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Travel Nurse Job Performance: Integration Factors as Predictors, and Travel Nurse Integration Experiences

Carol A. Tuttas

University of Miami, carol.tuttas@gmail.com

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UNIVERSITY OF MIAMI

TRAVEL NURSE JOB PERFORMANCE:
INTEGRATION FACTORS AS PREDICTORS,
AND TRAVEL NURSE INTEGRATION EXPERIENCES

By

Carol Ann Tuttas

A DISSERTATION

Submitted to the Faculty
of the University of Miami
in partial fulfillment of the requirements for
the degree of Doctor of Philosophy

Coral Gables, Florida

June 2013

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Carol Ann Tuttas

Approved:

Rosa M. Gonzalez Guarda, Ph.D.
Assistant Professor of Nursing

M. Brian Blake, Ph.D.
Dean of the Graduate School

Doris Ugarriza, Ph.D.
Vice Dean and Senior Associate Dean
for Academic Programs and
Professor of Nursing

Karina Gattamorta, Ph.D.
Research Assistant Professor,
Nursing

Christine Kovner, Ph.D., FAAN
Professor of Nursing
New York University

TUTTAS, CAROL A.
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For more than three decades, travel nurses have bridged critical experience and volume gaps in hospital staffing across the US. Trends in travel nurse use over the past decade offer no promise of a reduction over the years ahead. Travel nurses begin each 13-week assignment with an abbreviated onboarding agenda after which they are expected to reach productivity and fit in with the healthcare team to ensure seamless quality care to patients. Concerns have been raised among healthcare leaders about possible unfavorable patient outcomes related to the use of supplemental nurse staff. Nonetheless, no researchers have examined relationships between job assignment integration factors and travel nurse job performance, nor aimed to understand how travel nurses perceive onboarding experiences to impact their job performance.

The aims of this mixed methods study were to: (a) determine the association between three theoretically linked job integration factors and travel nurses' job performance scores as evaluated by nurse managers, and (b) understand how travel nurses perceive onboarding experiences to impact their job performance. Job integration predictor variables were: (a) organizational socialization, (b) the nursing

work environment, and (c) perceived self-efficacy. A convenience sample of travel nurses recruited from a large US healthcare staffing firm completed an electronic self-report survey from the perspective of their most recently completed job assignment ($N = 107$). These data were combined with corresponding job performance evaluation ratings received by the staffing firm from the hospital where the job assignment was completed. Data were analyzed using simple and multiple linear regression. A subsample of the survey participants ($n = 15$) also participated in four focus group interviews hosted via web conference technology with two to five attendees in each. Focus group data were analyzed using qualitative content analysis.

While no significant relationships were found between any of the predictor variables and travel nurse job performance, markedly high self-efficacy and job performance scores permeated the sample, implying that response bias and a ceiling effect might have influenced the regression results. Focus group feedback about job assignment onboarding experiences yielded a rich collection of travel nurses' perspectives about what they need to integrate with new teams and reach expected productivity within the ephemeral onboarding period allocated upon arrival to each assignment. Content analysis yielded four major themes: (a) Travel Nurse Arrival: Efficient & Practical Onboarding Design, (b) On the Nursing Unit: Blending With the New Team, (c) Logistics: How the Unit Works, and (d) Tenacity: Meeting Job Assignment Expectations of the hospital. Findings elucidated how onboarding structure, content and quality influence travel nurses' ability to perform their jobs effectively. Results of this study are presented in the form of three manuscripts. Practice implications and recommendations for further study are discussed.

Dedication

This work is dedicated to US travel nurses: Mobile, flexible professionals who make a difference every day through their experience, competence, and care imparted to maintain safe practice environments, and to support optimal patient outcomes in hospitals nationwide.

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CHAPTER 1

Introduction

Statement of the Problem

Travel nurses are experienced registered nurses of all nursing specialties. They are contracted by hospitals through the agency of staffing firms as a timely, strategic, and flexible solution for bridging volume and experience gaps in nurse staffing plans (Faller, Gates, Georges, & Connelly, 2011; Goodman-Bacon & Ono, 2007; Shaffer, 2006; Tuttas, 2011; Wright & Bretthauer, 2010; Xue, Aiken, Freund & Noyes, 2012). Published research findings indicate that nurse staffing is directly related to patient safety and outcomes (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; American Nurses Association, 2012; Blegen, Goode, Spetz, Vaughn, & Park, 2011; Cimiotti, Aiken, Sloane, & Evan, 2012; Kane, Shamliyan, Mueller, Duvan, & Wilt, 2007; Needleman, Buerhaus, Pankratz, Leibson, Stevens, & Harris, 2011; Needleman, Buerhaus, Soeren, Stewart, & Zelvinsky, 2001; The Joint Commission, 2005; Weston, Brewer, & Peterson, 2012). Therefore, a consistent level of appropriate nurse staffing is paramount to achieving safe, quality patient care that yields optimal outcomes.

Appropriate nurse staffing (ANA 2012) is characterized by a proportional composite of: (a) volume (number of staff), (b) skill mix (proportion of RNs), and (c) expertise/competency (specialty knowledge and clinical skill gained through professional practice experience). The Joint Commission assessed 24% of sentinel events to be associated with inadequate staffing, and 58% of those events were linked to deficient orientation and training (TJC, 2005). Only a limited number of newly graduated nurses can be incorporated to a team at one time because these new nurses require support and

guidance from permanent staff, and time to develop experience, skill, and competency. Visa retrogression instituted in 2007 has hampered attempts by hospitals to hire experienced foreign-educated nurses to alleviate staffing gaps (Pittman, 2010). Therefore, travel nurses continue to facilitate an accessible and flexible means to achieve and maintain appropriate nurse staffing as hospitals engage in efforts to fill vacant permanent RN positions. Notwithstanding the critical needs satisfied by travel nurses every day to maintain appropriate RN volume and experience levels in hospitals across the nation, there is a scarcity of research about travel nurses, their work arrangement, and the facilitators and barriers impacting their ability to perform their jobs effectively, meeting hospitals' standards and expectations.

Travel nurses are placed on contract for job assignments in healthcare facilities through the agency of healthcare staffing firms. The mobile nature of the travel nurse work arrangement involves 13-week contracts entailing repeated episodes of orientation and integration with new teams in new work settings, a process known as onboarding. Because each hospital is characterized by its own unique culture and history (Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2006), onboarding processes and experiences vary, as well as the associated challenges and rewards of each job assignment. A link has been identified in the literature between the initial compendium of onboarding processes and experiences, and permanent staff job performance (Harton, Borrelli, Knupp, Rogers, & West, 2009). The impact of newcomer integration factors on job performance in the context of travel nurses has not been studied. Such a study is warranted by virtue of travel nurses' essential role in

bridging staffing and experience gaps to prevent interruption in appropriate hospital staffing levels and to support the seamless delivery of safe, quality care to patients.

One objective of this mixed methods study was to explore the relationship between theoretically linked job integration variables and travel nurse job performance. The three independent variables for this study were organizational socialization, the nursing work environment, and perceived self-efficacy. The dependent variable was job performance. The second purpose of the study was to acquire understanding about travel nurses' perceptions of how orientation and job integration factors, referred to collectively as onboarding, influence their clinical and professional job performance.

Travel nurse utility and characteristics.

For more than three decades, travel nurses have been contracted to relieve nurse volume and experience gaps in healthcare settings across the nation (PanTravelers, 2008). The travel nurse population is elusive to census because these nurses may move in and out of permanent staff positions over time, creating overlap in data pertaining to work arrangements. Nonetheless estimates based on data from the National Sample Survey of RNs from 1984 to 2008 indicate an increase over time in the proportion of RNs who identify their work arrangement as supplemental (Xue, Smith, Freund, & Aiken, 2012). These researchers noted a change in the number of nurses represented in this category from 23 per 100,000 RNs in 1984 to 30 per 100,000 RNs in 2008. These data suggest that on average over the full span of time examined, 3.8% of the general nursing workforce identified their work arrangement as supplemental. Supplemental nurse staffing represents a \$3.6 billion industry

(Aiken, Shang, Xue, & Sloane, 2012), which offers some estimation of the economies of scale embraced by healthcare staffing firms.

Examples of circumstances giving rise to the need for travel nurses include relief during cyclical nursing shortages, coverage for training hours during the implementation of technological advances such as electronic health records (EHRs), staffing for newly opened units or clinical services, coverage for family medical leaves of absence and vacations, and changes in the general workforce composition related to the availability of other attractive career options and generational expectations that influence career choices. In addition, supplemental staffing firms are resourced to meet urgent nurse staffing needs following natural disasters. Travel nurses are strategically used by hospitals located in large metropolitan areas, where the lack of affordable permanent housing within a reasonable commuting distance from the hospital impedes the procurement of a sufficient complement of permanent nursing staff. Situated at the other end of that spectrum are the less populated, remote and underserved geographic regions where travel nurses also satisfy staffing needs.

While little research has been published about US travel nurses (Aiken, Shang, Xue, & Sloane, 2012; Kane, Shamliyan, Mueller, Duval, & Wilt, 2007), recent studies have been published about contract nurses in Taiwan (Hsiao, Chang, & Chen, 2011; Yeh, Ko, Chang & Chen, 2007), and about temporary nurse use in the UK (Hurst & Smith, 2011). The existence of research about contract nurses in Taiwan may be a reflection of the increased use of contract nurses as a cost saving measure, reaching almost 29% of nurse staffing in public hospitals there since universal healthcare was instituted in 1995 (Yeh, et al., 2007). In contrast to US travel nurses,

Taiwanese contract nurses are paid less than staff nurses and receive no benefits, which represents a cost savings to hospitals (Goodman-Bacon & Ono, 2007). Similar to US travel nurses, Taiwanese contract nurses are not eligible for career advancement at the Taiwanese hospitals where they are contracted, and although their contracts may be renewed or extended, they can just as easily be terminated by the hospital (Yeh, et al., 2007). In the US, travel nurses are usually retained at higher hourly contractual billing rate compared with the hourly base wages paid to staff nurses. However, hospitals capitalize on the flexibility of travel nurses as a separate workforce contracted to meet intermittent and fluctuating staffing needs without having to raise wages to maintain equity and satisfaction among the host of permanent staff (Goodman-Bacon & Ono, 2007). It is also worth mentioning that remuneration for non-productive hours such as lengthy onboarding and residency programs, paid sick time, paid personal days, paid vacation, as well as retirement plans, certification reimbursement, and health benefits are not the hospital's fiscal responsibility for travel nurses. Benefits and other expenses (i.e. recruitment expenses, extensive EHR training hours, workers' compensation and more) reportedly represent approximately 25% of total payroll expenses above and beyond base wages for permanent nursing staff (KPMG, 2011) and are not typically considered when estimating the value of incorporating travel nurses into the labor budget for annual nurse staffing plans. Moreover, progressive disciplinary human resource policies applied in the management of permanent staff, requiring time and other valuable resources to implement, do not apply to travel nurses. As a result, if performance expectations are not met according to the hospital's terms

notwithstanding staffing firm liaison intervention, then hospitals have the prerogative to deem the travel nurse's status as "do not return" to the facility, or to prematurely terminate the travel nurse's contract altogether. These outcomes impair the hospital's ability to maintain appropriate nurse staffing.

Use of voluntary (and involuntary) overtime has been a common front line means to address nurse staffing shortages (Berney, Needleman, & Kovner, 2005), despite warnings in the literature related to the unfavorable impact on patient outcomes due to fatigued staff (Collins Sharp & Clancy, 2008; Graves & Simmons, 2009) not to mention the increased expense related to the payment of overtime wages (KPMG, 2011) and the unwelcome effects of unresolved staffing shortages imposed on staff satisfaction and morale. In a recent hospital nursing labor cost study, 120 senior hospital executive respondents reported an average of four to ten hours of overtime each week per permanent staff RN (KPMG, 2011). The historic use of overtime and its known consequences has called for closer examination to appreciate the benefit of incorporating travel nurses into annual nurse staffing plans and labor budgets.

An inconsistent distribution of nurses across the US contributes to the insufficient RN supply to meet demand. Thus, mobility of the nursing workforce has emerged as an area of interest to researchers. Kovner and colleagues used cross-sectional data collected in 2009 from over 1700 newly licensed nurses (an estimated 58% response rate) in 15 states, who had passed state board exams between August 2007 and July 2008, to examine the geographical movement patterns of newly registered nurses (Kovner, Corcoran, & Brewer, 2011). Their findings portrayed

minimal movement distal to the location where these nurses grew up or completed high school, with approximately 66% remaining within 100 miles of where they were raised, and 35% within 15 miles of the high school they attended. A comparison with similar data from 2004-2005 yielded almost no difference in findings. Moreover, as compared with professionals holding an associate or bachelor degree in other fields, these researchers noted that nurses tend to be less mobile. Controlling for teachers, who are the most likely to remain in their home state, only 16% of baccalaureate prepared professionals in other fields were more likely than nurses to remain in their original home state after graduating.

Use of travel nurses to achieve compliance with mandated nurse-to-patient ratios in California hospitals (Aiken, Sloane, Cimiotti, Clarke, Flynn, et al., 2010), has been associated with better patient outcomes. Burnes Bolton and colleagues studied 252 nursing units among 108 hospitals in California and found that a higher percentage of supplemental staff use in medical-surgical settings was associated with fewer injurious patient falls ($p < .008$) (Burnes Bolton, Aydin, Donaldson, Storer Brown, Sandhu, et al., 2007). This association may reflect increased nurse surveillance potential related to compliance with the prescribed and mandated staffing ratios, achieved through the use of supplemental nursing staff. Increased nurse staffing improves nurse surveillance, leading to earlier identification and interventions for condition changes (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002).

Researchers report that a higher proportion of baccalaureate prepared nurses (BSN) is associated with better patient outcomes (Aiken, Cimiotti, Sloane, Smith, Flynn et al., 2011; Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Estabrooks, Midodzi, Cummings, Ricker & Giovannetti, 2005; Kendall-Gallagher, Aiken, Sloane, & Cimiotti, 2011; Kutney-Lee, Sloane, & Aikens, 2013; Tourangeau, Doran, McGillis Hall, O'Brien Pallas, Pringle, et al., 2007). For example, when Aiken and colleagues explored the impact of nurse education levels on patient mortality among 168 Pennsylvania hospitals, they found that the odds of mortality and failure to rescue were reduced by approximately 5% for every 10% increase in the staffing mix of nurses holding a bachelors or masters degree (Aiken, et al., 2003). This finding was confirmed in a later study when researchers compared the effects of nurse staffing, education, and work environments on patient mortality and failure to rescue among 655 hospitals across four large states (Aiken, et al., 2011). Deriving data from over 1.2 million discharge summaries of surgical patients, ages 19-89, and a mail survey of over 39,000 hospital RNs, these investigators noted that patient mortality increased and episodes of failure to rescue occurred more frequently when patient-to-nurse ratios were higher ($p<.01$), and were reduced when nursing work environments were perceived more favorably ($p<.001$) and nursing teams were composed of a greater percentage of BSN nurses ($p<.001$) (Aiken, et al., 2011).

Kutney-Lee and colleagues aimed to estimate changes in the association between the proportion of BSN RNs and two surgical patient outcomes, 30-day mortality and failure to rescue (FTR), among approximately 80% of Pennsylvania

acute care hospitals ($N = 134$) across two periods (Kutney-Lee, Sloane, & Aiken, 2013). The investigators used nurse survey data collected by the University of Pennsylvania in 1999 ($N = 42,000$) and 2006 ($N > 25,000$), and patient discharge data obtained via the Pennsylvania Healthcare Cost Containment Council corresponding with the same years (1999 $N = 233,187$ and 2006 $N = 244,147$). Although the skill mix in almost 65% of the hospitals reflected a significantly lower proportion of RNs in 2006 as compared with 1999, the nurse to patient ratios remained stable over the two time periods at 1:5.7, implying that RNs occupying indirect care roles were not retained. Nurse-reported staffing levels, skill mix and years of experience were not significantly related to the two outcome measures. However, a 10% increase in BSN RNs was significantly related to a reduction in mortality of about 2.12 deaths per 1000 patients ($p < .001$) and a reduction of about 7.47 deaths per 1000 patients related to FTR ($p < .001$).

One of the Institute of Medicine (IOM) recommendations in the Future of Nursing report is to increase the proportion of baccalaureate prepared nurses to 80% by the year 2020 (Institute of Medicine, 2010). The literature relays that travel nurses as a constituent of the general nursing population may be composed of a higher proportion of baccalaureate prepared RNs compared with the nursing population at large (Aiken, Xue, Clarke, & Sloane, 2007). Therefore, travel nurses may be strategically utilized to boost educational levels in addition to fortifying staffing volumes and experience levels in the mix of hospital nursing teams, improving patient safety, quality of care, and outcomes. Analyzing weighted data from the 2000

National Sample Survey of Registered Nurses ($N = 26,778$), Goodman-Bacon & Ono (2007) observed that temporary nurses, defined as those working their primary jobs through employment agencies ($N = 469$) were about as likely to hold a baccalaureate degree as permanent staff nurses ($N = 26,309$). Aiken and colleagues also analyzed weighted data from the 2000 NSSRN survey, comparing over 10,000 permanent hospital staff nurses with close to 700 external supplemental nurses (Aiken, Xue, Clarke, & Sloane, 2007). They reported that a proportionately greater percentage of supplemental nurses ($p = .007$) were prepared with a baccalaureate or higher degree (46%) than were permanent staff (40%). A limitation of Aiken, et al.'s (2007) work in terms of application to this dissertation study lay in the context of partitioning travel nurses in the sample. As noted by the authors, more than half of the supplemental nurses in their sample identified their supplemental staffing positions as secondary to a primary hospital position such as a per diem work arrangement, signifying that fewer than half of the supplemental nurses in Aiken et al.'s study sample were likely to have been travel nurses.

Researchers compared permanent staff RNs with supplemental RNs in terms of education, experience and diversity, as measures over time, using data from the National Sample Survey of RNs ($N = 232,267$) from 1984 through 2008 (Xue, Smith, Freund, & Aiken, 2012). They found similar levels of education in terms of baccalaureate preparation of permanent staff compared with supplemental nurses over the span of time represented by the data. The impact of formal education on job performance manifested as nursing practice, on patient outcomes has been

illuminated in the literature. Highest formal nursing degree of survey participants was therefore included as a demographic of interest in this study.

Travel nurses are contracted in large numbers by hospitals implementing new EHRs to fill staffing gaps created by the need for extensive off-unit training hours for staff nurses. The Health Information Technology for Economic and Clinical Health (HITECH) Act was enacted as a statute of the American Recovery and Reinvestment Act of 2009 (US Department of Health and Human Services, 2009). The Act is part of the \$19.2 billion five-year plan to increase the use of EHRs by physicians and hospitals (HITECH Answers, 2012). Physicians and hospitals receive Medicare incentive payments for converting their documentation systems to EHRs within a specified window of time. Hence, large numbers of hospitals have been converting to electronic documentation systems during recent years, and continue to do so.

According to Kathleen Sebelius, Secretary of the US Department of Health and Human Services, by February 2012, the use of EHRs in hospitals had more than doubled over the prior two years, growing to nearly 2000 (US Dept. of Health and Human Services, 2012). Hospital staff nurses receive eight to 24 hours of detailed training in the use of newly instituted hospital EHRs, per the author's industry experience. Travel nurses receive an abbreviated version of that training during their onboarding to job assignments, intended to provide preparation sufficient for a temporary assignment, per the author's industry experience. Seasoned travel nurses, those who have completed numerous job assignments, acquire a diverse repertoire of skills over time in the use of various EHRs, and become more proficient in adapting to EHRs that are new to them, per the author's industry experience. This development

of skill in adapting to new systems over time represents an antecedent to self-efficacy referred to as prior masteries (Bandura, 1986). Self-efficacy, a construct of social cognitive theory will be described in more detail in Chapter Two.

The compendium of results from available studies is consistent in the portrayal of travel nurses as comprising a unique constituent of the general RN population who are experienced, diverse, well educated, and mobile. Travel nurses have been and continue to be relied upon by hospitals nationwide, to provide flexible strategies for meeting nurse volume and experience gaps that otherwise pose a threat to continuity of safe, quality patient care.

Travel nurse demand.

