction is the same as the job resources that are considered to be antecedents to work engagement in their theoretical model. From a quantitative perspective, this research did indeed demonstrate a strong positive correlation ($r=.649$) between job engagement and job satisfaction. From a qualitative perspective, the thematic analysis demonstrated that the factors that were most important to creating engagement in the workplace were perceived impact, team, and variety in the job...all categories of job resources as defined in the JD-R model. Turnover intention among respondents was also

low, which corresponded to the relatively high levels of engagement among the respondents.

The variables in the block multiple regression model were based on the researcher's practical experience and the literature review to group the indicators for analysis. In this way, each block (block1=demographics; block 2=factors related to the workplace; and block 3=job satisfaction) was examined sequentially in such a way as to assess the influence of each block upon each component of work engagement, and then work engagement as a whole. The only independent variable that was consistently correlated with work engagement across all three factors (vigor, dedication, and absorption) was job satisfaction. This high correlation between work engagement and job satisfaction and the definition of job satisfaction as the antecedent job resources indicates that the lack of resources (as indicated in the thematic response) could indeed negatively influence work engagement.

This research makes academic contributions because (a) it provides validated measurements that demonstrate the strong relationship between job satisfaction on work engagement, and (b) it further defines the resources that are necessary to engage a nursing workforce.

Practical implications. The results from this research provide HRD practitioners and leaders of healthcare organizations with insight into the relationship between work engagement and job satisfaction, and provides practical knowledge with respect to job resources that were the most frequently reported. For employers of nurses, understanding these relationships will enable them to create work environments that further support and encourage work engagement. For educators, this understanding can help them to better

attract and train students to increase the supply of nurses. For policy makers, understanding the relationships can help them to create policies that better identify labor pools and encourage the selection of nursing as a profession.

For employers of nurses, this research has emphasized the critical nature of building organizational cultures that support work engagement. With the understanding that work engagement is a step beyond job satisfaction and that job resources are key foundational elements to creating work engagement, employers would be wise to consider paying careful attention to the job resources their employees consider to be important. In the case of this research, factors that contribute to engagement were perceived impact, team, and variety. Factors that detracted from engagement were workload, perceived lack of impact, and politics. Cultures that support the autonomy necessary to provide the employee with the ability to have a meaningful impact are crucial. Cultures with managers that are ineffective (either absent, controlling, or focused on creating barriers) are detrimental to work engagement. Cultures that grow and foster effective teams add to engagement, while cultures that allow politics to guide decision-making and the allocation of resources detract from engagement. Cultures that give employees the power to grow and learn by experiencing variety in their jobs contribute to engagement, while cultures that just keep adding workload without regard to employee capacity will drain engagement. Cultures that give employees access to the information and data that they need to do their jobs is a crucial resource, as is the ability to grow and learn through continuing education. Employers need to realize, however, that at least among these respondents, the availability of these necessary resources was only marginal, at best, with respondents reporting that they have the resources they need only about 50%

of the time. With a turnover intention of respondents of 40% either not sure or certain that they would be looking for different employment in the next year, there could be a link between the availability of the resources and the uncertainty of turnover. Research has shown that turnover intention is higher when the availability of resources is lower (Hallberg & Schaufeli, 2006; Schaufeli & Bakker, 2004). While the respondents in this research were engaged, and more likely than not to remain in their jobs, the uncertainty of 40% of the respondents does suggest that the inconsistent availability of resources could be an influencing factor.

With the information from this research, HRD professionals have the opportunity to focus on availing nurses of the resources needed to engage them more deeply in their work. Lockwood (2007) suggests that there are demonstrated managerial characteristics that foster employee engagement: (1) show strong commitment to diversity; (2) take responsibility for successes and failures; (3) demonstrate honesty and integrity; (4) help find solutions to problems; (5) respect and care for employees of individuals; (6) set realistic performance expectations; (7) demonstrate passion for success; and (8) defend direct reports. Fostering and encouraging managers that build cultures that uphold these ideals will increase the chances of employee engagement. HRD professionals and managers that create organizations with engagement cultures contribute to the ability of the organization and the profession overall to recruit and retain the best and the brightest to the nursing field. In a time of looming shortages, recruiting and retaining from the smaller available workforce is even more critical to having enough engaged individuals to provide care for an aging population.