Travel nurses represent one type of temporary nursing staff, and are also referred to as contract, temporary, or supplemental nursing staff. The nursing workforce genre known as supplemental nurses includes work arrangements other than that of travel nurses, such as per diem agency nurses, hospital float pool or registry nurses (Aiken, Xue, Clarke & Sloane, 2007). As human and knowledge capital in a \$3.6 billion dollar temporary nurse staffing industry (Aiken, Shang, Xue, & Sloane, 2012), travel nurses continue to be contracted as a means to bridge staffing and experience gaps in hospitals. Supplemental nurse staffing including travel nurses, constitutes up to 10% of hospital nurse staffing budgets according to some experts (KPMG, 2011; Shaffer, 2006), and is expected to increase (KPMG, 2011).

In 2001, First Consulting Group published a report on the healthcare workforce shortage in America, commissioned by the American Hospital Association, the Association of American Medical Colleges, the Federation of

American Hospitals and the National Association of Public Hospitals and Health Systems (First Consulting Group, 2001). This firm identified that 56% of the hospitals surveyed ($N = 1092$) reported the use of travel nurses and other agency staff to fill vacant nursing positions, with 7% of those hospitals using travel or other agency nurses to fill over 20% of their nurse vacancies. Community Tracking Study data of 2005 showed an upward trend with 75% of participating hospitals ($N = 32$) using supplemental nurses (May, et al., 2006). More recently, KPMG, a large network of professional service firms headquartered in the Netherlands, posted the KPMG 2011 US Hospital Nursing Labor Costs Study (KPMG, 2011). An online survey was distributed at the end of 2010 and responded to by 120 US senior hospital executives. Sixty-five percent of the respondents reported the use of travel nurses or agency per diem nurses, averaging of 35 supplemental nurses per facility. The main reasons indicated for the use of travel or per diem nurses were: (a) seasonal needs, (b) the local nursing shortage, (c) facility growth, and (d) other reasons such as training coverage for EHR implementations. In response to a question about the trend in travel nurse use, no hospital respondents anticipated a decline in use; 41% expected an increase, and 59% predicted no change at all (KPMG Advisory, 2011). Currently, across 95% (372) of the Magnet® hospitals, an average of 6% of nurse staffing is fulfilled by supplemental nurses (Aiken, 2012).

There is repeated verification in the literature that travel nurses are widely used throughout the country (Aiken, Xue, Clarke, & Sloane, 2007; KPMG, 2011). The Community Tracking Study (CTS) is a Robert Wood Johnson Foundation (RWJF) sponsored longitudinal study on the effects of health system change. Using

data obtained from the 2005 CTS, May and colleagues (2006) noted that 75% of the 1008 hospital respondents from 12 US markets reported the use of temporary staff including travel nurses, to meet nurse staffing demands (May, Bazzoli, & Gerland, 2006). Results of the 2008 Health Resources and Services Administration (HRSA) National Sample Survey of Registered Nurses estimated that 88,495 (3.4%) of RNs employed in the US were employed by healthcare staffing firms, which includes both travel and agency per diem positions. Moreover, RN employment with a healthcare staffing firm was identified as the principle position held by 2.5% of nurse respondents (HRSA, 2010). According to estimates reported by PanTravelers, the national association for healthcare travelers, travel nurse volume in the US peaked in May 2008 at approximately 30,000 RNs (PanTravelers, 2008).

Several contemporary factors have contributed to changes in the proportion of nursing positions filled by travel nurses. The economic recession-driven movement of nurses into hospital positions filled 243,000 full-time equivalents during 2007-2008 as reported by Buerhaus, Auerbach & Staiger (2009). These researchers explained that such movement of part-time, non-working, travel, and per diem nurses into permanent full time hospital positions during economic slumps is not a new phenomenon, as nurses seek more secure sources of income in times of economic uncertainty. This movement occurs as a means for nurses to support their families and maintain health benefits when, for example, a spouse becomes unemployed. Buerhaus and colleagues observed that in 2007-2008, this movement to fill vacant nursing positions reduced the job market for nurses, including travel nurses, nationwide. However, these nursing workforce experts also warned of an anticipated

reversal of this effect with the eventual easing of the recession. Meanwhile, a substantial portion of the current US general population including the nursing workforce is aging, and 32 million more Americans are about to receive health insurance coverage under the Affordable Care Act (Staiger, Auerbach, & Buerhaus, 2012). These factors signal the need for strategic utilization of nurse resources that may already be close to capacity to meet demand.

Notwithstanding the recession of 2007-2009, 428,000 jobs were added to the healthcare industry during that period (Wood, 2011). Further, the Bureau of Labor Statistics included among its occupational employment projections for the decade from 2008-2018 close to 1.6 million new jobs in healthcare, representing a 21.4 % increase over the decade with 581,500 of those new jobs, over one third, anticipated to be nursing positions (Lacey & Wright, 2009). Hence, it can be anticipated that healthcare employers will likely continue to use travel nurses to maintain appropriate staffing levels in the foreseeable future.

Concerns related to use of supplemental nurses.

Historically, the literature has reflected healthcare leaders' concerns about quality and safety related to the use of temporary nurses, which has subsequently translated to a rationale for discouraging the use of this workforce (Aiken, Xue, Clarke, & Sloane, 2007; Estabrook, Midodzi, Cummings, Ricker, & Giovannetti, 2005; Hurst & Smith, 2011; May, Bazzoli, & Gerlans, 2006; Pham, Andrawis, Shore, Fahey, Marlock, & Pronovost, 2011; Roseman & Booker, 1995). Indeed, articles in popular newspaper publications have served to reinforce such causes for concern (Berens, 2000; Weber & Ornstein, 2009). This notion that the use of supplemental

nurses may lead to an increased risk for medical errors and adverse patient outcomes is also implied in the Agency for Healthcare Research and Quality's Hospital Survey on Patient Safety Culture (AHRQ, 2008, 2010), in which survey item 10.3 reads: "We use more agency/temporary staff than is best for patient care." In 2008, the survey was completed by 160,176 hospital staff (36% who self identified as nurses) across 519 US hospitals. There was a substantial increase in the sample size for the 2010 survey as evidenced by 338,607 hospital staff respondents (again, 36% who self identified as nurses) across 885 US hospitals. In 2010, 66% of respondents indicated agreement with item 10.3, an increase from 64% in 2008.

Pham and colleagues studied medication error incidences and outcomes specific to emergency department (ED) settings where temporary nurses were used (Pham, et al., 2011). De-identified voluntarily reported medication error incidents ($N = 23,863$) were secured from a national database (MEDMARX) originating from among 592 US hospital emergency departments between 2000-2005. Most (83%) of the hospitals from where the data originated were smaller (<300 beds) community hospitals, 45% of which had <100 beds. Data were analyzed using logistic regression to compare severity of medication errors involving temporary nurses with those involving permanent staff nurses. Results indicated that there was a greater likelihood of a temporary nurse error reaching a patient than that of a permanent staff nurse (58% vs. 44%; OR 1.42, 95% CI 0.97 - 2.09), with the odds of temporary nurse involvement increasing in tandem with the severity of the error-related patient outcome. Temporary nurse medication errors were more often linked with performance and knowledge deficits than were errors involving permanent staff.

Based on their findings, these researchers reasoned that supplemental nurses' unfamiliarity with the core staff, management systems, protocols, and procedures could lead to communication and teamwork related insufficiencies contributing to medication error likelihood. They suggested that a more thorough education and orientation agenda for temporary nurses might reduce their risk for involvement in harmful medication errors, and recommended further research in this area.

Aiming to explore the credence of concerns related to the use of temporary nurses, Aiken and colleagues compared qualifications of permanent staff RNs from across the US ($N = 10,443$) with those of supplemental RNs ($N = 695$), using data from the 2000 National Sample Survey of Registered Nurses (NSSRN) (Aiken, Xue, Clarke, & Sloane, 2007). They found qualifications to be similar between the two groups. Supplemental nurses were noted to be as experienced as permanent staff and more likely to hold a baccalaureate or higher degree than permanent staff.

Concurrently, these researchers examined existing questionnaire data from a 1999 survey of RNs ($N = 13,152$) working in Pennsylvania hospitals ($N = 198$), pertaining to the perceived quality of their practice environments and the frequency of adverse patient occurrences. Data reflecting hospital characteristics (drawn from the same 1999 survey) were also included in the analysis. The results suggested a link existed between poorer quality nursing work environments (including staffing shortages necessitating the use of temporary nurses) and adverse patient outcomes. Based on the combined findings of this study, these researchers concluded that the evidence does not support the notion of a casual link between the use of temporary RNs and the occurrence of poor patient outcomes, but instead draws attention to the impact of the

nursing work environments in which temporary nurses are typically contracted to work.

In a more recent study, Aiken and colleagues sought more specifically to determine the association between: (a) the use of supplemental nurses, (b) patient mortality, and (c) failure to rescue occurrences (Aiken, Shang, Xue, & Sloane, 2012). They analyzed cross-sectional data from 665 hospitals across California, Florida, New Jersey, and Pennsylvania, each having no fewer than 100 licensed beds. RNs practicing at these hospitals ($N = 40,356$) were surveyed to generate control data related to their perceived nurse practice environments, proportion of supplemental nurses used and proportion of baccalaureate prepared RNs. The regression models also included state reported outcome data for adult patients ($N = 1,295,068$) discharged between 2005-2006, status post common orthopedic and vascular surgical procedures. Seven percent of the RN survey respondents identified themselves as supplemental nurses. No significant difference ($p = .101$) was noted in the level of BSN preparation among supplemental nurses (44.6%) as compared with permanent staff RNs (43.3%). However supplemental RNs had significantly ($p < .01$) higher levels of national specialty certification (51.5%) as compared with permanent RNs (40.5%). Hospitals that did not use supplemental nurses were noted to have better nursing work environments, which was a statistically significant finding for three of the four states ($p < .01$). Initially, the analysis supported that a higher proportion of supplemental nurses was associated with higher levels of mortality and more frequent episodes of failure to rescue. However, after the nursing environment was controlled for, this association no longer existed. These findings corroborate those of Aiken at

al.'s work in 2007, bolstering the notion that a poor nursing work environment, rather than the presence of supplemental nurses, increases the risk for poor patient outcomes. The use of supplemental RNs in hospitals remains controversial.

Onboarding and organizational socialization.

In order for travel nurses to meet hospital standards and performance expectations, they need to successfully integrate into each new work environment within a brief window of time and complete their assignments, performing their job functions to the satisfaction of each hospital. In a practice guideline publication set forth by the Society for Human Resource Management Foundation, onboarding is defined as the process of helping new hires adjust to social and performance aspects of their new jobs, transitioning to a productive status in a quick and smooth manner (Bauer, 2010). Therefore, onboarding surpasses the fundamentals of basic orientation to include organizational socialization, which is the process of transitioning from being an outsider to being an insider.

Orientation involves the receipt by newcomers of essential information such as, but not limited to, hospital philosophy and mission, critical processes, policies, procedures, and practices congruent with the facility's culture (Harton, Borelli, Knupp, & West, 2009). Spokespersons of hospitals have reported concerns that travel nurses lack knowledge of hospital policies, protocols and standards, resulting in staff nurses having to provide on the job education for these nurses (First Consulting Group, 2001). Klein & Weaver (2000) describe orientation as an introduction of "new employees to their job, the people they will be working with, and the larger organization" (p. 48). For travel nurses, orientation is typically implemented in three

phases: (a) the nurse receives general facility and policy information and completes cognitive competency assessments (testing) prior to starting the assignment, (b) the nurse performs return demonstrations of skills including but not limited to use of medical equipment and point of care testing upon arrival to the facility but prior to working on the assigned unit, and (c) the nurse shadows a staff RN preceptor on the assigned unit for a specified number shifts or hours. In the context of the proposed study, onboarding is accomplished through travel nurse acquisition of essential information, awareness of the facility's expectations, familiarization with equipment and technology, and social adjustment as a newcomer.

Organizational socialization, a process that transpires during onboarding, refers to how a newcomer to an organization transforms from being an outsider to being an insider (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007; Fisher, 1985; Zedeck, 2011). Organizational socialization is the means by which newcomers acclimate to the specific roles they will fulfill in an organization (Chao, O'Leary, Wolf, Klein, & Garner, 1994). The concept has accrued attention in the literature as mobility among US workers in general has increased (Bauer, et al., 2007; Saks & Gruman, 2011), and is related to outcomes including job performance (Bauer, et al., 2007; Zedeck, 2011). In concert with the notion of increased worker mobility, Adkins (1995) acknowledged that organizational socialization might be more accurately viewed as a re-socialization process. Moreover in their seminal work, Chao and colleagues (1994) concluded "The need for re-socialization among organizational members may be most salient as people experience job changes" (p. 742). While newcomers' previous work experiences and practices accompany them to each new

job, discarding certain previous behaviors and practices is necessary while adapting to the expectations at the new job, including behavioral and attitudinal norms established over time in the organization (Adkins, 1995; Chao et al., 1994). Ashforth, Sluss & Harrison (2007) described a core component of socialization as “making sense of the new situation and learning the expected capabilities” (p. 41). Further, these scholars consider the uniqueness of each individual by this definition, clarifying that the process of making sense involves both receiving information provided and proactively reaching out to obtain information. Individual differences influence the degree to which both components are engaged in by the newcomer (Ashforth, et al., 2007). These individual differences are consistent with the acknowledgement by Zedeck (2011) that the traits of the newcomer as well as the organization’s specific onboarding processes impact the degree to which organizational socialization is achieved.

Organizational socialization calls for travel nurses to draw on interpersonal and reasoning skills that become polished with experience over repeated onboarding encounters among various organizational cultures, from assignment to assignment throughout the country. This skill set eases the way for travel nurses to “fit in” with new healthcare teams within a brief window of time at each new job assignment.

The nursing work environment.

In the early 1980s interest was spawned in measuring elements of the nursing practice or work environment when it was noted that certain hospitals succeeded in attracting and retaining nurses despite a severe nursing shortage with vacancy rates as high as 14% in some states (Lake, 2002). Research about these hospitals, deemed the

original magnet hospitals, yielded 165 characteristics and practices that distinguished them favorably from other hospitals in terms of the nursing work environment. The concept of the nursing work environment has been described to incorporate elements such as staffing, psychological demands, work schedules, and the professional practice milieu (Trinkoff, Johantgen, Storr, Gurses, Liang, et al., 2011). Favorable nurse work environments have been described as those that promote nurse autonomy, are supportive at both peer and supervisory levels, and are conducive to safe patient care delivery (Trinkoff, et al., 2011). Researchers have shown an association between patient outcomes and the characteristics of the environment where nurses practice (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Hurst & Smith, 2011; Trinkoff, et al., 2011). Statistical findings support that poorer nursing work environments, not the use of supplemental nurses, are linked with unfavorable patient outcomes (Aiken, Shang, Xue, & Sloane, 2012; Aiken, Xue, Clarke, & Sloane, 2007). Results of these studies indicate that hospitals characterized by poorer work environments are likely to have higher staff turnover resulting in staffing gaps for which supplemental nurses are contracted to fill, hence a greater proportion of supplemental nurses are used at these hospitals. Therefore, the work environments on these units, rather than the proportion of supplemental nurses used may be the root cause of quality and outcome concerns raised in such hospitals, which have historically been attributed to the presence of temporary nursing staff. This finding calls for a reassessment of existing paradigms, concerns and assumptions that supplemental nurses deliver a lower standard of care compared with permanent staff nurses.

Research was carried out to determine the association between supplemental nurse use and adverse patient outcomes including but not limited to falls, medication errors, pressure ulcers, and patient satisfaction across 19 different nursing units in one large northeast US hospital using a longitudinal design and retrospective data spanning from 2003-2006 (Xue, Aiken, Freund, & Noyes, 2012). In this research, supplemental nurses were all under contract and assigned to a specific hospital nursing unit, suggesting that this study is one of very few appearing to contain a homogenous sample of travel nurses. The nurse practice environment was one of the covariates controlled for in the bi-level statistical analysis. The units of analysis were 304 total nursing unit fiscal quarters observed, 188 (61.8%) during which travel nurses were used. These researchers found no statistically significant untoward effects on patient outcomes related to travel nurse use. In concert with previous studies (Aiken et al, 2007; Aiken et al., 2012) these researchers emphasized the need to control for the nursing work environment when exploring associations between the use of supplemental nurses and patient outcomes, because characteristics of the nursing work environment may be linked to both.

In a recent Canadian study, researchers set out to explore the association of psychosocial work environment factors with organizational outcomes such as absenteeism, turnover and overtime, and with two clinical quality indicators: medication errors, and length of stay (Paquet, Courcy, Lavoie-Tremblay, Gagnon, & Maillet, 2012). These researchers acknowledged that work environments are characterized by many factors, including organizational practices and organizational cultures. Psychosocial environmental features in the study were defined in terms of

effort/reward balance, social support, and ratings on 10 work climate scales. A convenience sample of 243 healthcare workers was recruited from among employees at a 13-facility Canadian teaching hospital enterprise. The impact of psychosocial environmental factors on organizational outcomes subsequently leading to effects on patient quality indicators was examined in a correlational study in which structural equation modeling was used to analyze questionnaire data. Results revealed four psychosocial environmental features that impact organizational outcomes with subsequent effects on the specified quality indicators: (a) social support from the supervisor, (b) appreciation of workload demands, (c) pride in being a member of the team, and (d) balance between effort and reward (Paquet, et al., 2012). This study captures the essence and influence of the psychosocial component of the work environment as perceived by employees, and the indirect consequences imposed on clinical outcomes as a result of the impact on team stability.

Another psychosocial aspect of the nursing work environment that has levied attention in the literature is workplace bullying. Although not a new phenomenon in the nursing work environment, the nomenclature assigned to it in recent years has stimulated scientific inquiry. A cross-sectional study was carried out in Canada using survey data from a larger study of RNs registered with the College of Nurses of Ontario, who had fewer than two years of experience ($N = 165$) (Spence Laschinger & Grau, 2012). The researchers explored factors that influence recruitment and retention of newly graduated nurses in Ontario, Canada. Noting a high rate of absenteeism among nurses as compared with the general workforce, these researchers set out to link work environment factors to the health of newly graduated nurses in

the first year of their employment. The factors in their structural equation model included: (a) six areas of work life depicted in the Six Areas of Worklife Model (Leiter & Maslach, 2004), (b) experiences of workplace bullying, and (c) psychological capital (a composite of personal factors including self-efficacy, hope, optimism and resilience). Among other results, the statistical model revealed a path from bullying experiences to emotional exhaustion and subsequently to poor physical health. Moreover, the researchers noted that psychological capital was a determining factor in nurses' perceptions of how well the work environment fit their expectations and in turn, how likely they were to report workplace bullying. These scholars could locate no other research reporting this association, deeming this link a new and important finding related to work environment influence on nurses' health and retention (Spence Laschinger & Grau, 2012).

Nursing work environment studies contribute knowledge that may factor into reasons why hospitals must contract travel nurses due to staffing and experience gaps. The findings of these studies contribute insight toward understanding the types, characteristics and challenges of nursing work environments into which travel nurses must integrate and perform their job functions.

Self-efficacy.

Perceived self-efficacy, a chief construct of social cognitive theory, is a central mechanism of human agency (Bandura, 1989), acknowledged for its impact on behavior regulation (Bandura, 1986; Bandura, 2001). Bandura (1986) has defined self-efficacy as “a judgment of one's capability to accomplish a certain level of performance” (p. 391). A person draws from four main sources of information when

performing an appraisal of self-efficacy: (a) prior successes or masteries; (b) vicarious experience or learning from observing others; (c) verbal persuasion of others affirming belief in one's capabilities; and (d) physiological status including visceral reactions related to the prospect of taking on a task (Bandura, 1986).

Self-efficacy is reflected in the self-assessed degree of capability to draw from one's own repertoire of cognitive, social and behavioral skills, and to effectively coordinate these skills into courses of action leading to the achievement of specific desired outcomes amidst changing circumstances (Bandura, 1982). Simply knowing what to do will not suffice without situation-appropriate corresponding action. Motivation and behavior are influenced by a person's percept of self-efficacy, regardless of its accuracy. Thus, "people often do not behave optimally, even though they know full well what to do" (Bandura, 1982, p.122). Hence, the concept of perceived self-efficacy helps to explain why two people with the same skill set, experience, and capability may achieve different degrees of success under the same set of circumstances (Gist & Mitchell, 1992).

Self-efficacy impacts motivation, persistence, and the level of resilience and effort put forth by an individual when faced with obstacles (Bandura, 1982; Bandura, 1989; Bandura, 2001, Gist & Mitchell, 1992). Judge, Erez, & Bono (1998) portray a generative cycle in which a high level of self-efficacy is linked with "greater success in new endeavors" (p. 170), which further bolsters the individual's mental concept of self-efficacy. The success-oriented outlook and vision of those with a high degree of self-efficacy pave a surer path to achievement, whereas the tendency among those

with lower levels of self-efficacy is to focus on the potential for failure, thereby constraining progress toward successful endeavors (Bandura, 1989; Bandura, 2001).

Numerous parallels can be identified among travel nurse characteristics, work circumstances, and self-efficacy, a major construct of social cognitive theory. For example, travel nurses' development of ease in adapting to new clinical systems such as EHRs represents an antecedent to self-efficacy known as prior masteries. The link between self-efficacy and success in new endeavors as identified by Judge, et al. (1998) echoes the notion of visceral reactions related to the prospect of taking on new tasks as described by Bandura (1986), and is modeled in the flexibility and adaptability of travel nurses. For example, travel nurses are generally the first to float when re-assignment to a different unit is necessary. Permanent staff nurses are often not at ease with or in favor of floating to another unit, away from the familiar surroundings, comfort, and camaraderie of their own unit. In fact, the floating of travel nurses often represents a perk for staff nurses, who would otherwise have been required to float. Moreover, aside from floating to various units as often as asked while on hospital assignments, travel nurses integrate to different hospitals in new geographical locations every 13 weeks on average. A sufficient degree of self-efficacy is necessary to underpin this level of flexibility and adaptability. Nonetheless, perceived self-efficacy among travel nurses has not been measured or analyzed in conjunction with job performance in prior research.

Significance of the Problem

Travel nurses are contracted for the purpose of bridging nurse staffing gaps and experience gaps. Unaddressed, these staffing deficits escalate the risk of

compromised patient care quality, and subsequent adverse outcomes (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Aiken and colleagues (2002) analyzed cross-sectional survey data obtained from 10,184 nurses, medical records of 232,342 discharged general and orthopedic surgical patients, and hospital administrative data from 168 Pennsylvania hospitals. Their interpretation of the results revealed a 7% increase in both the odds of patients dying within 30 days of admission and the odds of failure-to-rescue event occurrences with each additional surgical patient added to a hospital nurse's regular workload (Aiken, et al., 2002). On that account, as linchpins to the attainment of appropriate nurse staffing and experience levels conducive to sustain safe patient care environments, it is essential for travel nurses to integrate effectively upon arrival, complete each assignment and meet or exceed the same performance expectations that hospitals hold for permanent staff nurses.

Hospitals have been described as complex adaptive systems (McDaniel & Driebe, 2001). Hospitals are dynamic networks in which interaction between diverse arrays of interdependent components, such as health disciplines and patients, converge in a form of auto-coordination toward the achievement of health outcome goals (Institute of Medicine, 2001; McDaniel & Driebe, 2001). Hospitals aim to operate as high reliability organizations (Agency for Healthcare Research Quality, 2008-a; Knox, & Rice Simpson, 2010; Storer Brown, Donaldson, Burnes Bolten, & Aydin, 2010). High reliability refers to the necessity for "consistent performance at high levels of safety over long periods of time" (Chassin & Loeb, 2011, p. 563). Aviation, nuclear power, and railways are examples of high reliability industries, operating under firm regulatory constraints that override individual and traditional

performance guidelines, to reinforce consistency in safe operations (Evans, Cardiff, & Sheps, 2006). Travel nurses are granted an ephemeral adaptation curve within which to adjust to each new hospital work setting and to effectively integrate with high reliability teams in these complex adaptive systems on a frequent, regularly occurring basis. They are expected to meet the hospital's expectation with minimal onboarding preparation (Goodman-Bacon, & Ono, 2007).

Travel nurses represent a unique and valuable constituent of the US nursing workforce, composed solely of experienced RNs spanning all nursing specialties. Nonetheless, the literature offers a sparse pool of research with aims to expose the utility of this population and the distinct challenges that are characteristic of the travel nurse work arrangement (Aiken, et al., 2012; Goodman-Bacon & Ono, 2007). Examples from the literature of empirically analyzed travel nurse related phenomena include: (a) the impact of temporary nurse staffing on hospital operational costs (Bloom, Alexander, & Nuchols, 1997; Houseman, Kalleberg, & Ericcek, 2003); (b) the professional characteristics of supplemental nurses and the impact of supplemental nurse staffing on patient outcomes (Aiken, Shang, Xue, & Sloane, 2012; Aiken, Xue, Clarke, & Sloane, 2007; Pham, et al., 2011; Xue, Aiken, Fruend, & Noyes, 2012); (c) the impact of the mix of temporary and staff nurses on nurse and patient outcomes (Bae, Mark, & Fried, 2010); and (d) factors related to temporary nurse burnout and job satisfaction (Faller, Gates, Georges, & Connelly, 2011).

A knowledge gap exists pertaining to travel nurses, relative to the effect of job integration factors that are theoretically linked with job performance. More specifically, the association between: (a) organizational socialization, (b) the nursing

work environment, (c) self-efficacy, and (d) job performance of US travel nurses, has not been studied. This knowledge gap extends to include a lack of understanding about how travel nurses perceive onboarding experiences at job assignments to impact their job performance.

Purpose of the Study

The purpose of this mixed methods study was to investigate the relationship of three theoretically linked job integration factors with travel nurse job performance among a national sample of travel nurses, and to gain an understanding of how travel nurses perceive orientation and integration experiences at job assignments to impact their job performance. For the quantitative, cross-sectional descriptive-correlational component of the study, data were collected via an 88-item web-based self-report survey questionnaire. These data were analyzed to determine the association of three specific integration-related predictors of travel nurse job performance ratings as documented by nurse managers on a standard Likert-type job performance evaluation scale. The three integration factors hypothesized as predictors were: (a) organizational socialization, (b) the nursing work environment, and (c) perceived self-efficacy.

The study purpose was to generate new knowledge intended to facilitate an understanding of how job assignment integration factors influence travel nurse job performance. Travel nurse job performance is an essential hinge to seamlessly maintain adequate staffing and experience levels necessary to ensure safe, quality patient care, and to avoid increases in mortality and failure to rescue associated with inadequate staffing as described in previous research (Aiken, et al., 2002). Based on

the new knowledge generated by this study, research-informed onboarding designs may be developed and tested for effectiveness in facilitating optimal travel nurse job performance attained through more effective integration to new job assignments. This knowledge may be transferrable to other constituents of the general nursing workforce who are newcomers to healthcare teams, such as newly registered nurses, experienced staff nurses transferring to new specialties or departments within a hospital, and experienced staff nurses who leave one hospital to work at another.

Definitions of Terms

Travel nurses.

Conceptual definition: In this study, travel nurses are experienced RNs of all specialties, contracted by hospitals through a healthcare staffing firm, for temporary work assignments that are typically 13 weeks in length.

Operational definition: In this study, travel nurses are RNs as described above, who are contracted to hospitals through a specific national healthcare staffing firm in the United States (US), and who have completed at least two travel work assignments in acute care hospital settings within the past 18 months, one of which was completed within three months prior to the date of participation.

Organizational socialization.

Conceptual definition: In this study, organizational socialization is defined as “the process by which newcomers make the transition from being organizational outsiders to being insiders” (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007, p. 707).

Operational definition: In this study, measurement of organizational socialization is achieved using scores generated from responses on the 34-item organizational socialization questionnaire developed by Chao, et al. (1994).

Work environment.

Conceptual definition: For the purpose of this study, the work environment refers to the nurse practice environment. This term is defined by Lake (2002) as “the organizational characteristics of a work setting that facilitate or constrain professional nursing practice” (p. 178). Lake’s definition has been adopted as the conceptual definition in this study because: (a) it is stated succinctly, (b) it relates specifically to nursing practice, and (c) it is a neutral definition that incorporates both favorable and non-favorable characteristics.

Other definitions of the nurse practice environment documented in the literature include:

1. Positive Practice Environments: “Settings that support excellence and decent work” (International Center for Human Resources in Nursing, 2007).
2. Healthy Work Environment: “A practice setting that maximizes the health and well-being of nurses, quality patient/client outcomes and organizational performance” (Registered Nurses Association of Ontario, 2008, p.70).
3. Aiken & Patrician (2000) cite 2 descriptions of professional practice models (Hoffart & Woods, 1996; Zelauskas & Howes, 1992), as equivalent to descriptions of the professional nurse practice

environment. However these definitions of professional practice models are descriptions of systems in which nurses have control over the environment where they deliver care. Thus, they are not definitions of the nurse work environment itself.

Operational definition: In this study, the quality of the nurse work environment is measured by travel nurse sum-scores on the Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002).

Self-efficacy.

Conceptual definition: In this study, the definition of self-efficacy, espoused from 2 bodies of work, is a travel nurse's self-rated degree of "capability to accomplish a certain level of performance" (Bandura, 1986, p. 391) "across a variety of situations" (Judge, Erez, & Bono, 1998, p. 170).

Operational definition: In this study, perceived self-efficacy was measured by self-reported sum-scores on the 8-item New Generalized Self-Efficacy (NGSE) scale (Chen, Gully, & Eden, 2001).

Job performance.

Conceptual definition: In this study, job performance is defined as behavior that either enhances or detracts from organizational effectiveness (Motowidlo, Borman, & Schmit, 1997).

Operational definition: In this study, job performance was measured using sum-scores of performance evaluation ratings, as assessed by the unit manager or delegate, using a standard Likert-type job performance evaluation scale

issued electronically by the staffing firm to the manager for each travel nurse job assignment.

Research Questions

The following research questions and hypotheses were tested:

- 1) Do travel nurses with higher self-rated organizational socialization, nursing work environment, and self-efficacy scores yield higher quality job performance?

H 1: Controlling for demographic factors, nurses who rate their experiences more positively as measured on the organizational socialization sub-scales developed by Chao, et al., (1994) will yield higher quality job performance as measured by managers using a standard job performance evaluation scale.

H 2: Controlling for demographic factors, nurses who perceive the nursing work environment more favorably as measured on the PES-NWI scale (Lake, 2002) will yield higher quality job performance as measured by managers using a standard job performance evaluation scale.

H 3: Controlling for demographic factors, nurses with higher levels of self-efficacy as measured on the NGSE scale (Chen et al., 2001) will yield higher quality job performance as measured by managers using a standard job performance evaluation scale.

H 4: Controlling for demographic factors, the combined effects of organizational socialization scores, nursing work environment scores, and

self-efficacy scores will predict job performance ratings as measured by managers using a standard job performance evaluation scale.

- 2) What onboarding experiences do travel nurses perceive to have an impact on their clinical and professional job performance?

CHAPTER 2

Review of the Literature

This chapter opens with literature-supported discussion of the conceptual underpinnings leading to and supporting the selection of the study variables and hypotheses documented in Chapter One. A review of relevant empirical literature follows the theoretical discussion.

Conceptual Framework

Social Cognitive Theory is the conceptual foundation for this study (Bandura, 1986). Howard & Renfrow (2003) assert that the advent of cognitive psychology in the twentieth century prompted social psychologists to acknowledge the mediating impact of mental knowledge (cognition) on external stimuli (environment) and social action (behavior). Social cognitive theory, with origins in social learning theory, expands this notion, whereby human activity occurs via the dynamic interaction among all three sources of influence: behavior, cognitive and other personal factors, and environmental factors (Bandura, 1986). The nomenclature assigned to this property of interaction among the three sources of influence is “triadic reciprocity” (Bandura, 1986, p. 23). According to Bandura (1989), human agency lies within this causal system wherein human beings generate contributions toward their own incentives and conduct. The bidirectional arrows in the model (see Figure 1) denote the reciprocal relationship between each category of influencing factors. In the phenomenon coined by Bandura (1986) as “triadic reciprocal determinism” (p. 23), each component of this triadic model is regarded as a determinant of the others,

imposing its effects in an interdependent manner, over varying courses of time as required for the effect of each reciprocal response to manifest.

The unique blend of interacting causal factors contributed from each source of influence creates the potential for a wide range of circumstances and corresponding effects. The proportion of effects accounted for by each source of influence is not equally distributed but varies by situation. For example, at certain times environmental factors may impose greater influence on behavior than cognitive factors, yet at other times thoughts and beliefs may prevail, overriding the influence of environmental factors (Bandura, 1986). An organizational researcher has suggested that the impact of socialization and training (i.e. onboarding) on the criterion of job performance may be influenced by the cognitive factor of perceived self-efficacy of newcomers to an organization (Saks, 1995).

Self-efficacy, one of the main constructs of social cognitive theory, is acknowledged by Bandura as a powerful factor influencing individuals' choices of actions and behaviors, otherwise known as human agency (Bandura, 1986). This construct has been described in detail in Chapter One, as a variable of interest in this study.

In social cognitive theory, the interdependent reciprocal interaction between environmental factors and cognitive factors including other personal factors, affects behavior. In this study, the nurse practice environment represents environmental factors. Cognitive and other personal factors are represented by travel nurses' self-rated degrees of organizational socialization and perceived self-efficacy. Finally, in the context of this study, travel nurses'

job performance on assignments translates to behavior manifested as nursing practice.

Travel nurses embark on new endeavors each time they relocate to new a job assignment. They experience what it is like to be a newcomer to healthcare facilities with their respective organizational cultures on a frequent, regularly occurring basis. Travel nurses repeatedly experience the challenge of adapting to specific EHR systems, electronic bar-coded medication dispensing and administration systems, and other technology used in clinical settings where they may not have acquired prior experience. Travel nurses must continually be prepared to confront career-related decision points unique to mobile professionals. For example, the travel nurse workforce is one of the first to be affected when economic slumps or recessions occur. Empirical evidence supports the relationship between self-efficacy and elements affecting job performance such as adjusting as a newcomer to an organization (Saks, 1995), adapting to advanced technology (Hill, Smith, & Mann, 1987; Hsiao, Chang, & Chen, 2011), and dealing effectively with career-related challenges (Stumpf, Brief, & Hartman, 1987).

The theory-linked independent variables used in this study were: (a) organizational socialization, (b) nursing work environment, and (c) self-efficacy. In concert with the triadic reciprocity model, and within the context and purposes of this study, the characteristics of the nursing work environment and onboarding experiences as perceived by travel nurses, form a set of factors categorized collectively as the environment. Travel nurses' self-rated degrees of

organizational socialization and self-efficacy occur within the cognitive and affective factor set of the model because self ratings on these scales are derived from the perceived interaction between the individual at a personal level, and the new setting. Finally, behavior in the context of this study translates to travel nurse job performance, which in this context manifests as each nurse's clinical and professional nursing practice. The substruction and conceptual model corresponding to this study may be viewed in Figure 2 and Figure 3 respectively.

Empirical Literature

Organizational socialization, the nurse practice environment, and perceived self-efficacy have not been scientifically tested as predictors of travel nurse job performance. However research has been published on the topics of orientation, organizational socialization, the nursing work environment, the psychological attribute of self-efficacy, and the impact that these factors levy in the workplace among the general nursing population and other workforce populations. A literature search was carried out using academic databases including CINAHL, Academic Search Premier, Google Scholar, and PubMed. The constructs of interest in this study were entered singularly as key words, including: (a) onboarding, (b) orientation, (c) integration, (d) organizational socialization, (e) nursing work environment, and (f) self-efficacy. These key words were also entered in combination with the outcome variable job performance, and with nurse, travel nurse, and contract nurse. Article titles and abstracts were reviewed first to filter output and to guide the selection of peer-reviewed research articles that were to be read and evaluated for inclusion based

on fitness with the aims of this study. Snowballing of reference lists was employed to glean additional suitable publications for review. Date ranges were not imposed, as it became evident early into the search that research specific to travel nurses was sparse. Omitting date range restrictions also facilitated capture of seminal theoretical research.

Organizational socialization: A cognitive and affective factor.

Chao, O'Leary-Kelly, Wolf, Klein, & Gardner (1994) examined socialization as a domain having six dimensions: (a) History, (b) Language, (c) Politics, (d) People, (e) Organizational Goals and Values, and (f) Performance Proficiency. The six dimensions form the crux of the organizational socialization measurement scale developed and tested by these researchers with an aim to establish clearly defined socialization measurement criteria. The performance proficiency dimension represents how organizational socialization directly influences job performance. The people dimension represents the development of effective working relationships, including acceptance of one's social skills. The politics dimension represents how knowledge is gained of the organization's formal and informal leadership, and power hierarchy. The language dimension represents how understanding of the organization's unique jargon and any unfamiliar technical terms is acquired. The organizational goals and values dimension represents the exigency to develop an understanding of informal norms, unwritten rules and implicit networks that link the immediate job and setting to the larger organization. Finally, the history dimension denotes the understanding of how the organizational culture and principles have developed and contributed toward creating the typology of its members.

Acquisition of skills and behaviors congruent with these dimensions is a facilitator of the transition toward the achievement of organizational socialization. Chao and colleagues (1994) set out to test the efficacy of these six dimensions in their seminal work. Engineering and management college graduates participated in a 3-phase longitudinal study over 5 years. In the first year of the study, 1987, there were 780 respondents. Moving forward, each year surveys were mailed to those who responded in the year prior: 1988, $N = 609$; 1989, $N = 522$; 1990, $N = 472$; and 1991, $N = 432$.

In the first phase, a questionnaire was developed for use in measuring the six dimensions of organizational socialization on a 5-point Likert scale. An exploratory factor analysis was used to determine the appropriateness of these dimensions. Each achieved an acceptable Cronbach's alpha of .78 or greater.

In phase two of the study, the investigators hypothesized about the degree of change in any or all of the dimensions, based on an individual's degree of movement from one job to the next. Participants were classified into three categories. "Job incumbents" ($n = 314$) did not change jobs at all. "Job changers" ($n = 20$) moved to a new position within the same organization. "Organizational changers" ($n = 82$) changed both job and organization. Repeated measures multivariate analysis of variance was used to analyze the data according to time period and group. Participants who made a job change during the study period (job changers and organizational changers) were surveyed according to the year before the change and the year immediately after the change. Those who made no changes comprised the incumbent group. A significant interaction between group and times $F(12, 1178) =$

13.78, $p < .001$ was noted, thereby overriding interpretation of the main effects. At time two, participants who made either job or organization changes had significantly lower socialization scores in three dimensions (performance, language and history) and five dimensions (performance, proficiency, language, people, politics, and history) respectively. The organizational changer group demonstrated the most profound and significant changes across all six dimensions of the scale. These results indicated that the process of social adjustment to a new organization was more complex than the process of socialization to a new job within the same organization.

Finally, in phase three of the study, the investigators explored the relationship between organizational socialization and career effectiveness, controlling for tenure. Only participants who did not change jobs were included ($n = 182$). In this phase, the dimensions having the strongest link to career effectiveness were, in order of strength, organizational goals and values, language, and politics (Chao, et al., 1994).

Taormina and Law (2000) examined the impact of organizational socialization and personal stress management on the occurrence of burnout among a sample of 154 nurses employed within five Hong Kong hospitals. A questionnaire was administered. Instruments specific to each criterion were translated to Cantonese and translated questions were incorporated into the survey. In the first part of the questionnaire, data were collected using the Maslach Burnout Inventory about levels of emotional exhaustion, depersonalization, and decreased personal accomplishment, all known to represent burnout. The next set of questions focused on personal skills and knowledge as predictors of burnout, assessed in three categories: interpersonal skills, self-management skills, and psychological preparedness. Finally, a modified version of

the Taormina Organizational Socialization Inventory was utilized to solicit respondents' evaluations of four socialization domains as predictors of burnout: training, understanding, co-worker support, and future prospects (Taormina, 1994). A preliminary analysis showed that Hong Kong nurses experienced a higher rate of emotional exhaustion ($p < .001$) and depersonalization ($p < .001$) than did US healthcare workers. The US comparison group included nurses, however it was not reported what proportion of that sample consisted of nurses. Thus the feasibility of such comparison warrants consideration in light of the mixed US sample of healthcare workers juxtaposed with the Hong Kong nurse sample. The training domain of socialization was a particularly significant predictor of emotional exhaustion ($F = 12.93, p < .0005$). The US comparison sample was not equivalent in size or composition to that of the Hong Kong nurse sample. Although a similar study could not be located in the context of travel nurses or job performance, this study showcases the interest in and utility of measuring the impact of organizational socialization on nurses' rates of emotional exhaustion leading to burnout.