From an educator's perspective, if the work environment has a positive reputation, more students will want to be nurses. If educators understand what it takes to engage nurses, they can train students to better articulate what they need to their organizations and can lay the foundation for their own students' nurse leadership style in the future. The scope and perspective of educators expand beyond the clinical training, to include training in teamwork, leadership and communication skills that will ensure that nurses are prepared to function effectively within a team environment, as well as to lead one.

For legislators, understanding the factors that influence work engagement can help them to create support both at the educational and organizational levels. Increasingly, hospitals are experiencing financial constraints. From my experience, one of the first aspects cut when budgets are tight is education. In terms of frequency of reporting, continuing education was one of the most mentioned resources needed by study respondents. Perhaps legislators can have an impact by supplementing provider budgets with more earmarks for educational resources. For educators, legislation can be helpful in making it possible to attract the less represented ethnic groups to healthcare. Legislation related to educational support for these groups could be very helpful in more closely aligning staff representation with patient mix.

In summary, HRD professionals, educators, and legislators need to focus more on understanding the connection between job resources and overall work engagement. HRD professionals have the ability to create organizational cultures that will further enhance nurse engagement, which will in turn make the field more attractive to those considering the field. While organizations are building engaged work environments, educators and

legislators can focus more heavily on balancing the challenges of ethnic and cultural diversity so that those in the field begin to more closely resemble those being served. There are many cultural, financial, and attitudinal barriers to overcome, and provide consideration for future study.

Reflections on Research Limitations

It is important to identify the limitations of the research so that future researchers may increase the quality of their own research. There were several limitations of this study regarding the sample population, homogeneity of the sample population, and sampling process.

The population surveyed was nurses that were members of or on the mailing list of the Pennsylvania State Nurses' Association (PSNA). Therefore, the respondents were limited to nurses in Pennsylvania. The nurse respondents were reflective of the nurse population in Pennsylvania in terms of ethnicity (predominantly white), and gender (predominantly female). While the responding sample size ($n=275$) was enough to conduct a multiple regression analysis, the lack of diversity of the respondents limits the ability to generalize the results across the larger nurse population. There are 211,000 nurses in Pennsylvania. The membership of the Pennsylvania State Nurses' Association is approximately 2,000 nurses, thus already representing less than 10% of the nurse population. The even smaller responding sample size of 275 nurses, though reflective of the demographic distribution of nurses limits the ability to generalize the results to specific ethnic subgroups.

The sampling process did not produce a sample size large enough to reflect the population of nurses in Pennsylvania. For ease of administration, the researcher chose to use e-mail as the only method of distribution of the survey following the Dillman Total Design Method (TDM) of survey collection. Given that only 756 recipients (of 1,900) even opened the e-mail (even with an incentive), it is realistic to consider other methods for gathering future data for purposes of increasing participation rates. The incentive

provided should also be re-visited. In this case, six \$50 gift cards were given away via a random drawing to those completing the survey. Further consideration should be given to adding an instant reward as well to boost response rate, since instant rewards were shown to have a positive effect on response rates (Dillman, 2010).

Recommendations for Further Research

Several limitations were discussed in the previous section. In part, based on these limitations, recommendations are provided for further related studies.

First, to increase both sample size and gender and ethnic diversity of the nurse respondents, a larger target study is recommended. Targeting the distribution of surveys in states with the highest populations of nurses and those with the largest diversity may provide sufficient numbers of respondents especially in ethnic subgroups to conduct a meaningful analysis for the ethnicity variable. Creating partnerships with state organizations and professional associations for distribution of the surveys through electronic and other means has the potential to create a database that is more generalizable to the larger population and subgroups of that larger population. Methods to consider include focus groups, distributing surveys through multiple professional associations, and working directly with the state licensing body to access all 211,000 licensed RNs. Any or all of these methods in combination could enhance the sample diversity.