Thomas and Lankau (2009) hypothesized that there is a positive association between mentoring and organizational socialization and that mentoring inversely impacts the level of role stress and burnout. Employees of a US hospital ($N = 422$) completed a survey. Data were analyzed using maximum likelihood estimation. Measurement of organizational socialization was achieved using the 34-item measure developed by Chao, et al. (1994). Three structural models were used to examine the impact of leader-member exchange (LMX), and mentorship on organizational socialization and role stress: (a) participants' evaluation of the relationship with their

supervisor (no mentor), (b) participants who's supervisor was also their mentor (supervisory mentorship), and (c) participants who identified a mentor other than their supervisor (non-supervisory mentorship). In the context of organizational socialization, the final model showed a significant positive effect of both LMX quality ($\beta = .33, t = 2.61$) and nonsupervisory mentorship ($\beta = .32, t = 2.13$) on organizational socialization. The results illustrate the utility of examining organizational socialization as a job-related outcome affected by structures of mentorship received by healthcare workers, rather than as a predictor. Although no studies were found resembling the use of the construct in the same context as in the current study related to travel nurse job performance, this article is an example of the application of organizational socialization as a variable in the study of a healthcare worker phenomenon.

Allen, McMannus, & Russell (1999) studied the socialization experiences of 64 first year MBA students who were assigned to second year students as formal peer mentors. The aim of the study was to evaluate the formal peer-mentoring program at the university in which two to three second year students were assigned to groups of five to six first year students after receiving a brief mentor training session. Measures included validated scales to measure two aspects of mentor functions (psychosocial and career-related), stress, and socialization. Chao, et al.'s (1994) 34-item scale was modified slightly for measurement of socialization in the study, wherein only four of the six dimensions were utilized: six items of the politics dimension ($\alpha = .85$); six items from the people dimension ($\alpha = .78$); 7 items from the organizational goals and values dimension ($\alpha = .83$); and 5 items from the performance proficiency

dimension ($\alpha = .75$). Correlational analysis, *t*-tests and regression analysis were used to test five hypotheses. A positive relationship was noted between both psychosocial ($r = .32, p < .05$) and career-related ($r = .29, p < .05$) mentoring and socialization in general. A positive relationship was also noted between psychosocial mentoring and the politics aspects of socialization, or learning the ropes ($r = .30, p < .05$). A positive relationship was also noted between psychosocial peer-mentoring and job performance ($r = .32, p < .05$). The career-related mentoring function was significantly associated with the people dimension ($r = .26, p < .05$) of socialization (developing favorable work relationships). Socialization was related as a mediator between mentoring and work induced stress. The overall findings were suggestive that group peer mentoring is an efficient and effective means to support and integrate newcomers.

Nursing work environment: An environmental factor.

The impact of the nursing work environment on professional practice behavior as linked to the delivery of safe, high quality patient care is acknowledged in the literature (Aiken, Cimiotti, Sloane, Smith, Flynn, & Neff, 2011; Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Committee on Quality of Healthcare in America IOM, 2001; Hassmiller & Cozine, 2006; Kimball & O'Neil, 2002; Lake, 2002; The Joint Commission, 2009, Trinkoff et al., 2011). A nursing work environment that is characterized as conducive to professional practice has been identified as paramount to alleviating the nursing shortage and its related consequences (Wright & Bretthauer, 2010). Nurses are empowered to perform their jobs more effectively and efficiently among the interdisciplinary team in professional practice environments (Lake, 2007).

Staffing adequacy impacts the environment of care where nurses perform their jobs. Over the years nurse staffing adequacy has drawn the attention of researchers interested in determining the subsequent effects of low nurse staffing on patient safety, quality of care, and outcomes (Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2005; Kane, Shamliyan, Mueller, Duval, & Wilt, 2007; Kovner & Gergen, 1998; Kovner, Jones, Zhan, Gergen, & Basu, 2002; Unruh & Zhang, 2012). A reciprocal effect also manifests as the nursing work environment influences nurse staffing. Aiken and colleagues observed an association between the use of supplemental nurses and poor patient outcomes. However, when the nursing work environment was controlled for the association was no longer significant (Aiken, Shang, Xue, & Sloane, 2012).

Buerhaus and colleagues compared the perceptions of staff RNs with those of Chief Nursing Officers (CNOs) pertaining to the effects of the nursing shortage (which translates to nurse staffing issues) on the quality and safety of patient care (Buerhaus, et al., 2005). Data were sourced from a 2002 ($N = 4108$) and 2004 ($N = 1697$) national random survey of RNs and from a national survey of CNOs ($N = 222$) (Buerhaus, et al., 2005; Donelan, Buerhaus, Ulrich, Norman, & Dittus, 2005). Only the data from hospital-employed RNs and CNOs were used. Descriptive statistics and t tests were used to compare the perceptions of RNs and CNOs relative to a selection of quality and safety issues pertaining to patient care in hospitals. The 2004 data revealed that overall, 79% of hospital RNs ($N = 527$) and 68% of hospital CNOs ($N = 126$) perceived the nursing shortage to impede the safety and quality of patient care. A significantly greater likelihood was noted for RNs ($\chi^2=11.450$, $df = 2$, $p < .003$) and

CNOs ($\chi^2 = 9.269$, $df = 3$, $p < .026$) to report problems with quality and safety of care related to the nursing shortage if they were working at hospitals where they perceived there was a shortage. From the 2004 data, the nursing shortage was perceived to delay responses to patient call lights and to cause staff communication problems by 89% and 88% of hospital RNs ($N = 675$) respectively, and by 84% and 72% respectively among the CNOs ($N = 222$). Among a sample of RNs in 2002 ($N = 1442$), many perceived the nursing shortage to be a major problem associated with nursing practice indicators including detecting patient complications (62%), maintaining patient safety (68%) and having time for patients (93%). There was worsening or no change noted among RN responses for these same indicators in 2004 ($N = 675$) at 67%, 71% and 92% respectively. The sample size for 2004 was less than 50% of the sample in 2002, which may represent a limitation.

The researchers also compared the perceptions of RNs ($N = 675$) with that of CNOs ($N = 222$) on how the nursing shortage impacted six aims for improving healthcare identified as 1) patient centered care, 2) effective, evidence-based care, 3) safe care, 4) timely care, 5) efficient care and 6) equitable care. Each group responded in terms of how often they perceived the nursing shortage to impact each of the six aims. There were two responses to select from: (a) frequently or often impacted, and (b) sometimes or never impacted. The majority of RNs indicated a perception that the nursing shortage frequently or often impacted each of the six aims (ranging from 63 - 84%), and to a much greater degree than did the CNOs (ranging from 26 - 55%). Buerhaus and colleagues (2005) draw attention to the differences in perceptions of RNs working directly with patients, and CNOs who are ultimately responsible for

patient outcomes yet not involved in direct patient care, pertaining to the impact of staffing levels as an element of the nursing work environment, on the quality and safety of patient care. A recent study by Gormley (2011) reflects a similar difference in views where, with the exception of nurse-physician relationships, nurse managers scored all work environment subscales more favorably than did staff nurses.

A study was carried out to examine the impact of clinical practice environment characteristics (including the use of temporary contract operating room RNs) on three post-operative patient outcomes: complications, length of stay (LOS), and death (Newhouse, Johantgen, Pronovost, & Johnson, 2005). The researchers analyzed Maryland hospital nursing director survey data ($N = 32$) and vascular surgical patient discharge data ($N = 1894$) from 2000-2002. Per the Maryland Hospital Association, the overall use of contracted agency nurses had doubled from 1999 to 2000. Available Gallup Organization estimates at the time of the study indicated that 1.7% of operating room RN positions were filled by contract staff. Contract nurses filled an average of 6% of operating room RN positions across 32 participating hospitals. Logistic regression model results revealed no statistical association between complications, LOS, and percentage of contract RN use. Indeed, there was a statistically significant reduction in the odds of patient death occurring with each 10% increase in the use of agency RNs. (OR 0.77, 95% CI, 0.63, 0.94).

In a study to examine another aspect of the nursing work environment, Kalisch and colleagues surveyed 2265 nursing staff (mainly RNs and nursing assistants) in 53 nursing units (medical-surgical, intermediate, ICU, and rehabilitation) among four Midwestern hospitals in the US

(Kalisch, Russell, & Hee Lee, 2012). These researchers noted that the independent variables: (a) size of the nursing unit and (b) size, or composition of the nursing team, impacted the dependent variable of nursing unit teamwork as measured on the 33-item Nursing Teamwork Survey. Previous development and testing of the instrument yielded a Cronbach's alpha coefficient of .94 for the overall scale. The alpha coefficient ranged from .77 to .87 for each of the five subscales: (a) trust, (b) team orientation, (c) back up, (d) shared mental model, and (e) team leadership (Kalisch, Hyunhwa, & Salas, 2010). A significant negative correlation was noted between average daily census and nursing unit teamwork scores ($r = -.389, n = 53, p = .004$), and between the number of nursing assistants on the team, and nursing unit teamwork scores ($r = -.410, n = 53, p = .002$). The impact of nursing work environment characteristics on teamwork is exposed with: (a) staffing composition, or mix (represented by number of nursing assistants on the unit), explaining close to 15% of unit team work scores; and (b) size of the nursing unit (represented by average daily census), explaining approximately 17% of the variance in teamwork scores. This knowledge is useful in gaining insight about factors affecting nursing work environments and the subsequent impact on nursing team effectiveness.

In recognition of and in concert with the imperative to improve nursing work environments as a means to intercept progression of the nursing shortage, the American Association of Critical Care Nurses (AACN) set forth six standards to support healthy nursing work environments: (a) Skilled Communication, (b) True Collaboration, (c) Effective Decision Making, (d) Appropriate Staffing, (e) Meaningful Recognition, and (f) Authentic Leadership (AACN 2005). An

unsatisfying work environment is one of the prime contributors to high staff turnover and hospital staffing crises (Hassmiller & Cozine, 2006). Staff turnover can lead to staffing gaps that may be only partially filled by travel and other temporary nurses, generating uncertainty among the staff of whether they will have an appropriate complement of nurses to work with each shift. By extension, it is reasonable to postulate that such work environments factor into the job performance of nurses including travel nurses.

Since 1972, the Robert Wood Johnson Foundation (RWJF) has allocated substantial resources to support nursing, focusing more intently since 2002 on the nurse practice environment (Hassmiller & Cozine, 2006; Kimball & O'Neil, 2002). For example, Transforming Care at the Bedside (TCAB) is a well-publicized RWJF initiative to improve hospital nursing work environments (Hassmiller & Cozine, 2006). In a report commissioned by the RWJF, Kimball & O'Neil (2002) described factors contributing to the complex network of conditions challenging current nursing workforce stability as compared with prior decades. As documented in the report, shrinkage is occurring in the workforce as aging baby boomers begin to retire, or otherwise depart from physically demanding bedside nursing positions. There is no comparable population emerging to replenish this workforce. The recent work of other scholars echoes the concern of this phenomenon (Juraschek, Zhang, Ranganathan, & Lin, 2012; Pritchard & Potter, 2011; Richardson, 2011). Moreover, as is also documented in the RWJF report, career opportunities and attitudes about work have evolved with time. A wider variety of viable and attractive career choices are available to young workers. Furthermore, many of these career alternatives do not

have work environments that are as physically, cognitively, or affectively demanding as nursing, nor do they require shift work, overtime, weekends and major holiday work hours. All of these conditions support a continued need for travel nurses to bridge hospital staffing and experience gaps, and for them to fulfill their assignments to completion, meeting each hospital's job performance expectations.

Analysis of 2005 Community Tracking Study data revealed that executives ($N = 1008$) of hospitals ($N = 32$) across 12 US markets representative of the nation expressed patient safety and quality concerns relative to being staffed with a large proportion of inexperienced or temporary nurses (May, et al., 2006). An important limitation of this study, as acknowledged by the authors, is that perspectives of hospital executives were sought, but not those of the nurses. Clinical nursing staff may express a different outlook when approached for feedback, a phenomenon noted in a previously cited study about staff nurse and CNO perceptions of how the nursing shortage impacts patient care processes (Buerhaus, et al., 2005). May, et al., (2006) found that temporary staff was identified by hospital executives as the top short term staffing strategy reported by 75% of the hospitals. The definition of short term is not operationalized in the study. However, had data been generated pertaining to the annual budgetary proportion of temporary nurse use in these hospitals, findings may have revealed that temporary staff use is an ongoing staffing strategy rather than a short term strategy to manage nurse staffing shortages. Relative to the researchers' focus of interest in this study, the travel nurse workforce, representative of one type of temporary staff, is a contingent of experienced nurses that can actually bolster developing nursing teams to ease experience gaps.

Analyzing data extracted from the 2000 National Sample Survey of Registered Nurses, Aiken and colleagues compared staff nurses ($N = 10,443$) with supplemental nurses ($N = 695$) demographically (Aiken, Xue, Clarke, & Sloane, 2007). Additionally these researchers extended an invitation to 50% of RNs in Pennsylvania generating a 52% response ($N = 13,152$) to participate in a survey with questions about the practice environment, job satisfaction, quality of care at the nurse's hospital, and the frequency of certain adverse clinical events where they worked. The authors noted that poor nurse and patient outcomes occurring at hospitals with a greater proportion of temporary nurses are likely linked to an overarching set of contributing nursing work environment factors resulting in attrition-related nurse staffing gaps. Further, these investigators affirmed the absence of any positive association between non-permanent nurses and adverse patient outcomes, and instead noted the opposite. Estimating weighted sample sizes, they noted 46% of supplemental nurses ($n = 49,819$) to be educated at a baccalaureate or higher degree compared with 40% of permanent staff ($n = 799,218$) ($p = .007$). These findings support the position that the experience and education of supplemental staff such as travel nurses, may improve the nursing work environment and quality of patient care. Nevertheless, this relationship has not been formally evaluated by research.

In a testimony offered to the Robert Wood Johnson Foundation for the Future of Nursing initiative, The Joint Commission's (TJC) Nursing Advisory Council expressed its view of the nursing shortage as an issue of quality of care (TJC, 2009). In that testimony, TJC corroborates that unappealing work environments pose a threat

to the complement of the nursing workforce who provide direct patient care.

Improving the nursing work environment is included among TJC's recommendations in the testimony to the RWJF Future of Nursing initiative. Here, the effect of the nursing work environment on the performance of the work that all nurses do is exposed. Thus, if a poor quality nursing work environment unfavorably impacts the job performance of staff nurses, the same effect can be anticipated with regard to the job performance of travel nurses.

Factors affecting the nurse work environment pose an evolving element for consideration. Increasing demands on nurses have paralleled increasing hospital accountability for patient outcomes. Healthcare delivery modalities continue to advance at a rapid pace. Technological advances such as EHRs, bar coded medication administration systems, electronic medication dispensing systems and more, that are designed with the intent to mitigate risks for error, are also more taxing on nurses' time. Additionally, since 2006, emphasis on consumers' experience and satisfaction has increased notably and outcomes measured by national patient satisfaction survey scores are now tied to federal reimbursement via the Hospital Value-Based Purchasing Program, a hospital pay for performance system (US Department of Health & Human Services, Centers for Medicare & Medicaid, 2012-a), imposing a corresponding shift in prioritization and corresponding time management paradigms for nurses.

Job stress and social support in the workplace have been studied as elements of the nursing work environment that impact job performance. In a correlational descriptive study surveying a convenience sample of 263 American and 40 non-

American hospital nurses ($N = 303$), AbuAlRub (2004) hypothesized that nurses with high levels of social support would demonstrate a high level of job performance. Social support was defined as co-worker relationships that enhance coping ability. Additional hypotheses included: (a) nurses with high levels of social support perceive lower levels of job stress, (b) nurses with high job stress exhibit a lower level of job performance; and (c) as job stress increases, nurses with perceived high social support perform better than nurses with low social support. Hospital nurse participants were recruited via Internet list serves. Previously validated instruments with appropriate alpha coefficients were used to collect data for each hypothesis. Findings generated from hierarchical multiple regression analysis reflected that when nurses perceive high levels of social support from colleagues their perception of job stress is lower ($r = -.10, p < .05$) and job performance is enhanced ($r = .23, p < .01$).

Roberts and colleagues (2009) reviewed the literature depicting the effects of oppressed group behaviors (OGB) on the nursing work environment. Literature findings revealed that two characteristics of OGB most prevalent in the nursing literature are silencing the self, and horizontal violence. The OGB phenomenon is attributed to a mechanism of unequal power as a characteristic of the organizational culture, in which maladaptive nursing behavior, occurring in a cyclical fashion, is overlooked. Further, this mechanism of unequal power serves to maintain regulation of the facility's largest departmental cost center workforce, nursing. Silencing the self is the tendency among nurses to refrain from expressing their contributions to patient care and outcomes, or receiving credit for those contributions, resulting in team-induced devaluation and curbs the potential for the delivery of quality nursing care to

patients. Horizontal violence, also called lateral violence or adult bullying, is reflected by behaviors of discord and hostility within the nursing team, affecting team nurse performance and driving nurses to leave the profession (Roberts, Demarco & Griffin, 2009). This type of nursing environment potentiates the need for travel nurses due to the consequential difficulty in retaining staff. Caustic work environments may exert the potential to hinder the job performance of even the most professional, seasoned travel nurse.

The nursing work environment was one of three factors that Aiken and colleagues examined as a predictor for 30-day inpatient mortality and failure to rescue occurrences among hospital patients 18-89 years of age admitted under a diagnosis-related-group (DRG) category of general, orthopedic or vascular surgery ($N = 1,262,120$) (Aiken, Cimiotti, Sloane, Smith, Flynn, & Neff, 2011). The two other independent variables examined were nurse education and hospital nurse staffing.

The sample of hospitals ($N = 665$) was drawn from adult acute care facilities across four states, California, Pennsylvania, Florida and New Jersey. American Hospital Association patient discharge data were sourced for outcome measurement. Mail-out surveys returned by RNs ($N = 39,038$) yielded data about multiple aspects of the nursing work environment, nurse demographics, nurse outcomes and patient care quality (Aiken, et al., 2011, p 1048). Logistic regression yielded interaction effects between nurse staffing and nurse education. With each additional patient assigned to a nurse, odds of patient death and odds of failure to rescue each increased by 3% ($p < .01$ and $p = .01$ respectively). Better work environments decreased mortality by 7% ($p < .001$). A 10% increase in BSN prepared nursing staff decreased the odds of

patient death by 4% ($p < .001$). The final model was tested for the interaction effect of nurse staffing and the nurse work environment. The interaction signified that nurse staffing adjustment effects are impacted by the work environment and vice versa. Odds ratios related to increased nurse staffing were close to 1.0 (no effect) for mortality and for failure to rescue in hospitals with poorly rated nurse work environments. However, odds on both outcomes decreased by 4% in hospitals with moderately rated environments, and 9-10% in hospitals with highly rated environments. Thus, by interpretation of these results, increasing nurse staffing in hospitals with poor nurse work environments is not enough improve patient outcomes until the work environment improves. This finding highlights the necessity to consider the gestalt of the nursing work environment when assessing associations between the proportion of travel nurses used and patient outcomes.

The American Nurses Credentialing Center (ANCC) developed the Magnet® Recognition program, which designates qualifying hospitals that meet specified conditions as Magnet® hospitals. ANCC Magnet® recognition is considered the gold standard for excellence in nursing and patient care as evidenced by hospital characteristics that support the promotion of a professional nursing practice environment (ANCC, 2012; Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2007). In March 2012 there were 392 Magnet® hospitals (ANCC, 2012). Magnet® hospitals are not immune to the effects of a nursing shortage (Ulrich, et al., 2007). Indeed, Shaffer (2006) reported that 60% of Magnet® hospitals used travel nurses in 2006. Moreover, currently across 95% (372) of the Magnet® hospitals, an average of 6% of nurse staffing needs are met by supplemental nurses (Aiken, 2012). Nurses choose a

travel work arrangement for many professional reasons, one of which is to identify a niche for a permanent position. Therefore, attractive professional nursing work environments may afford hospitals a greater likelihood of success in hiring an experienced travel nurse into a permanent position at the conclusion of a contract.

Ulrich and colleagues (2007) solicited views from 1783 randomly selected nurses employed at US hospitals regarding their work environments and the nursing shortage as viewed through the lens of the Magnet® status of their hospitals (Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2007). The sample was drawn from a larger sample used in a previous study carried out by these same researchers (Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2005). The earlier study followed a 2002 study ($N = 3500$) carried out by NurseWeek Publishing and the American Association of Nurse Executives about nurses' views of the nursing shortage, the work environment, and what their future career intentions were. Of the total respondents, 735 RNs indicated they worked at a hospital that was either: (a) Magnet® designated ($n = 184$), (b) in process of becoming so ($n = 254$) or (c) not seeking the designation ($n = 297$). These three groups comprised the sample for the comparative study.

Data were analyzed using descriptive statistics and t -tests. A survey was used to elicit participants' views about nursing work environment topics of interest from the perspective of the Magnet® status at their respective hospitals. The majority of RNs in all three groups indicated a belief that improvement in the work environment would lead to improvement in the nursing shortage; however, only respondents from the "in process" group perceived that improvements were likely to occur. Nurses from the in process and non-Magnet® groups indicated that overtime was defined by

the hospital as voluntary but they still perceived it as a requirement, whereas Magnet® hospital nurses interpreted overtime to be purely voluntary. While 45% of Magnet® hospital nurses viewed their organizations as placing high value on patient care, only 27% of the combined non-Magnet® hospital nurses shared that view. Thirty-one percent of the nurses from in process hospitals rated their hospitals good or excellent with regard to opportunities for professional development or advancement, compared with only 23% and 18% of Magnet® hospital and non-Magnet® hospital nurses respectively. Similarly, 23% of nurses from in process hospitals indicated a stronger presence (rated excellent or very good) of opportunities to influence decision making about organization of the workplace; more than those from Magnet® hospitals (19%) and non-Magnet® hospitals (14%).

With regard to opportunities to influence decisions about patient care, 27% of both Magnet® hospital nurses and in process hospital nurses rated their hospitals very good or excellent, but only 16% of the non-Magnet® hospital nurses offered similar ratings. When asked about workplace relationships between nurses and other groups such as LPNs, managers, physicians etc., the only significant difference between groups was related to nurse-to-nurse relationships. Of the nurses from Magnet® hospitals, 79% rated this item as very good or excellent whereas 72% of in process hospital nurse and only 68% of nurses from non-Magnet® hospitals did so. In response to the question of whether hospitals were making efforts to improve teamwork between nurses and physicians, 56% of nurses from Magnet® hospitals noticed such efforts as compared with in process hospital nurses (41%) and non-Magnet® hospital nurses (34%). Finally, 24% of nurses from Magnet® hospitals and

20% of in process hospital nurses strongly agreed that front line managers were considerate of nurses' needs for personal and family time; only 10% of non-Magnet® hospital nurses concurred.

The authors expressed concern surrounding several instances where in process hospital nurses ranked nursing work environment characteristics of their hospitals significantly higher than Magnet® hospital nurses, implying that perhaps Magnet® hospitals are at risk for becoming complacent once they earn the designation. However, since the surveys were used to seek perceptual feedback, it may be possible that the newness of Magnet®-related activities at in process hospitals influenced these nurses to have a more profound sense of their existence than might be the case with nurses working in hospitals that have been operating that way for some time.

Gormley (2011) studied 296 nurses and 40 managers ($N = 336$) from two Midwest hospitals in order to determine what differences may exist between the perceptions among each group pertaining to the nursing work environment, quality of care, and intent to leave. Additionally, perceptions of unionized hospital nurses were compared with those from non-unionized environments, using the same scales. Data were collected survey-style, using the Perceived Nurse Work Environment Scale (PNWE), Anticipated Turnover Scale (ATS) and a researcher-developed quality care perception scale adapted from a measure developed by another researcher (Aiken, et al., 2002). Cronbach's alpha for the PNWE scale was .84. The alpha for each of the 8 PNWE subscales was acceptable, ranging from .77-.95, with the exception of the scale for favorable scheduling environment, for which the alpha was .52. Cronbach's alpha for the ATS was .88. No reliability coefficient was provided for the quality of

care indicator (one question). Eight practice environment items were rated by nurses and nurse managers: Opportunity for Advancement; Participative Governance; Unit Decision-Making; Nurse Manager; Nurse-Physician Collaboration; Scheduling Environment; Job Enjoyment; and Quality of Care. Analysis of variance yielded statistically significant F -ratios on all practice environment subscales ($p \leq .05$) except nurse-physician collaboration. These findings represented group mean differences in nurses' and managers' perceptions about the work environment and quality of care. Nurse managers rated all of the practice environment items except nurse-physician relationships more favorably than did the staff nurses. Significant differences were also evident between the unionized nurses' and the non-unionized nurses' evaluations on all practice environment items except nurse-physician collaboration and anticipated turnover. Non-unionized nurses consistently rated nurse environment items more favorably than did unionized nurses. Finally, the correlations between staff nurses' perceptions of the work environment and intent to leave were examined. Anticipated turnover showed a significant ($p \leq .05$) moderate negative correlation with all of the work environment subscales, ranging from ($r = -.149$) to ($r = -.291$). Findings were comparatively similar to those of Aiken and colleagues (2002). Nurses who perceived their work environments favorably also express favorable perceptions of the quality of care they delivered, signifying a link between the nursing work environment and job performance quality.

Self-efficacy: A cognitive and affective factor.

Self-efficacy a fundamental construct of social cognitive theory has been defined in terms of a situational variable, as a person's self-assessed capacity and

inventory of skills to respond under certain circumstances to achieve a desired level of performance (Bandura, 1986). More broadly defined, “general self-efficacy” (GSE) is similarly defined but in terms of responding across varying sets of circumstances (Judge, Erez, & Bono, 1998). Organizational researchers have suggested that the impact of training and socialization (i.e. onboarding) on the criterion of job performance may be influenced somewhat by self-efficacy levels of newcomers to an organization (Saks, 1995). High levels of GSE may be associated with a greater propensity for behavior conducive to achieving success when challenged with unfamiliar experiences (Judge, Erez, & Bono, 1998). The measurement of this theoretical construct offers utility in the prediction of travel nurse job performance (Stajkovic & Luthans, 1998). Numerous published studies have centered on the impact of self-efficacy on job performance, both within and outside of nursing and healthcare domains, acknowledging the impact of this psychological attribute on job performance.

In their often-cited work, Stajkovic and Luthans (1998) incorporated 114 studies into theory-guided primary and moderator meta-analyses investigating the relationship between self-efficacy and job performance. They used social cognitive theory (Bandura, 1986) and self-efficacy theory (Bandura, 1997) to guide the study. Results of the primary meta-analysis indicated a significant average correlation between self-efficacy and job performance of .38 ($p < .01$), suggesting it may be a more accurate performance predictor than commonly used personality trait-based analyses.

The first level moderator analysis yielded results in support of the hypothesis that the complexity of tasks serves to moderate the relationship between self-efficacy and job performance. Indeed for simple tasks, the relationship between self-efficacy and job performance is strongest, then progressively decreases as the complexity of tasks increases. Thus, an individual with a high level of self-efficacy toward the performance of a highly complex task may not necessarily be as likely to perform it well as compared with a simple task. However, over time, if the complex task is repeated leading to increased experience and skill, then the difference in the strengths of the correlation may diminish.

The second level moderator analysis led to findings supporting that the type of study setting further moderates the relationship between self-efficacy and job performance. For example, a low complexity task performed in a simulated setting would reflect a stronger magnitude in the self-efficacy / job performance relationship as compared with a high complexity task performed in real life setting. The authors emphasized that the results of the meta-analysis represent the strength of the relationship between self-efficacy and job performance, although not to be interpreted as representing a causal effect between the two. This scientifically affirmed link between self-efficacy and job performance supports study of the relationship in the context of travel nurses.

Affirming the need to examine both individual and organizational characteristics impacting nurse job performance, Lee and Ko (2010) used a descriptive correlational design to facilitate understanding of how self-efficacy, affectivity, and collective efficacy affected the job performance of 1966 hospital

nurses in 28 Korean metropolitan hospitals. Affectivity, is described by the authors as an individual level characteristic associated with a personality typology in which individuals have a tendency to perceive circumstances through either optimistic or non-optimistic affects. Collective efficacy can be described as self-efficacy at a groupthink level, in which the group members share beliefs about their combined ability to address challenges achieve success (Bandura, 1986). Collective efficacy was included as an independent variable because unlike Western countries where individualistic culture prevails, in Korea the collective culture is prominent.

The investigators acknowledged that work environments, including factors such as nursing director leadership style, the learning atmosphere and the organizational culture, differ among nursing units and hospitals, thereby necessitating the inclusion of effects above and beyond individual factors that contribute to nurses' job performance. Four different self-administered questionnaires were used to collect data pertaining to affectivity, self-efficacy, collective efficacy, and nursing performance. The Personal Efficacy Beliefs Scale (Riggs & Knight, 1994) was used to measure self-efficacy and the Collective Efficacy Beliefs Scale (Riggs & Knight, 1994) was used to measure collective efficacy. To measure job performance, the authors used a scale that they had previously developed and tested (Ko, Lee, & Lim, 2007).

Descriptive statistics, Pearson correlations coefficients, and multilevel modeling were used to analyze the data. Level one of the multilevel analysis included individual nurse measures and level two included collective measures relative to the nursing units. Study results denoted self-efficacy as an influential factor. Pearson's

correlations were statistically significant between self-efficacy and affectivity ($r = .42, p < .0001$) as well as between self-efficacy and collective efficacy ($r = .13, p < .0001$). However the strongest correlation was between self-efficacy and nursing performance ($r = .57, p < .001$). In the final model of the multi-level analyses, self-efficacy and affectivity (level one independent variables) and collective efficacy (level two independent variable) each imposed a statistically significant influence on nurse performance. The results of this study reinforce the notion that when examining the impact of elements influencing nurse performance, factors at both the individual and collective level contribute to understanding the phenomenon.

Manojlovich (2005) studied the effects of self-efficacy on professional practice behaviors in conjunction with the effects of environmental factors identified as nursing leadership and structural empowerment (opportunity, resources, information, and support). In a descriptive study, 376 randomly selected nurses in Michigan responded to a survey composed of questions from instruments developed for the measurement of structural empowerment, self-efficacy, nursing leadership and professional nursing practice. A correlation matrix indicated the self-efficacy scale to have a significant relationship to the professional practice behaviors scale ($r = .45, p < .01$). The structural empowerment scale was also significantly related to the professional practice scale ($r = .32, p < .01$). No evidence of a direct relationship was noted between self-efficacy and nursing leadership, but nursing leadership and structural empowerment were strongly related ($r = .64, p < .01$).

The investigator examined whether self-efficacy might mediate the effects of structural empowerment on professional practice behaviors, using mediator models in

both path analysis and Sobel's tests. Findings supported the influence of both environmental and personal factors on professional behavior. Self-efficacy, a personal factor, had a stronger relationship with professional practice than did structural empowerment, an environmental factor. Findings were suggestive that the effect imposed by structural empowerment on practice behaviors is facilitated through self-efficacy as a partial mediator. Results also implied that self-efficacy intervened to produce the effect of nursing leadership on the relationship between structural empowerment and professional practice. The author noted that several findings among this network of relationships echoed those of prior studies.

Despite the complexity of these findings, a meaningful practice implication was illuminated through the results of the study in that self-efficacy is strongly related to professional practice behaviors, and structural empowerment may be antecedent to self-efficacy. Thus, providing adequate information, resources and support to nurses may foster self-efficacy, in turn improving job performance. For travel nurses this provision would initially occur during onboarding.

Onboarding: An environmental factor.

Onboarding: Program structure.

The basic rudiments of hospital nursing orientation, also referred to as onboarding, and the means to achieve it, have remained for the most part essentially unchanged for over six decades (Canton, 1940; Kennedy, Nichols, Halamek, & Arafeh, 2012; Thomason, 2006). Generally, the orientation process consists of several common components beginning with lecture style communication of introductory information such as hospital mission, vision, philosophy, organizational structure, a

tour of the physical plant, and a review of selected policies and procedures. Nurses are then familiarized with technical aspects of the job such as EHRs, medical equipment, and nursing procedures like waived testing, vascular access devices, hemodynamic monitoring equipment, and management of various IV pump systems. Finally, the nurse is aligned with a preceptor on the nursing unit for a period of time before being launched as a productive member of the team (Kennedy, et al., 2012; Thomason, 2006). For nurses hired as permanent hospital staff, this process typically ranges from 12-16 weeks for a newly graduated RN or two or more weeks for an experienced RN. Travel nurses typically receive a two to three day truncated version of the staff nurse orientation process.

Advances in information availability via technology over recent decades have influenced the onboarding process for nurses in several ways. The advantages of blending learner-directed, computer-based onboarding information with traditional face-to-face educator-controlled sessions have been realized by hospital educators (Benson, 2004; Thomason, 2006) and are often utilized to present informational onboarding content for travel nurses. Around-the-clock availability of web-based onboarding content allows travel nurses situated in various geographical time zones to complete didactic onboarding content at a convenient time prior to relocating to the next assignment. Offering content in this manner furnishes a more flexible opportunity for mobile travel nurses to absorb essential hospital information, and it shortens door-to-bedside time upon arrival.

The literature yields little research about nursing onboarding structure and quality and its specific effect on job performance. There are published anecdotal

accounts of orientation process improvements at specific hospitals. For example, an informal evaluation study was undertaken to assess the effectiveness of a 10-year-old orientation program at one Illinois hospital. Educators Meyer and Meyer (2000) surveyed a convenience sample of 59 staff nurses across all tours of duty, who had oriented to various clinical settings spanning the emergency department, intensive care, medical-surgical, ambulatory surgery, obstetrics, operating room and cardiac catheterization lab. The survey was composed of both Likert-scale and open-ended question items.

Overall, 22% of the RNs rated the orientation program as not sufficient to prepare nurses for safe practice performance on the unit. Twenty-nine percent of those nurses were emergency or intensive care nurses. RNs in critical care and emergency department settings expressed a need for more opportunities to practice clinical skills such as managing chest tubes, arterial lines, and central ports. Medical-surgical nurses indicated a need for more emphasis on unit routines and hands-on experience. Another area deemed a high priority was the need for a designated, consistent preceptor for all three shifts of unit-based orientation. Orientation program recommendations that emerged from this evaluation study included building in more clinical time, developing a formal preceptor training program, and reducing the patient assignment for preceptors, allowing them more time to interact with the onboarding nurse (Meyer & Meyer, 2000). Travel nurses often receive no more than one shift of unit-based clinical orientation, so the quality of the brief shadowing experience on the unit is paramount to a successful launch.

Onboarding: Technological components.

As newcomers, travel nurses are expected to adapt quickly to the use of hospital-specific technology such as EHR systems, telephony, bar coding systems, pharmacy dispensing systems, intravenous delivery pumps, waived testing instruments, hemodynamic monitoring systems, and more. Knowledge and proficiency pertaining to clinical technology is essential to the delivery of safe, competent patient care. This aspect of onboarding can be quite challenging, as it requires time to develop proficiency, and the systems differ from hospital to hospital. As one example, among hospitals that use the same brand of EHR, there can be substantial differences from one hospital to the next due to the custom-designed programs. With the accumulation of completed job assignments, travel nurses tend to become more intuitive with shorter learning curves relative to adapting to hospital-specific technology. The onboarding period, although brief for travel nurses, is a critical phase during which this adaptation needs to occur.

Hsiao, Chang, & Chen (2011) surveyed 501 hospital nurses in Taiwan with the intent to identify factors influencing the acceptance of health information systems. At the time of the survey, approximately 89% of Taiwanese hospitals had adopted EHRs. A two-part, 39-item questionnaire was used to identify factors influencing the outcome variable, nurse acceptance of EHRs. The two primary independent variables were: perceived usefulness and perceived ease of use. Each was assessed from the perspective of three sets of secondary factors: information systems characteristics, personal characteristics, and organizational characteristics. Self-efficacy was one of

two sub-categories within the secondary factor, personal characteristics. Multiple regression analysis was used to test eight hypotheses and yielded results to support that nurses' perceived ease of use and perceived usefulness of EHRs accounted for over 45% of the total explained variance relative to system acceptance. Furthermore, user self-efficacy ranked highest among six factors examined for impact on perceived ease of use ($p < .001$). The researchers offered insight as to how orientation to EHR use at each hospital may influence job performance.

A published exemplar of a revised nursing orientation program described how EHR training was integrated throughout the overall nursing orientation program for a two-campus 800-bed hospital in North Carolina (Harton, et al., 2009). Prior to the revision, EHR training was implemented as a separate component of the onboarding program. The integrative approach allowed nurses to have more hands-on practice with the EHR dispersed throughout the duration of their orientation rather than an isolated block of time. The hospital acknowledged the essential role of effective orientation in retaining nurses, and was attentive to post-orientation evaluative feedback from nurses to institute and guide orientation program revisions.

Preferences such as desire for a more interactive hands-on approach as opposed to lectures steered a move to increase the proportion of computer-based content.

Self-efficacy and orientation: Impact on job performance.

In a well cited longitudinal study of 154 freshly hired entry-level accountants, Saks (1995) hypothesized that increased orientation would lead to increased adjustment as characterized by job performance and nine other outcome elements, for newcomers with low initial self-efficacy scores. In other words, self-efficacy was

expected to moderate the effect of orientation on adjustment, including job performance *inter alia*. Data were collected over three measurement periods (upon hire, six months, and 10 months). The first round of data was collected using a survey to measure participants' initial self-efficacy ($N = 198$). The second survey, offered to those who participated in the first round ($N = 154$) measured training, post-training self-efficacy, and job adjustment. At the third round ($N = 112$) data pertaining to job performance and turnover were collected from participants' managers. Moderated hierarchical multiple regression analysis was performed by first entering initial self-efficacy, then training, then the interaction (self-efficacy * training). For job performance, initial self-efficacy explained a significant amount of variance ($\Delta F = 4.46, p < .05$); training or orientation alone did not explain a statistically significant amount of variance, and the interaction between initial self-efficacy and training explained a significant amount of additional variance ($\Delta F = 22.68, p < .001$). A key finding in this study was that the level of initial self-efficacy significantly predicted job performance and orientation did not. These findings were echoed in the results of a meta-analysis of 114 studies in which self-efficacy was significantly related to job performance (Stajkovic & Luthans, 1998).

Findings if these researchers reinforced the posited link between travel nurse self-efficacy and travel nurse job performance hypothesized in this study. Travel nurses gain more experience as newcomers to jobs than the general population of nurses, a factor related to their unique work arrangement. As such, over time these nurses may develop higher levels of initial newcomer self-efficacy. Indeed, "The most powerful antecedent to self-efficacy is the aggregation of previous experiences"

(Chen et al., 2001, p. 63). Although it has not been previously studied among travel nurses, this phenomenon may exemplify the notion of prior self-mastery as antecedent to higher levels of self-efficacy and high quality job performance.

Onboarding processes.

In a 520-bed New Jersey hospital-based study, nurse investigators compared feedback from a small sample of experienced nurses ($N = 20$) regarding their evaluation of two different nursing orientation delivery styles (Carcich & Rafti, 2007). The majority of the participants had six to 15 years of experience. The same orientation content was offered via either traditional lecture format, or computer-based self-learning modules (SLM). Adult learning principles and a review of the literature lead the investigators to hypothesize that experienced nurses would prefer SLM to a traditional classroom lecture-based presentation. Each orientation method group included 10 orienting nurses.

The Program Evaluation Instrument (PEI) (Henker & Hinshaw, 1990) was used to collect evaluative feedback as data from each group. The orientation topic for the study was restraint management; identical content and pre and post-tests were used for both study groups. The SLM experimental group was permitted to complete the module at any time of day in their choice of locations including at home. Both groups completed the PEI at the conclusion of their orientation modules. The pre and post knowledge test data were not part of the study, only the PEI data, which were analyzed using a two-tailed t -test to detect differences in the means of the two groups.

The results did not support the hypothesis. These experienced nurses were not more satisfied with the SLM method than classroom based orientation ($p = .002$).