Second, using a qualitative research design/approach would provide meaningful information regarding the constructs identified in the JD-Resources Model. Specifically, the constructs within Job Demands (Work Pressure, Emotional, Mental, and Physical) and within Job Resources (Autonomy, Performance Feedback) may be more explicitly

and definitely examined using qualitative approaches such as face-to-face interviews extended over a prolonged period of time.

Third, in this study, no interactions were examined statistically. Future research should consider examining statistical interactions between Job Demand constructs, and Job Resource constructs, and determining the mediating and moderating variables with respect to work engagement.

Fourth, the researcher accepted the theoretical design equating job resources with job satisfaction. Further research should consider studying the relative weights of the job resources specifically for nurses. While this study gathered frequency of mention for resources related to work engagement, it did not assess the level of importance of those resources to overall measures of work engagement.

Fifth, the researcher did not distinguish the respondent base between union and non-unionized workers. There has been some research that has suggested that unionized workers are less satisfied than non-union workers, but there is question as to whether the impact on satisfaction is due to the workplace or the union (Bryson, Capellari, & Lucifora, 2004). There has been sparse research regarding work engagement and union or non-union membership.

Sixth, it would have been helpful to analyze the data by examining the differences in perspective by age and experience to a greater extent. For example, analyzing responses of those in the bottom 25% of age and experience, and comparing them to those in the top 25% of age and experience might provide additional insight into the factors influencing engagement by age and years of experience.

Chapter Summary

This chapter presented an overall summary of the research. The procedure of the research was summarized, as well as the primary purpose of the research and the questions to be answered. A synopsis of the was provided based on the research constructs. The research provided evidence that job satisfaction and work engagement are highly correlated. In the theoretical context of the JD-R model, job resources were evaluated in relation to their contribution to overall work engagement. Implications based on the discussion of results were proposed, both academically and practically for the field of HRD. Self-reported research limitations were presented, and critical recommendations for further study were reviewed.

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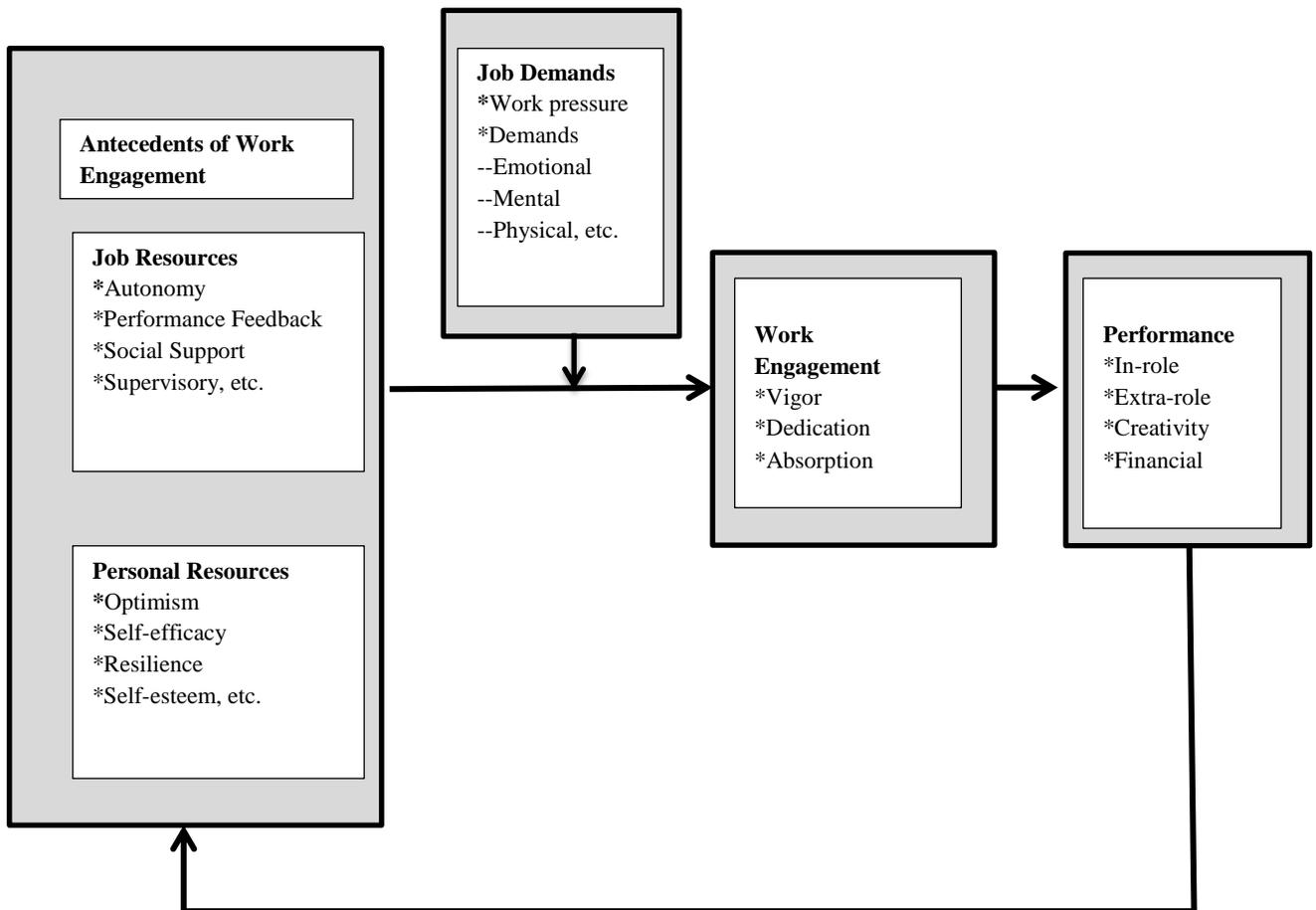
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Appendices