Mean satisfaction scores on a scale of zero to six were 4.6 for SLM and 5.2 for traditional. The PEI subscale analysis indicated perceived differences in how well the program met the objectives; nurses in the SLM group rated this lower ($p = .001$). The SLM group did not rate the program as high for a sense of being treated like an adult learner as compared with the control group ($p = .001$). There was no difference in the average length of time it took each group to complete the module, although the investigators expected that the SLM group would take less time to complete. The investigators noted a high degree of participant engagement and socialization during the lecture sessions, which the SLM group did not have the advantage of. Despite the small sample size these findings may generate ideas for further study. Travel nurses are exposed to both types of orientation content delivery depending on the arrangement at the hospital where they will be on assignment. In the context of this travel nurse dissertation study, the article sheds light on the importance of considering the potential effects of orientation content delivery modes on travel nurse job performance.

Absent from the literature are studies of researchers seeking specifically to understand travel nurses' perceptions of how onboarding experiences affect their clinical and professional job performance. A knowledge gap is evident, which this dissertation study addressed through an analysis of the perspectives of travel nurses interviewed in focus groups.

Job performance: A behavioral factor.

Clark and colleagues analyzed temporary worker job performance evaluation as influenced by the degree of perceived alienation between the temporary worker

and the manager (Clark, Halbesleben, Lester, & Heintz, 2010). Using an investigator developed and tested 9-item scale to measure perceived alienation, 104 nurses from a temporary pool at a Midwestern hospital were surveyed. The newly developed scale consisted of three subscales which, when tested for reliability, yielded Cronbach's alpha coefficients ranging from .87 to .88. Development of the scales also included analyses to provide evidence of validity (factorial and discriminant). The nurses' supervisors ($N = 92$) plus one coworker to correspond with each nurse ($N = 104$) were also asked to complete the temporary worker alienation scale, pertaining to the temporary nurses. Co-workers reported based on observations of what they interpreted to represent alienation of the temporary nurses. Consistent with the investigators' first hypothesis, supervisors rated the level of temporary nurse alienation lower than did the temporary nurses or the co-workers who reported vicariously.

The second hypothesis was related to performance evaluations of the temporary nurses. Job performance was measured using a standard 7-item, 5-point Likert-type performance sub-scale developed by Williams & Anderson (1991). The hospital's own performance measurement system was not used because scales varied from unit to unit, which would have rendered the data unfit for comparison. Both supervisors and co-workers rated the temporary nurses' performance higher than the nurses rated themselves, confirming the investigators' hypothesis that temporary nurse perceptions of greater alienation would be negatively associated with the self-ratings of job performance. The investigators related the consistency of these findings with results from another study of temporary fire fighters (Halbesleben &

Clark, 2010). This study was the only one located throughout the literature search in which temporary nurse job performance ratings were examined as a variable. The study offers contextual insight applicable to this dissertation research involving travel nurses' job performance.

Acknowledging an increase in mobilization of the general US workforce over recent years, Bauer and colleagues employed a meta-analytic method to examine the effects of newcomer information-seeking behavior and strategies for organizational socialization (onboarding) as antecedents to newcomer adjustment, a process leading to socialization outcomes (Bauer, et al., 2007). Newcomer adjustment was defined as the process by which newcomers learn what the organization expects of them. For the purpose of their study, the researchers identified three indicators of newcomer adjustment: role clarity, self-efficacy, and social acceptance. Job performance was one of the five socialization outcomes studied, the others being job satisfaction, organizational commitment, intent to remain, and turnover. The researchers created and tested a model of newcomer adjustment derived from an empirical review of socialization research. They concluded that role clarity, self-efficacy, and social acceptance mediated the effects of newcomer adjustment on socialization outcomes, one of which is job performance. In other words, these three factors were effects that are required in order for the relationship between job performance and each of the two predictors (newcomer information seeking and organizational social tactics) to occur. Statistically significant correlations ($p < .05$) were noted between information seeking behavior and job performance, as well as between organizational socialization (onboarding) strategies and job performance. Correlations between job

performance and each mediating factor of newcomer adjustment were also statistically significant ($p < .05$).

Pertaining to the variables of interest for the dissertation study, this research offers empirical evidence that supports the existence of a relationship between onboarding and job performance. Moreover, self-efficacy, among other factors, is tied in as a mediating factor between onboarding and job performance. These findings suggest that organizations could benefit from allocating adequate planning and resources toward effective onboarding, in light of other research revealing that 50% of organizations do not view onboarding as a strategic initiative (Bauer, 2010).

Contrary to the dearth of studies in the US about travel nurses, research about contract nurses has emerged from Taiwan, perhaps due to the more frequent use of contract nurses there. Chu & Hsu (2011) studied a sample of participants composed partly of staff nurses (73%), and partly of contract nurses (27%), recruited from a public Taiwanese hospital ($N = 109$). The authors noted a trend of high contract nurse utility in Taiwan. In some public hospitals, contract nurses comprised over 47% of the nursing staff. These researchers used a regression model to examine the relationship between work arrangement status (staff nurse or contract nurse) and three self-rated outcome measures: work-related attitudes, organizational citizenship behaviors, and job performance. Self-rated job performance scores were collected from the nurses using the 7-item, 5-point scale developed by Williams & Anderson (1991), which had a Cronbach's alpha of .91. Additionally, each supervisor was asked to provide a single job performance rating score ranging from one to 100 for each

nurse participant.

Regression analysis results indicated no significant difference between staff and contract nurses' mean average self-rated scores pertaining to the variables of organizational commitment ($p = .114$), job satisfaction ($p = .669$), and organizational citizenship behaviors ($p = .404$). Results also indicated no significant difference in mean average scores on self-rated job performance between staff nurses and contract nurses ($p = .095$). However, performance evaluations by supervisors differed significantly between staff and contract nurses such that the performance of contract nurses was rated lower than staff nurses by supervisors ($p = .002$). The authors speculated some possible reasons for this difference such as supervisor prejudice or longer tenure and experience of staff nurses (Chu & Hsu, 2011).

There is little US nursing research about job performance ratings as a dependent variable for contract nurses as the sample population. Valuable insight can be derived from these recent study findings, adding context to the interpretation of results yielded in the dissertation study.

Justification

According to social cognitive theory (Bandura, 1986), behavior is reciprocally affected by environmental factors, as well as cognitive and other personal factors. In a nursing context, job performance represents the nursing behavior, or practice, that directly impacts patient outcomes. No studies were found in the literature in which researchers examined associations between organizational socialization, the nursing work environment, self-efficacy, and travel nurse job performance. Supplemental

staff, a provider category that includes travel nurses, continues to be widely used in the United States (Aiken, Shang, Xue, & Sloane, 2012; Aiken, Xue, Clarke, & Sloane, 2007; KPMG, 2011; Shaffer, 2006) with little promise of reduction in the foreseeable future (KPMG, 2011; May, Bazzoli, & Gerland, 2006). Yet little research has been carried out pertaining to travel nurses. Indeed there is a conspicuous absence of research to guide staffing policies, procedures and paradigms pertaining the effective utility of this unique workforce (Pham, Andrawis, Shore, Fahey, Morlock, & Pronovost, 2011). In an evidence report based on a systematic literature review written for the Agency for Healthcare Research and Quality, Kane and colleagues acknowledged the absence of research about agency staff and have recommended such research to build a knowledge base about how this segment of the workforce can be more effectively incorporated to achieve appropriate hospital staffing that supports safe quality patient care (Kane, et al., 2007). Other researchers have emphasized the importance of effective temporary nurse education and orientation to job assignments, acknowledging the lack of research pertaining to temporary nursing staff (Pham, et al., 2011). This gap in research warrants scientific study because travel nurse job performance constitutes an observable human behavior imposing a direct impact on patient outcomes. The mixed methods study reported in this dissertation addressed this knowledge gap.

Summary

The theory-linked predictor and outcome variables examined in this study about travel nurses are well addressed in the literature. However there remains a

conspicuous paucity of published research specific to travel nurses. Organizational socialization, the nursing work environment, and perceived self-efficacy have not been studied in the context of travel nurses' job integration experiences and corresponding job performance. Nor have researchers aimed to explore how travel nurses perceive onboarding experiences (orientation and integration) at new job assignments to impact their clinical and professional job performance. The aims of the study reported in this dissertation targeted this knowledge gap.

CHAPTER 3

Methods

This chapter is a presentation of the methods and procedures that were used in the study. The research questions and hypotheses are presented. Next, the design, sampling procedure, sampling criteria, sample size, and instrumentation are described, followed by the description of data collection and analytic procedures, concluding with attention to the protection of human subjects.

Research Questions

The following research questions are presented as well as a list of hypotheses that will be tested:

- 1) Do travel nurses with higher self-rated organizational socialization, nursing work environment, and self-efficacy scores yield higher quality job performance?

H 1: Controlling for demographic factors, nurses who rate their experiences more positively as measured on the organizational socialization sub-scales developed by Chao, et al., (1994) will yield higher quality job performance as measured by managers using a standard job performance evaluation scale.

H 2: Controlling for demographic factors, nurses who perceive the nursing work environment more favorably as measured on the PES-NWI scale (Lake, 2002) will yield higher quality job performance as measured by managers using a standard job performance evaluation scale.

H 3: Controlling for demographic factors, nurses with higher levels of self-efficacy as measured on the NGSE scale (Chen et al., 2001) will yield higher

quality job performance as measured by managers using a standard job performance evaluation scale.

H 4: Controlling for demographic factors, the combined effects of organizational socialization scores, nursing work environment scores, and self-efficacy scores will predict job performance ratings as measured by managers using a standard job performance evaluation scale.

- 2) What onboarding experiences do travel nurses perceive to have an impact on their clinical and professional job performance?

Study Design

Mixed methods approach.

A convergent parallel mixed methods design formerly known as triangulation design, was used in this study (Creswell & Plano Clark, 2011). Quantitative and qualitative data were collected and analyzed concurrently. Results generated via each method were interpreted against the backdrop of those yielded from the other. Data produced from each method related to different perspectives of the central topic of interest, facilitating a contextual understanding of this previously unstudied phenomenon as targeted by the research questions and hypotheses. Comparing and contrasting the results of each method broadened the scope of understanding about the phenomenon (Creswell & Plano Clark, 2011). Hence, results from statistical analyses of quantitative data obtained through travel nurses' self reported measurement of job integration factor effects became more meaningful when interpreted against the contextual backdrop of knowledge acquired through the simultaneous study of travel nurses' lived experiences as reported in focus group interviews.

A mixed methods approach is appropriate when one type of data alone is not deemed sufficient to answer the research questions in full context such as in this study, a topic of interest not previously studied. Using a mixed qualitative and quantitative method, each design serves to offset limitations of the other, enhancing rigor and leading to a fuller understanding of the results (Creswell & Plano Clark, 2011; Williamson, 2005). In this study, travel nurses' own perceptions of integration and onboarding experiences expressed in focus group interviews added contextual richness to the results of analyzed survey data collected from the larger sample, pertaining to the relationship between three theoretically linked newcomer integration factors and job performance.

Quantitative design.

A cross-sectional, descriptive correlational design was employed to identify the existence and strength of relationships between factors theoretically linked to newcomer job performance, and the job performance scores of travel nurses. The three predictors in this study were: (a) organizational socialization, (b) the nursing work environment, and (c) perceived self-efficacy. A correlational design is appropriate when, as in this study, the predictors are not or cannot be manipulated (Polit & Beck, 2008). Further, in this study the outcome data, job performance scores, already existed for each case, which is another characteristic of conditions suited for correlational studies (Polit & Beck, 2008). For measurement of the three predictors, data were collected from travel nurse participants via an internet-based self-report survey questionnaire using previously developed and tested instruments. Participants were asked to respond to survey items from the perspective of their most recently completed travel assignment. Fifteen demographic questions were also included in the survey, six of which were designated as

control variables for the statistical analysis. Job performance evaluation data corresponding with each case were generated in a report from the operating system of the staffing firm through which the travel nurses had been placed on their job assignments. Simple and multiple linear regression analyses were used to test the hypotheses for this study.

Qualitative design.

Qualitative data collection and analysis were carried out concurrently with the quantitative stratum. A single-category design option was used for the focus groups, meaning that views were sought from one target audience or participant type: travel nurses (Krueger & Casey, 2000). Qualitative data were analyzed using content analysis, guided by Krippendorff's technique (Krippendorff, 2004). Data consisted of text transcribed verbatim from audio-visual recordings of virtual focus group interviews hosted via Internet technology (web-conference). Focus group interviews were used to generate information about job assignment onboarding experiences of travel nurses, and about how these nurses perceive this process to impact their clinical and professional job performance at each new job assignment.

Qualitative methods are an effective means to generate knowledge about phenomena that are not well studied or understood (Polit & Beck, 2008). From a contextual perspective, qualitative methods serve to as a means to explain situations and occurrences as they relate to a population (Finch & Lewis, in Ritchie, 2003). Knowledge yielded from focus group data analysis can elucidate contextual meaning from the results of the quantitative analyses (McDaniel & Bach, 1994). Indeed, the qualitative layer of this study contributed contextual depth to the quantitative study results as the researcher

aimed to develop an understanding of situations from participants' perspectives and interpretations of their own experiences (Denzin & Lincoln, 2008). The qualitative method serves to generate unique insight, providing guidance to the interpretation of quantitative results through a lens of examination not made possible using quantitative methods alone (Creswell & Plano Clark, 2011; McDaniel & Bach, 1994; Sofaer, 1999). One way to augment knowledge about a topic that has not previously been well studied is through the use of focus groups, where the interaction of interviewees adds a valuable dimension to the data collection, absent from other methods (Kitzinger, 1995). In the focus group milieu, group dynamics factor into the quality of the data that are yielded, as member interactions and responses are called out in a stimulating, yet non-threatening setting (Burns & Grove, 2009; Kitzinger, 1995; Krueger & Casey, 2000; McDaniel & Bach, 1994; Polit & Beck, 2008; Twinn, 2000).

Pilot Study

A pilot study was carried out prior to launching the general study. The purpose of the pilot study was to facilitate evaluation of the quantitative and qualitative recruitment and data collection processes from a participant perspective, for technical effectiveness, time requirements, ease of participation, and clarity of survey and focus group interview questions and instructions. The pilot study was an opportunity for each data collection method to be carried out on a smaller scale prior to launching the general study. Therefore, logistics such as data management, the remuneration process, and the use of dictation software to aid in the transcription of focus group interview texts from audio-visual recordings could also be evaluated.

Written permission was secured from the president of a national healthcare staffing firm granting the researcher, who was affiliated with the firm and familiar with its operating system, access to the firm's client database and electronic travel nurse profiles as necessary for the purpose of carrying out this study. The permission letter can be viewed in Appendix A.

Pilot study recruitment.

After the university Human Subject Research Office approved the study protocol, the researcher generated a report from the staffing firm's database listing active travel nurses. "Active" travel nurses are those who are currently working at a job assignment with the firm, or who have completed a job assignment with the firm during the preceding 52 days. No other sampling criteria were imposed for the pilot study sample, as compared with the general study for which certain sampling criteria were specified. Over a three-day period early in December 2012, the researcher placed phone calls to 42 of the travel nurses on the list, leaving voicemail messages for many. During phone conversations with travel nurses who could be reached or who returned calls, the researcher provided a brief description of the study purpose and methods, including the need for a computer with webcam, microphone and speakers for focus group participation, and explained the difference between the pilot study and the general study. The nurses were verbally invited to participate in the pilot study, and were informed that they would receive a \$10.00 electronic gift card as a token of appreciation for each portion of the pilot study (survey and/or focus group interview) that they completed. A written invitation to participate in the pilot study was distributed via email to the 19 nurses who agreed to receive it. The pilot study invitation letter can be viewed in Appendix B.

Pilot study enrollment.

The pilot study overview and remuneration were described in the email invitation letter. Each letter recipient was invited to click on a link embedded in the letter, triggering the uSurvey website to open, immediately displaying the pilot study consent. uSurvey is a web-based survey administration platform available through the university for use in research studies. After reading the consent, each nurse who agreed to voluntarily participate in the pilot study electronically signed the consent by typing his or her name or email address (the one to which the letter had been sent) into the designated form field, and then clicked the “next” button. The pilot and general study consent forms were designed in such a way that participants consented to participate in either or both of the mixed methods study components, using one electronic consent form hosted on the uSurvey platform. uSurvey is an IBM product, which allowed participant responses including agreement to consent to be exported directly into an SPSS data file, with no manual entry necessary. The pilot study consent can be viewed in Appendix C.

Fourteen nurses logged on and electronically signed the consent for the pilot survey; 12 of these consenting nurses completed a survey. Attempts to reach the two nurses with incomplete surveys for follow up were unsuccessful, leading to the conclusion that they decided to withdraw from the pilot study. Nine of these 14 nurses also consented to be contacted and scheduled for participation in the pilot focus group interview.

Pilot survey participation and feedback.

Clicking the “next” button after electronically signing the pilot study consent triggered the general study consent to open. The general study consent appeared so that

the nurse could evaluate it as part of the pilot process. Instructions and prompts displayed on the survey platform were used to guide participants through the 88-item questionnaire, presented in four sections. The first section included 15 demographic questions, followed by one section each for the predictor related questionnaire items. Survey questionnaire items can be viewed in Appendices D, E, F, and G. At the end of each survey page, the respondent was prompted to click the “next” button to proceed. Survey instructions were strategically situated prior to each set of questionnaire items for guidance. Evaluative questions followed the general survey questions to elicit feedback from the pilot participants regarding the consent and survey process. Fields were also included for free text suggestions and comments. The pilot survey feedback questions can be viewed in Appendix H. As a token of appreciation, each pilot survey participant received a \$10.00 electronic gift card sent by the researcher within three to five days of participation.

Feedback pertaining to the invitation letter was mostly favorable, although one participant indicated that the consent did not open immediately upon clicking the link. Two participants did not agree that the letter did not make them feel coerced; however, the absence of any comments in the free text area to explain or support those responses hinted that perhaps the question, which was stated in reverse format, might have been misinterpreted. Moreover, both of these participants went on to complete their surveys. All participants indicated that they understood the information presented in the consent and that once they clicked the “next” button, the survey opened immediately. Two pilot participants encountered challenges entering the start and end date of their most recently completed assignment. In response to this issue, additional date formats were programmed to broaden the scope of what the system would accept. Date formatting did

not emerge as an issue after the adjustment was made. Several comments conveyed frustration with the repetitiveness of some of the survey section questions, particularly the organizational socialization scale. However, the instrument was designed and tested as such, therefore removing redundant questions was not an option. One participant commented that a “mostly agree” response item was needed for the nurse practice environment scale, and that because the survey lacked this, she selected “prefer not to answer” in response to several items. Again, because the survey was comprised of established, tested instruments, incorporating an additional scored response selection for inclusion in the analysis was not an option. The average self-reported time to complete the survey was 22 minutes, ranging from 10 to 30 minutes.

Pilot focus group participation and feedback.

Nine nurses consented to participate in the pilot focus group interview and were contacted by telephone to coordinate the date and time. A research assistant (RA), a travel nurse completing a practicum for her bachelor’s degree, was retained and educated along with the researcher, to coordinate and moderate all study focus group interviews. The PI for this study, an experienced qualitative researcher who was also the dissertation chair for the researcher, provided the focus group moderator-role education. The RA arrangement was intended to mitigate the potential for perceived coercion by maintaining distance between the researcher, an employee of the staffing firm, and the participants. After navigating time zones, shift work, busy full-time 12-hour work schedules, and travel nurse relocation schedules including her own, the RA received confirmation from five travel nurses who agreed to attend the pilot focus group interview scheduled for December 11, 2012. The coordinating and scheduling process offered an unanticipated

benefit of an ice-breaking technique so that once the interview started, each participant was familiar and at ease with the RA. The RA reminded the participants the day before and/or morning of the scheduled interview via phone calls and text messaging. Of the five who confirmed, four nurses actually attended the interview as scheduled. Attempts to reach the fifth nurse were unsuccessful. Therefore it was interpreted that the RN made a last minute decision not to participate. The RA used a study Focus Group Interview Guide developed by the researcher to moderate the interview (see Appendix I). After the focus group interview guide questions were addressed, the RA presented 10 evaluative questions developed for use in the pilot study to elicit feedback about the structure, format and clarity of the focus group interview coordination process, web-conference meeting process, and interview questions. The focus group interview evaluative feedback questions can be viewed in Appendix J.