Appendix A-Theoretical Framework

Source: Bakker & Demerouti Job-Demands Resources Model (2007)



Appendix B-Data Matrix

Variable Name	Research Question	Item on Instrument
Vigor	To what extent is the domain of vigor correlated with demographics, nursing position factors, and job satisfaction?	UWES-17: Q1, Q4, Q8, Q12, Q15, Q17 MOAQ: Q1, Q2, Q3
Dedication	To what extent is the domain of dedication correlated with demographics, nursing position factors, and job satisfaction?	UWES-17: Q2, Q5, Q7, Q10, Q13 MOAQ: Q1, Q2, Q3
Absorption	To what extent is the domain of absorption correlated with demographics, nursing position factors, and job satisfaction?	UWES-17: Q3, Q6, Q9, Q11, Q14, Q16 MOAQ: Q1, Q2, Q3
Job Aspects	What are self-described aspects of the job that positively and negatively affect nurse work engagement?	Considering your current job, what is it about your job that (a) Increases your engagement (b) Decreases your engagement
Job Resources	What resources are most important to nurses and how do nurses describe the availability of these resources?	What resources are most essential to you in performing your job? What comments do you have about their availability?
Turnover Intention	What is the turnover intention of the nurse population surveyed?	MOAQ: Q4, Q5

Appendix C-Work Engagement Survey

The purpose of this survey is to assess your views and attitudes about your career in nursing. The information gathered may be used to influence the thinking of organizational leaders, educators, legislators, and nursing advocacy groups. All responses remain anonymous. There is no obligation to answer any of the questions. Please read each item and select the response that best reflects how you feel.

Age: _____ (years)

Gender: ___ Male ___ Female

Ethnicity: ___ White, non-Hispanic ___ Black, non-Hispanic
 ___ Hispanic ___ Asian ___ Other (Specify _____)

Years as an RN: _____ (years)

Educational Level in Nursing: ___ Doctoral; ___ Master's Degree; ___ Bachelor's Degree; ___ Diploma; ___ Associate

Years with your current/most recent organization: _____ (years)

Primary work setting: ___ Hospital (inpatient--# of beds _____)
 ___ Outpatient/Ambulatory ___ Physician Office ___ Long term Care
 ___ Other (Specify _____)

Organizational Designation: ___ For profit ___ Not for profit

Current/Most Recent Work Status: ___ 40 hours per week ___ <40 hours per week
 ___ PRN

Position with organization: ___ Management ___ Staff

My direct supervisor is/was: ___ Male ___ Female

PSNA Member: ___ Yes ___ No

In this section, you are asked to give responses according to the scales provided. Directions for your response are given prior to each question set.