Several of the pilot participants expressed their appreciation for the opportunity to meet as a group of professionals, and to be asked about their views pertaining to job assignment onboarding. A notion emerged that perhaps these nurses realized a fresh awareness of their value as a result of this experience. One participant communicated that he was glad to have received the morning text message reminder from the RA about the scheduled interview. The RA discovered that text messaging was a far more effective means to reach the travel nurses than telephone/cell phone calls or email messages. Participants indicated that the email instructions for joining the web conference were not difficult to follow. Although some participants experienced technical challenges while joining the web-conference, once they succeeded in accessing the meeting they reported that the system worked well. One nurse used a USB device for Internet connectivity,

which may have accounted for the 15-minute delay before she was able to enter the meeting. Another nurse attempted to join via her iPhone and was unable to secure a video image, but was able to participate by audio.

In response to the pilot evaluation questions presented by the RA at the conclusion of the focus group interview, pilot participants indicated that neither the web-conference technology nor the style of the moderator caused them to feel inhibited to participate. Pertaining to the technology used, one pilot participant commented that she “liked it...it makes it easy”. Participants agreed that the length of time required for the interview was reasonable. The pilot focus group interview, including the evaluation questions, took approximately 40 minutes. As a token of appreciation, each pilot focus group interview study participant received a \$10.00 electronic gift card sent by the researcher within three business days of participating.

Several weeks prior to the date of the scheduled pilot focus group interview, the researcher discovered a potential for the selected web-conference service to sporadically distribute an unsolicited, automated follow up email to participants at the conclusion of a meeting, inviting them to re-enter the virtual meeting room. By doing this, the participants would be granted access to view the recording, which they would also be able to download. This potential posed an unacceptable risk for breaching focus group interview participants’ privacy and confidentiality. Prior to the pilot focus group interview, the researcher consulted with a senior software engineer at the web conference service, and after numerous system tests to replicate the occurrence it was determined that this phenomenon was an anomaly previously unknown to the company. The researcher was informed that the issue would be corrected during the next software

update, which would not be released for a year or more. To prevent the possibility of this unwanted email distribution, the software engineer explained a specified “work around” method to the researcher, who then piloted the process with the RA. This method was employed for the pilot focus group interview and was successful in preventing the unsolicited follow up emails from being distributed. However, the researcher deemed the lingering potential, however slight, for the email distribution to occur, not worth the risk in the upcoming general study. Therefore, other web conferencing services were explored and a different service was selected that could securely host the general study focus group interviews.

Pilot study summary.

Feedback received from pilot participants of both the survey and the focus group interview yielded useful insight applicable to carrying out the general study. Several adjustments were made, based on pilot participant feedback and researcher experience gained from the pilot study, as described above.

Sampling Criteria

Participant inclusion criteria for this study consisted of: (a) travel nurses who were registered nurses listed in the client database of a specific national healthcare staffing firm, (b) who had completed at least two travel job assignments in hospital settings within the past 18 months, (c) one of which was completed on contract with the staffing firm referred to in criterion (a), (d) that ended within three months prior to the date of participation, and (e) for which a performance evaluation was on file with the firm.

The rationale for these inclusion criteria was that the best-fit participants had completed enough travel work assignments to have acquired sufficient travel job assignment integration experience, and had completed an assignment recently enough to support adequate recall of the latest experience while responding to the survey. Because travel nurses may be registered simultaneously with more than one staffing firm, inclusion criteria stipulated that the most recently completed assignment must have been contracted with the staffing firm referred to in criterion (a) so that the corresponding performance evaluation data for that assignment could be retrieved as outcome data for the case.

One exclusion criterion was nurses who were identified in the firm's system as "non-subscribers" to company email correspondence, which meant they did not wish to receive email from the company. Pilot participants were also not included in the general study because they had previous exposure to the data collection process as it was being finalized for the general study.

Sample Size

Survey sample size.

An *a priori* power analysis was performed using G*Power3 software (Faul, Erdfelder, Buchner, & Lang, 2009). Power is the capability of the design to capture significant relationships that exist between variables, otherwise stated, the capacity to reject the null hypothesis when it is in fact not true, thereby avoiding a Type II error (Burns & Grove, 2009; Polit & Beck, 2008). The power analysis was performed to determine the appropriate sample size for this study design and to mitigate the risk of a Type II error, which is to regard the null hypothesis as true when it is in fact, false. The

significance level, known as alpha and designated as p , represents the probability of making a Type I error which would be to reject the null hypothesis when it is in fact, true (Hazard Munro, 2005). The degree or strength of the impact that the independent variable has on the dependent variable is known as the effect size. The estimated effect size guides researchers in determining how much risk they are willing to take to make a Type I or a Type II error.

For this study, a power analysis was specified to determine the appropriate sample size for a regression analysis using three predictors while controlling for six demographic covariates. Using G*Power 3 software, the power analysis for this study indicated that a sample of 78 survey participants would be necessary for a moderate effect of .15, alpha of .05, and power of .80, testing three predictors while controlling for six demographic factors. When the data set reached 84 surveys, regression assumptions were examined and correlation testing was performed in a preliminary analysis to deem whether or not the demographics would be controlled for in the analysis.

The literature was reviewed to gain additional insight toward an appropriate sample size to test the hypotheses in this study. In a study about the relationship among the independent variables of burnout, job satisfaction, the intent to leave, and the outcome variable of perceived quality of care among travel nurses, a similar sample from the same population of interest as in this study was surveyed (Faller, Gates, Georges, & Connelly, 2011). The sample of travel nurses surveyed by these researchers was recruited with a 28.9% response rate, from the database of a large healthcare staffing firm in California ($N = 976$). The researchers used a power analysis to determine that a sample size of 161 was

necessary in order to achieve a moderate effect size, an alpha of .05, and a power of .80, testing 15 independent variables (Faller, 2010; Faller et al., 2011).

The literature offered *a priori* logic that there would be a strong relationship among the independent and dependent variables in this dissertation study, which could justify a smaller sample size than what was determined by the power analysis.

Nonetheless, the largest sample possible was aimed for, as there was no additional cost beyond remuneration, or participant risk incurred by doing so. Smaller effects may be captured with a larger sample (Burns & Grove, 2009).

In the early planning stages for this study, the researcher was interested in estimating the feasibility and potential to access an adequate number of eligible invitees. To estimate a count, a list of active travel nurses was generated from the staffing firm's operating system on June 25, 2012. The list was specified to include only nurses that had completed at least two job assignments within the past 18 months, one of which had been completed within the past three months, for which a performance evaluation was on file. The report yielded 614 travel nurses who met eligibility criteria. With this number of eligible invitees, a response rate as low as 13% would yield a sufficient sample size in accordance with the larger power analysis determination of 78.

Focus group sample size.

The focus group interview sample in this study ($n = 15$) was a subset of the larger survey sample ($N = 107$). Although participation in the survey was not a prerequisite to participate in a focus group interview, each nurse who participated in a focus group interview had also completed a study survey. The accumulation of the quantitative and qualitative samples occurred simultaneously during the data collection phase. An

appropriate number of participants per focus group interview has been suggested as six to 12 for discussion of topics such as the topic of interest in this study, that are not charged with highly sensitive, emotional content (Polit & Beck, 2008). Although Krueger & Casey (2000) and McDaniel & Bach (1994) have suggested groups of four to 12 participants, Polit & Beck (2008) maintain that four or fewer participants in a focus group may limit the desired level of interaction, creating an atmosphere in which participants may not feel adequately open to share their perceptions. Burns & Grove (2009) recommend six to 10 participants per focus group in order to stimulate adequate discussion.

Similarly, guidelines set out by the Robert Wood Johnson Foundation (2008) indicate that six to 10 participants per group is a generally accepted range, but the researcher may identify reasons to use larger or smaller group sizes. For example, although Finch & Lewis (2003) indicate six to eight as the generally accepted range of participants for a focus group, they acknowledge that groups composed of professionals tend to contribute more freely in a focus group interview, so a smaller group may be preferable in order to accommodate this feedback. Consistent with others, these scholars agree that a focus group of fewer than four participants loses the quality of being a group. However, another researcher who used asynchronous email FGIs to collect qualitative data maintains that in the virtual milieu the size of a focus group does not necessarily determine the level of participation (Murray, 1997). No discussion of web-conference focus group size was located in the literature, which is worth mentioning because the process of hosting and participating via web conference poses different sorts of challenges and benefits unique to the virtual setting. Participants may sense more control

in a virtual setting, where they are free to opt at will to remove their video image from the group's view, mute their microphone, or decide mid-interview to withdraw completely from the study with a click of a computer mouse or button, rather than having to walk out of a face-to-face meeting. When presenting the ground rules for the web conference focus group interviews the moderator encouraged participants to contribute their views generously, while emphasizing the need for one person to speak at a time. In the midst of describing the ground rules the moderator promoted a welcoming virtual environment where participants would not be inhibited to share their views. Commonly used ice-breaking social activities such as offering snacks and beverages while engaging in live face-to-face small talk prior to initiating the interview cannot be accommodated in this virtual setting. However, the pilot focus group interview enlightened us to the benefit of the coordination and scheduling contact time between the RA and each participant as an effective ice-breaking phase. Hence, as each focus group agenda began with a moderator-guided introduction phase between participants, the RA was by then familiar to each participant.

The appropriate number of groups to interview is contingent upon the nature of the population studied and type of information being sought (RWJF, 2008). Nevertheless, several experts have tried to provide a range for investigators to follow. Recommended ranges have been inconsistent. For example, some experts suggest six to 50 groups as a general range for the number of focus groups to host, depending on the purpose of the study (Burns & Grove, 2009; Kitzinger, 1995). Carlsen & Glenton (2011) point out that there has been more prescription in the literature regarding the number of participants per group than about the number of focus groups to be hosted. These scholars offer guidance

on the determination of how many focus groups to be interviewed similar to RWJF (2008) in that the nature or sensitivity of the research topic and the characteristics of the participant sample steer that decision (Carlsen & Glenton, 2011), and that textbooks commonly recommend two to five groups. One common endpoint in determining the appropriate number of focus groups for a study is known as the point of saturation, as referred to by Krueger & Casey (2000), the point at which no new information, insight, or ideas are being generated. Krueger & Casey (2000) recommend three to four focus groups for any specific type of participant being interviewed, also noting that additional groups should be formed and interviewed if a point of saturation has not been reached after three to four focus group interviews. For this study, the researcher aimed for a minimum of three focus groups composed of six to eight participants.

In this study, the population of interest accounts for a share of the general US nursing population. The literature was resourced as a guide to estimate the appropriate number of focus groups. The comparatively modest-sized theoretical population of interest, the low degree of complexity in the research question, and the professional worker status of the participants were factored into the projection. Further, the influence of certain logistic factors unique to this population of interest could not be disregarded. The busy, mobile lifestyle of travel nurses dispersed and moving across a variety of time zones, working full-time 12 hour schedules, spanning various shiftwork and on-call arrangements hampered recruitment of respondents who were willing and able to commit to participate in a focus group interview. Once they agreed to participate, the window of availability for these nurses was narrow. Their complex work lifestyles, as just described, impacted the ability of the nurses to maintain their commitments to participate as the

moderator continued to coordinate with other nurses to form an appropriate sized focus group. The survey posed far fewer challenges because it was accessible around the clock at the convenience of the participants. Guidance from the literature, characteristics and work lifestyles of the population of interest, practical reasoning, and the uniqueness of the interview setting, were factored into the determination that three focus group interviews of six to eight participants would support the aim of the qualitative arm of this study. In likeness to the sample size plan for the quantitative portion of this study, if the number of travel nurses expressing willingness and availability to participate in a focus group interview was to exceed three groups of six to eight interviewees and the researcher identified a need for more group feedback, additional focus group interviews would be coordinated. No additional risk or costs beyond remuneration would be incurred by doing so.

Sampling Procedure

A convenience sample was used in this study, limited to active travel nurses profiled in the client database of a national healthcare staffing firm, and who met the criteria previously described. Convenience sampling is a method of non-probability sampling, meaning that not all individuals within the travel nurse population at large had an equal chance to participate in this study, thereby limiting the external validity, or generalizability, of the study results (Feild, Pruchno, Bewley, Lemay, & Levinsky, 2006). Inaccessibility to healthcare staffing firms' proprietary travel nurse client databases may be one reason why little published research exists specific to this segment of the RN workforce. Pettus-Davis and colleagues (2011), differentiated between accessible and theoretical populations. While the universe of individuals in the population of interest is

known as the theoretical population, those who can actually be selected by the researcher comprise the accessible population (Pettus-Davis, Grady, Cuddeback, & Scheyett, 2011). The staffing firm from which this study sample was obtained is the second largest in the country (Begley-Groth, 2011). The researcher was granted direct access to the firm's travel nurse client database for the purpose of carrying out this study because the firm leadership knew the researcher who had been a corporate employee, and who remained affiliated with the firm for the purpose of carrying out this study. Travel nurses commonly maintain profiles with more than one staffing firm in order to broaden their spectrum of available job opportunities. The existence of this obscure boundary means that a portion of travel nurses recruited from the accessible population at one staffing firm may be simultaneously listed in the database(s) of one or more other staffing firms. This common overlap in staffing firm databases combined with the large database scope of the collaborating firm for this study enhanced the potential to capture a more representative sample of the theoretical US travel nurse population.

Another potential limitation of convenience sampling occurs when it is not determined if or what differences exist between invitees who choose to participate and those who do not (Pettus-Davis, et al., 2011). Data were available and it was possible for the researcher to access and compare demographic characteristics of study invitees who agreed to participate with those who did not, as a means to identify the existence (or not) of nonresponse bias. However, the ethical implications associated with taking the liberty to access and make use of this information precluded this as an option, as did the Human Subjects Research Office of the university when consulted by the researcher. As such, no comparison was made using these data. However, the staffing firm maintains aggregate

demographic data pertaining to its RN travel nurse client population, which the researcher was granted access to for use as a base for comparison of overall demographic characteristics with those of sample in this study. The sampling procedure used in this study for the survey, as well as the sampling method and procedure used for the focus group interviews are described in the following paragraphs.

In January 2013, the researcher obtained a report generated from the staffing firm operating system specified to list only travel nurses that met inclusion criteria, as previously described. The report listed 856 travel nurses. Names of any pilot study participants that appeared on the list were located and deleted as well as names of “non-subscriber” travel nurses, previously defined in the sampling criteria section. Subsequent to this data filtering process, the number of eligible invitees was 742. One month later, the researcher repeated this process to capture additional travel nurses who had since completed a job assignment and become eligible to participate in the study. This effort yielded 249 unique additional eligible invitees. Hence a total of 991 travel nurses met inclusion criteria and were invited to participate in the study.

Systematic sampling is a method of convenience sampling that involves selection of every k^{th} unit to mitigate the risk of sampling bias (Krippendorff, 2004; Polit & Beck, 2008). The method used to secure the sample of travel nurses for focus group interviews in this study was modeled on systematic sampling principles.

Incoming consents and data were monitored daily by the researcher during the data collection phase. Some of the nurses who consented to both survey and a focus group interview did not complete the survey. Nonetheless, completing a survey questionnaire was not a prerequisite to participate in a focus group interview for this

study. All travel nurses who signed the electronic consent for focus group participation ($n = 76$) were deemed eligible for selection to participate in an interview regardless of survey completion status.

A contact list was maintained by the researcher to include names, telephone numbers and email addresses of travel nurses who consented to participate in a focus group interview. This password-protected list was updated regularly by the researcher and forwarded electronically to the RA on a recurring basis as consents were received. These nurses were included in the systematic sampling process used by the RA for scheduling focus group interviews. The RA called every third nurse on the list, often having to leave a voicemail message. The RA continued to cycle through the expanding list, starting over when she reached the end, thereby reaching out to nurses who had not previously been contacted. Travel nurses' schedules and availability change rapidly. Therefore, to mitigate the risk of study dropouts, the RA did not stop making calls while waiting for callbacks. Repeat calls and emails were used to reach out to non-responders. As noted earlier, the diversity of time zones, shift work, busy 12-hour schedules and relocation as often as every 13 weeks, creates a formidable challenge when scheduling virtual group interviews with travel nurses. Hence, it was important for the RA to take advantage of opportunities to schedule nurses for focus group interviews as soon as they responded to her calls, since their availability could change on short notice.

Measures

A description is provided in this section of the demographic data collected, and the instruments used to measure the three predictors and the outcome variable. Fifteen demographic questions comprised the first section of survey items. Ten related to the

participant, three related to the hospital most recently worked at, and two items requested the approximate start and end date of the most recently completed job assignment. All 15 demographic questions can be viewed in Appendix G. Six demographic factors were designated as controls in the analysis: three of these were participant-related and three were hospital-related. Demographic factors are described below, followed by descriptions of the instruments used to measure the predictors and the outcome variable.

Demographics, participant.

Participant demographic information collected in the survey included: (a) age, (b) highest formal academic nursing degree earned, (c) number of years experience as an RN, (d) country where pre-licensure nursing education was received, (e) race, (f) highest formal degree attained outside of nursing, (g) academic degree upon initial licensure, (h) gender, (i) population district type where last assignment was worked, and (j) nursing specialty. These demographics were used to describe the characteristics of the study sample, which could be compared with other travel nurse samples or groups. Of the 10 participant demographics, age, number of years experience as an RN, and highest academic nursing degree, were designated as controls for the analysis.

For this study, it made sense to control for age because there is a wide generational range spanning the current RN workforce, with many baby boomer RNs approaching retirement as new, younger RNs are entering the profession (Buerhaus, Staiger & Auerbach, 2004). Widely published generational research has drawn attention to age-related differences in work ethic, beliefs about the role of work, job expectations and career goals. Therefore these differences should be controlled for. Age has been controlled for in previous studies (AbuAlRub, 2004; Bae, Mark, & Fried, 2010).

Years of nursing experience were controlled for because the quality of job performance as perceived by the nurse manager may be influenced by the nurse's level of experience. Nursing experience has been controlled for in previous studies (AbuAlRub, 2004; Aiken, Clarke, Cheung, Sloane, & Silber, 2003).

Nurses' level of education has been a topic of interest to researchers. Study results have shown a link between a greater proportion of baccalaureate prepared RNs on a nursing unit and better patient outcomes (Aiken, et al., 2003). Nursing education has been controlled for in previous studies (AbuAlRub, 2004; Aiken, Shang, Xue, & Sloane, 2012). The rationale for including the highest academic nursing degree attained as a demographic variable to be controlled for instead of the entry-level nursing degree hinges on the cross-sectional design of this study. Travel nurse participants may have entered their nursing careers with a diploma or associate degree, and subsequently furthered their academic nursing education to a Bachelor's degree or beyond. However, the level of academic nursing education achieved by the travel nurse at the time of the job assignment of interest for the survey is the level of education that would have influenced the practice behavior and job integration perceptions of the travel nurse pertaining to that particular assignment, at that point in time. Nonetheless, a future longitudinal study to compare travel nurses' job performance outcomes based on career and academic transitions over time may prove to be another promising source of new knowledge and contextual substance about this minutely studied population of interest.

Researchers studied the impact of staffing, skill mix, experience and education on patient outcomes using longitudinal methods. Based on their results over time, these researchers found increasing levels of BSN educated RNs was significantly associated

with the improvement of patient outcomes. Their results did not show a comparative impact on patient outcomes based on years of experience or the other tested variables (Kutney-Lee, et al., 2013).

Demographics, hospital.

Three hospital-related demographics were designated as controls for the analysis. These included: (a) teaching or non-teaching hospital, where teaching refers to a hospital in which training of medical students and resident physicians occurs; (b) American Nurses Credentialing Center (ANCC) Magnet® designated (or not); and (c) the number of licensed beds. These hospital demographic factors represent organizational characteristics that contributed to differentiating healthcare work environments.

Organizational socialization measure.

Chao and colleagues (1994) published seminal research in which six dimensions of organizational socialization were conceptually and operationally defined, and then tested in a longitudinal study over a five-year period. These dimensions, as described more fully in Chapter Two are: (a) History, (b) Language, (c) Politics, (d) People, (e) Organizational Goals and Values, and (f) Performance Proficiency. The 34-item organizational socialization scale developed from these six dimensions was used in this study as the means to measure participants' levels of socialization (Chao et al., 1994). There are five to seven survey questions per dimension, some of which are reverse scored. The survey questions are mixed within the survey as opposed to being presented in the form of six distinct dimensional subscales. Some examples of items included in this scale are: (a) I understood what all the duties of my job entailed, (b) I knew who most of the influential people were in the organization, and (c) I did not consider any of

my co-workers as my friends. Responses are selected from and scored on a 5-point Likert scale (strongly disagree = 0, disagree somewhat = 1, neutral = 2, agree somewhat = 3, strongly agree = 4). Individual scores are computed as an average for each dimension and the sum of the six average dimensional scores is the overall organizational socialization score per participant.