Set #1

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, enter a '0' (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by entering the number (from 1 to 6) that best describes how frequently you feel that way.

	Almost never	Rarely	Sometimes	Often	Very Often	Always
0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Everyday

1. ____ At my work, I feel bursting with energy.
2. ____ I find the work that I do full of meaning and purpose.
3. ____ Time flies when I am working.
4. ____ At my job, I feel strong and vigorous.
5. ____ I am enthusiastic about my job.
6. ____ When I am working, I forget everything else around me.
7. ____ My job inspires me.
8. ____ When I get up in the morning, I forget everything else around me.
9. ____ I feel happy when I am working intensely.
10. ____ I am proud of the work that I do.
11. ____ I am immersed in my work.
12. ____ I can continue working for very long periods at a time.
13. ____ To me, my job is challenging.
14. ____ I get carried away when I am working.
15. ____ At my job, I am very resilient, mentally.
16. ____ It is difficult to detach myself from my job.
17. ____ At my work, I always persevere, even when things do not go well.

Set #2

The next set of questions relate to job satisfaction. Please use the following rating scale to indicate the extent to which you agree or disagree with the following statements.

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

18. ___ All in all, I am satisfied with my job.
19. ___ In general, I don't like my job.
20. ___ In general, I like working here.
21. ___ I will probably be looking for a new job in the next year.
22. ___ I often think about quitting.

Additional Questions

1. Considering your current job, what is it about this job that increases your engagement?
2. Considering your current job, what is it about this job that decreases your engagement?
3. What resources are most essential to you in performing your job?
 - a. What comments do you have about the availability of these resources?
 - b. What suggestions do you have regarding resources?
4. Has a nursing career met your expectations? ___Yes ___No
 - a. Why or why not?
5. If you intend to stay in your current nursing job, what is the most important reason you would stay?
6. If you intend to leave your current nursing job, what is the most important reason that would make you leave?
7. Would you recommend a career in nursing to anyone seeking your advice? ___Yes ___No
 - a. Why or why not?
8. What educational pathway would you recommend for someone seeking a nursing career?

___Bachelor of Science (4 year) ___Diploma ___Associate Degree (2 year)

Why do you recommend this educational path?
9. What factors do you consider when choosing your place of work?
10. Is there anything about work engagement related to your job that we did not ask that you would like to add?

If you would like to enter the drawing for a \$50 VISA gift card, please email czb5185@psu.edu with your name and contact information.

If you would like an electronic summary of the study findings, please send your request to czb5185@psu.edu.

Appendix D-Target Population Letter

Date:

Salutation:

My name is Catherine Baumgardner, and I am a PhD candidate in Workforce Education and Development at the Pennsylvania State University. I am currently gathering research for my dissertation and would greatly appreciate your input.

As a former hospital administrator, I understand the great value that nurses play in the daily delivery of care throughout our health systems. I also understand that you are asked to complete many surveys. This one, however, is different because it is about you and what makes you the nurse that you are. My research will focus on identifying the critical demographic and workplace factors that influence work engagement in nursing practice in Pennsylvania. What is work engagement? Quite simply, it is the passion and commitment to invest one's discretionary effort on the job. Understanding the level of engagement in your day-to-day work will be helpful to healthcare as we provide input to those addressing our organizational, educational and policy practices to meet future staffing demands.

Please take a few minutes to help in this research. You will find a brief 22-question survey, as well as a few demographic questions and some open-ended questions to help me to interpret the data. Completion and return of the survey implies that you are aware of the steps taken to ensure confidentiality of the information gathered, and consent to take part in the research as is described in the letter of informed consent that accompanies this invitation.

Thank you in advance for your role in helping me to better understand the factors that cause nurses to become engaged in their work. If you should wish to have a summary of the research findings, please send your request to me at czb5185@psu.edu. As an added thank you, please participate in the drawing for six **\$50 VISA** gift cards. Six cards will be randomly awarded to the lucky winners who have completed the survey!

Best,

Catherine Baumgardner

Appendix E-Bivariate Inter-Item Correlations for Selected Variables

Variable	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13
Work Engagement X1	1.00												
Vigor X2	.921 .000 256	1.00											
Dedication X3	.912 .000 256	.787 .000 261	1.00										
Absorption X4	.918 .000 256	.758 .000 257	.742 .000 261	1.00									
Age in Years X5	.330 .000 243	.246 .000 249	.299 .000 254	.372 .000 249	1.00								
Gender X6 (Female)	.112 .076 254	.052 402 260	.047 .443 265	.155 .013 255	.023 .718 257	1.00							
Education Level X7 (Ph.D. &MS)	.167 .007 256	.137 .027 262	.122 .046 267	.210 .001 262	.380 .000 259	.021 .736 271	1.00						
Years as RN X8	.311 .000 236	.220 .001 242	.271 .000 247	.361 .000 242	.838 .000 245	.077 .227 250	.477 .001 268	1.00					
Years Current Organization X9	.207 .002 217	.123 .066 223	.187 .005 238	.240 .000 223	.431 .000 224	.119 .072 229	.122 .049 262	.484 .000 227	1.00				
Current Position X10 (Staff)	-.247 .000 249	-.209 .001 255	-.199 .001 260	-.272 .000 255	-.247 .000 251	.015 .807 262	-.293 .001 264	.307 .000 243	-.208 .002 223	1.00			
Gender of Supervisor X11 (Female)	-.104 .099 252	-.125 .045 258	-.080 .195 263	-.089 .153 258	-.092 .143 253	.025 .685 265	-.080 .191 267	-.114 .074 247	-.010 .881 227	-.190 .002 262	1.00		
Current Work Status X12 (40 Hrs/Week)	.291 .000 236	.249 .000 262	.195 .001 267	.305 .000 262	.167 .007 259	.039 524 271	.199 .001 269	.162 .010 252	.302 .000 230	-.361 .000 264	-.027 .665 267	1.00	
Work Setting X13 (Hospital)	-.228 .000 256	-.199 .001 262	-.187 .002 267	-.207 .001 262	-.202 .001 259	-.100 .104 271	-.170 .005 275	-.175 .005 252	.066 .322 230	-.018 .776 264	.047 .446 267	-.038 .532 275	1.00
Job Satisfaction X14	.692 .000 252	.617 .000 257	.777 .000 262	.517 .000 258	.113 .074 251	.078 .208 263	.117 .058 265	.143 .025 245	.188 .005 227	-.164 .008 258	-.120 .053 261	.189 .002 265	-.121 .050 265

VITA

Catherine Zavatsky Baumgardner

Biographical Statement

With degrees from The Ohio State University Fisher College of Business and the Master of Health Administration program, I was well-equipped for the career that I had chosen as a hospital administrator and consultant. I was a senior level executive for several large health systems from the mid-1980's until the early 2000's, when I decided to pursue my consulting interests in organization development and employee training. In the ensuing 10 years, I built a successful consulting practice that assisted healthcare providers in creating customer-focused cultures and pursued my PhD in Workforce Education and Development at the Pennsylvania State University. I am now a consultant and faculty member for the eMHA program at Penn State, emphasizing to my students the importance of translating research-based knowledge into practical application in the field.

Education

Fall 2010-Spring 2014

The Pennsylvania State University, University Park, PA USA

Ph.D. Workforce Education and Development

Fall 1984-Spring 1986

The Ohio State University, Columbus, OH USA

Master of Health Administration, College of Medicine

Fall 1980-Spring 1984

The Ohio State University, Columbus, OH USA

Bachelor of Science in Business Administration, Fisher College of Business

Publications

Baumgardner, C. Z., & Myers, J. (2012). Employee engagement .In W.J. Rothwell(Executive Ed.), J. Lindholm, K.K. Yarrish & A.G. Zabellero (Vol eds.), *The encyclopedia of human resources management: HR forms and job aids*(pp. 202-204). San Francisco: Pfeiffer & Co.

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Presentations

Radiology Business Management Association(RBMA): "One Center's Journey to a Great Customer Experience", Portland, OR, Spring, 2012.

American Society for Healthcare Human Resources Administrators (ASHHRA), "Overcome the Fear of Public Speaking", Austin, TX, Spring, 2011.