In these researchers' initial research, the six subscales corresponding with the six dimensions of organizational socialization were each tested for internal consistency reliability using Cronbach's coefficient alpha; all were found to be acceptable at $\geq .78$. (Chao et al., 1994). Cronbach's alpha is used to measure the reliability of a scale's internal consistency. Internal consistency reliability is necessary to ensure that the items on a scale are each measuring the same phenomenon. The optimal range for Cronbach's alpha is .80 - .90 (Burns & Grove, 2009; Polit & Beck, 2008). Cronbach's alpha less than .80 indicates a degree of inconsistency among the scale items toward the measurement of the phenomenon, with lower values indicating less reliability of the scale. A result of 1.0 would be generated if all items in the scale were measuring the very same aspect of the phenomenon, indicating a high level of redundancy among the scale items. A scale with a Cronbach's alpha of .90 - 1.0 consists of items that all measure the same phenomenon but with less distinction between its nuances than a scale with a Cronbach's alpha of .80 - .90 (Burns & Grove, 2009).

The literature yields studies in which Chao et al.'s (1994) organizational socialization scale is utilized for the measurement of socialization. For example, researchers examined the association between mentoring, organizational socialization, role stress, and burnout among hospital employees (Thomas & Lankau, 2009). The study

is described in more detail in Chapter Two. Cronbach's alpha for Chao et al.'s (1994) 34-item scale, which was used to measure organizational socialization in the study, was .87.

Allen, McManus & Russell (1999) utilized Chao et al.'s (1994) organizational socialization scale to examine socialization experiences of 64 first year MBA students. The study is also described more thoroughly in Chapter Two. Only four of the scale's six dimensions were utilized: six items of the politics dimension (alpha = .85); six items from the people dimension (alpha = .78); seven items from the organizational goals and values dimensions (alpha = .83); and five items from the performance proficiency dimension (alpha = .75).

In another study using the scale developed by Chao et al., (1994) researchers were interested in the impact of a specific 3-hour training orientation program on socialization among newly hired employees (Klein & Weaver, 2000). Chao et al.'s (1994) scale was used to measure the level of socialization before and after completing the program. These researchers acknowledged the socialization phase for newcomers as an intense period in which the organization is more likely to influence the newcomer than would be the case later on. Of the 34 items on the scale, 28 were used in this study because the researchers were interested only in assessing organizational-level socialization and six of the scale items measured the construct at a job or unit level. The sample consisted of 116 employees newly hired to jobs in a variety of occupational positions including professional, clerical, technical, administrative, and service/maintenance positions. Fifty-five of the participants voluntarily attended the new training program. On two occasions, all participants completed a survey that incorporated the organizational socialization items. Time one occurred within six months of starting the new job and time two occurred

10 weeks later. The training program was hosted between two and six weeks following the initial survey. Cronbach's alpha for the six dimensions of the scale ranged from .63 to .86. Data were analyzed using ANCOVA to examine main effects of the training program on each dimension of the scale. The researchers found significant effects on three of the dimensions: history ($\eta^2 = .25, p < .01$), goals/values ($\eta^2 = .06, p < .05$), and the people dimension ($\eta^2 = .14, p < .01$), which was in agreement with their hypothesis that employees who attended the program would have higher organizational scores than those who did not.

Wesson & Gogus (2005) carried out a study to determine how the use of computer-based orientation programs as compared with traditional face-to-face lecture style orientation programs affected socialization among 261 newcomers to jobs at a large technology-based consulting firm. These orientation researchers credit the Chao et al. (1994) scale's dimensions as being particularly appropriate for measuring the effects of orientation programs on socialization, which is why they selected it. Newly hired employees typically had to be flown in to the main headquarters to receive a week long orientation, so the company decided to develop a two to three day computer based program to reduce travel time and expense. Three groups of employees were studied: Group One employees ($N = 92$) were hired within the past four months and received traditional orientation; Group Two ($N = 91$) and Group Three ($N = 78$) consisted of employees that were hired within seven months after Group One. Group Two employees received the same traditional orientation as Group One. Group Three received the new computer-based orientation. All participants completed Internet-based surveys at two weeks, two months and four months on the job. A demographic survey was administered

first, followed by the socialization scale, and finally, a job satisfaction survey.

Controlling for age, gender and rank, ANCOVA was used to analyze the data. The results showed that Group Three newcomers, those who received computer-based orientation, had significantly lower socialization scores than those who attended the traditional program. This main effect was observed in three dimensions of the scale: (a) organizational goals and values ($\eta^2 = .07, p < .01$), (b) politics ($\eta^2 = .17, p < .01$), and (c) people ($\eta^2 = .13, p < .01$). These findings were similar on two counts, goals/values and people, to the findings of Klein & Weaver (2000).

Regrettably, no studies were located in which this scale was used to measure organizational socialization among nursing populations. However the scale is favored among orientation researchers, which is in alignment with how it was used in the current study. Chao et al. (1994) have been credited for having carried out the most in depth study of socialization (Saks & Ashforth, 1997) bolstering the foundation of the scale, which also influenced the decision to use the scale in this study. From a different perspective, although Bauer and colleagues acknowledge that this scale has been studied more thoroughly than other measures of socialization, they expressed concern that relatively few studies have used the six-dimension scale in its entirety (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007). Chao et al.'s (1994) organizational socialization scale can be viewed in Appendix D.

Nurse work environment measure.

The Practice Environment Scale of the Nursing Work Index (PES-NWI), (Lake, 2002) was selected to measure the nursing work environment in this study for reasons including: (a) items are designed to rate a variety of nursing work environment

components based on the standard of Magnet® hospital characteristics, (b) it has been used in numerous nursing studies globally (Warshawsky & Sullivan Havens, 2011), (c) it has been endorsed by The Joint Commission and the National Quality Forum (National Quality Forum, 2012), and (d) it is reasonable in length at 31 questions. The PES-NWI has five subscales, ranging in context from a broad hospital level to a nursing unit level, are categorized as: (a) Nurse Participation in Hospital Affairs; (b) Nursing Foundations for Quality of Care; (c) Nurse Manager Ability, Leadership, and Support of Nurses; (d) Staffing and Resources Adequate; and (e) Collegial Nurse-Physician Relations. The practice environment characteristics covered in these subscales is appropriate for travel nurses to feasibly evaluate the quality of nursing practice environments at job assignments. In this study, the composite scale score was used as the data point for each nurse.

Nursing work environment measurement scales that were considered, but not selected for use in this study included:

- a) The Nursing Cultural Assessment Tool (NUCAT-3) is based on 50 cultural behaviors (Van Ess Coeling & Simms, 1993). There are two scales for each item, to be rated by participants (how the environment should be and how it is perceived by the participant). A measurement scale with two parallel ratings was determined to be potentially confusing to participants, and not congruent with the purpose of this study.
- b) The Essentials of Magnetism Scale (Kramer & Schmalenberg, 2004) was developed purposefully as a benchmarking tool for hospitals to assess their readiness to embark on the Magnet® journey. It is an eight-subscale, 57-item

scale with alphas ranging from .69 to .94. Most of the subscales in this instrument are represented in the PES-NWI. Although the PEW-NWI does not specifically address culture, it was more appropriate in length than the Essentials of Magnetism Scale to include in the survey for this study.

- c) The National Database of Nursing Quality Indicators Adapted Index of Work Satisfaction (NDNQi-Adapted IWS) is intended for evaluation of the nursing work environment from a job satisfaction perspective (Boyle, Miller, Gajewski, Hart, & Dunton, 2006). Consisting of 71 items categorized into 11 subscales, it is a lengthy survey, adapted from other instruments such as the Index of Work Satisfaction, the Nursing Work Index-Revised and the Index of Job Satisfaction.

The Practice Environment Scale of the Nursing Work Index was developed by Lake (2002) from the Nursing Work Index (NWI). The 65-item NWI survey emerged in the early 1980s from a study carried out by the American Academy of Nursing, and was founded on characteristics of the original magnet hospitals. The PES-NWI is a 31-item measurement scale that was developed through five stages into five subscales of three to ten items in each, and tested for validity and reliability (Lake, 2002). Some examples of items included in this scale are: (a) A nurse manager who is a good manager and leader, (b) Working with nurses who are clinically competent, and (c) Supervisors use mistakes as learning opportunities, not criticism. Items are scored on a Likert scale from one (strongly agree) to four (strongly disagree). No reverse-scored items are built into this measure, however the scoring system was reversed in the analysis for this study so that a higher sum score represented a more favorable nurse practice environment.

The PES-NWI scale was developed for application in linking nursing work environment factors to nurse outcomes and to patient outcomes. Five stages of development transpired, including: (a) selection of NWI survey items to include in the PES-NWI, (b) factor analysis to establish subscale categories, (c) evaluating reliability using Cronbach's alpha, (d) comparing scale scores of nurses working at Magnet® hospitals with those working at non-magnet hospitals (which established construct validity), and (e) a cluster analysis to determine the appropriate fit of items to each subscale.

Scale development stage four involved testing between two sets of nurses. The first sample of nurses ($N = 2299$), were employed in 16 Magnet® hospitals and eight similar but non-magnet hospitals. In the second sample ($N = 11,636$), nurses were employed in Pennsylvania hospitals. Scores for nurses from Magnet® hospitals were significantly higher than those from non-magnet hospitals ($p < .001$), which was anticipated, thus supported the construct validity of the scale. Cronbach's alpha was $\geq .80$ for four of the subscales. The Collegial Nurse-Physician Relations (the only three-item subscale) had a lower alpha of .71. Use of the overall composite score was tested and supported by a factor-loading computation as a general measurement of the nurse practice environment. The PES-NWI scale can be viewed in Appendix E.

Aiken and colleagues examined the effects of the nursing work environment on nurse and patient outcomes (Aiken, Clark, Sloane, Lake, & Cheney, 2008). In this large, widely cited study, sample sizes of 10,184 nurses, 232,342 surgical patients and 168 hospitals in Pennsylvania were used.

Data were obtained through the American Hospital Association Annual Survey and the Pennsylvania Department of Health Survey for hospital characteristics as control variables. Nurses were surveyed to measure job satisfaction, burnout and intent to leave jobs. The nurse practice environment was measured by the PES-NWI (Lake, 2002). The Maslach Burnout Inventory (Maslach & Jackson, 1986) was used to measure nurse burnout scores (Cronbach's alpha for this scale was .92). Data from hospital level PES-NWI subscales were used to categorize hospitals as "better", "mixed", or "poor" care environments. The three subscales used were: (a) nursing foundations for quality of care (Cronbach's alpha .74); (b) nurse manager ability, leadership, and support (Cronbach's alpha .82); and (c) collegial nurse-physician relations (Cronbach's alpha .80).

Hospitals rated as poor care environments were observed to have lower nurse staffing. Results for poor ($p = .02$) and mixed ($p = .03$) rated environments showed significant differences in staffing levels from the best work environments. The proportion of baccalaureate prepared nurses was different between hospital categories but not significant ($p = .10$). Nurses working in hospitals rated as "better" were 42 - 69% less likely to report poor care quality in their hospitals. Mortality and failure to rescue outcomes were compared with nursing education, care environment and staffing levels. All three independent variables were significantly related to the two patient outcomes, both singularly ($p < .01$ for all) and jointly ($p < .01$ to $p < .10$ for all). The authors indicate this was the first study to empirically link the PES-NWI scale with patient outcomes.

The National Quality Forum (NQF) and The Joint Commission have endorsed the PES-NWI since 2009 (National Quality Forum, 2012). The PES-NWI scale has been

widely used in research. Warshawsky & Sullivan Havens (2011) reviewed the literature aiming to determine the global extent to which the PES-NWI has been used. Among 37 studies identified in the literature with publication dates ranging from 2002 to 2010, across 23 peer-reviewed US and international journals, these researchers noted an increasing frequency in the use of the PES-NWI. Studies incorporated the PES-NWI with sample sizes as large as 72,889 nurses, among various clinical settings, including government settings. Studies incorporating the use of the PES-NWI were carried out in a variety of countries including US, Canada, Australia, Iceland and Taiwan. The instrument has been translated to three non-English languages for international use: (a) Chinese, (b) French, and (c) Icelandic. The authors observed that item-wording modification was commonly undertaken as a means to improve clarity of the question in the context of the target population. In some of the studies, certain items or subscales were eliminated from the survey due to their lack of relevance to the specific population being surveyed.

Self-efficacy measure.

Perceived self-efficacy was measured in this study using the eight-item, New General Self-Efficacy (NGSE) scale (Chen, Gully, & Eden, 2001). Some examples of items included in this scale are: (a) When facing difficult tasks, I am certain that I will accomplish them; (b) I will be able to successfully overcome many challenges; and (c) Even when things are tough, I can perform quite well. Respondents rate each item on a Likert-style scale ranging from (1) “strongly disagree” to (5) “strongly agree”. The scale was developed and refined as a more concise and broadly applicable scale as compared with the widely used 17-item General Self-Efficacy (SGSE) scale (Sherer, Madux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982). The intent was to produce more

reliable measurement with a broader scope, which was more closely aligned with the construct of general self-efficacy (GSE).

Chen and colleagues (2001) noted that theorists were not in agreement with the SGSE scale's distinction between the measurement of self-efficacy and self-esteem or its capacity to predict behavior across situations. The scope of self-efficacy as conceptualized for the SGSE scale does not span across situations, but operates within a more task-oriented framework, which constrains its utility. Chen et al. (2001) argued that although the SGSE had strength in reliability ($\alpha = .76$ to $.89$), its test-retest reliability was not strong ($r = .23$) and it did not convincingly distinguish between the measurement of self-esteem and self-efficacy. Finally, Chen et al. (2001) raised concerns about internal consistency reliability stemming from the inclusion of items in the SGSE scale that measure behavioral consequences, which are not indicators of self-efficacy.

Chen et al. (2001) developed a scale that they tested once it appeared to distinguish between self-esteem and self-efficacy, predicted behavior across situations, and showed promise of validity. These researchers carried out three studies to compare the validity of the NGSE with that of the SGSE. The first study was for development of the initial seven-item NGSE scale, which expanded to 14 items after review. The scale was tested on undergraduate students ($N = 316$). The analysis led to further revisions resulting in an eight-item scale. In the second study the scale was tested with undergraduates in a two-time survey administered before and after an exam ($N = 261-323$). By mingling self-esteem items within the survey the researchers aimed to determine whether the SGSE and the NGSE differentiated between self-esteem and self-efficacy. Additional comparative tests between SGSE and NGSE were also carried out. Internal

consistency reliability was high for the NGSE ($\alpha = .86$ to $.90$) and for the SGSE ($\alpha = .88$ to $.91$) at both times. Both the NGSE scale and the SGSE scale tested favorably for test-retest stability as well ($r = .67$ and $.74$, respectively). However, the SGSE continued as in past studies to exhibit multidimensional properties, whereas the NSGE was uni-dimensional, or distinctly focused on the construct of interest. Finally, in the third study, the researchers set out to test a Hebrew version of each scale with managers enrolled in an MBA program at an Israeli university ($N = 54$). The internal consistency alpha was favorable for both the NGSE and the SGSE at time one ($.85$ and $.88$ respectively) and time two ($.86$ and $.91$). They both also rated well in test-retest analyses. However, in agreement with the previous results, the NGSE outweighed the SGSE for dimensionality, as well as predictability and parsimony (eight items as compared with 17-items in the SGSE).

In a comparison of three GSE measures, Scherbaum and colleagues used item response theory to examine the measurement properties using four types of item-response theory (IRT) based analyses: (a) psychometric item analysis; (b) modified parallel analysis; (c) parameter estimation, information functions and standard error measurement; and (d) tests of IRT model fit (Scherbaum, Cohen-Charash, & Kern, 2006). The three scales included the 10-item General Perceived Self-Efficacy Scale (Schwarzer & Jerusalem, 1995), the 17-item General Self-Efficacy Scale developed by Sherer et al., (1982), and the eight-item New General Self-Efficacy Scale developed by Chen et al., (2001). Schwarzer & Jerusalem (1995) developed their original scale in Germany and it was later translated to 26 different languages, hence its use worldwide, notwithstanding some apparent reliability shortcomings highlighted in the literature (see for example,

Chen et al., 2001). Scherbaum and colleagues concluded that such concerns about reliability might be overemphasized, according to the IRT results for all three scales. There were small differences between each scale when tested, however the researchers noted that Chen et al.'s (2001) NGSE scale performed superiorly in three areas: (a) item discrimination, (b) item information, and (c) efficiency of test information functions. Psychometrically, all three scales met appropriate standards but again, the researchers note that the scale developed by Chen and colleagues (2001) excelled. All three were effective in differentiating among levels of self-efficacy, and were most sensitive in differentiating individuals with low levels of self-efficacy.

Study-specific GSE measurement scales created by researchers for specific constructs of interest as opposed to the consistent use of a limited number of standard scales, are not uncommonly noted in the literature at large. For example, in a recently published study guided by social cognitive theory, researchers explored the association between transformational leadership and extra-role performance of nurses, considering self-efficacy and work engagement as mediators (Salanova, Lorente, Chambel, & Martinez, 2011). These researchers constructed four-item scale, which they used to measure self-efficacy. Their rationale for electing to create their own scale was based on a book chapter written by Albert Bandura (2006), about constructing self-efficacy scales.

Using a study design similar to that used in the current study about travel nurses, Duggleby, Cooper, & Penz (2009) employed a concurrent triangulation mixed method design to explore the relationship among the independent variables of spiritual well being, global job satisfaction, general self-efficacy, and the dependent variable of hope. Sixty-four personal care aides were studied. These researchers chose to use the General

Self-Efficacy Scale (GSES) developed by Fleming and colleagues, with 15 items rated from zero to four on a Likert scale (Fleming et al., 2003). This scale includes statements such as: (a) When I make plans I am certain I can make them work, (b) Failure just makes me try harder, (c) I do not seem capable of dealing with most problems that come up in my life, and (d) I feel insecure about my ability to do things. Cronbach's alpha for this scale was .77 in their study.

The NGSE scale, developed by Chen and colleagues (2001), was selected to measure self-efficacy in this study for several reasons. First, it was compared in development with the widely used SGSE, and second, it was not developed for a specific project, but designed for broad situational scope use. The statements in the scale are worded with brevity, clarity and style suitable in the context of busy travel nurses. The eight-item compact format made it a good fit for a study questionnaire that incorporated three scales. Finally, the in-depth studies confirming NGSE scale's reliability and psychometric strength solidified the decision to use it in this study. The NGSE scale can be viewed in Appendix F.

Job performance measure.

Performance evaluation scores as evaluated by the hospital unit manager or manager's delegate were used as the measure of job performance at a recently completed job assignment for each travel nurse survey participant. The performance evaluation items on this scale are structured as characteristics of job performance rather than as questions. For example: "Demonstrates competency caring for patients"; "Adheres to facility policies and procedures"; "Ability to communicate with staff"; "Flexibility and ability to float"; "Overall professionalism". The scale items are scored on a Likert-style

scale as follows: exceptional (1), above standard (2), standard (3), almost standard (4), and below standard (5).

At five weeks into each 13-week travel assignment, the staffing firm electronically distributes the performance evaluation scale by email to the manager of the unit where the travel nurse is assigned. A reminder is sent to the manager if no populated evaluation is returned within two weeks. The job performance evaluation scale incorporates clinical performance and professional behavioral items, as well as one dichotomous (yes or no) question to indicate whether the manager would hire that travel nurse again, and finally, a free text area for comments to substantiate ratings. After responding to a few demographic questions, the manager or delegate selects and clicks on the desired Likert-scale rating for each of the 12 evaluative performance descriptors, adds free-text comments if desired, clicks on “yes” or “no” to the re-hire question, and returns the completed evaluation to the firm by clicking the “send” button. These data are automatically exported into the firm’s secure electronic operating system from which reports can be specified and generated in excel format.

In this study, the measurement data point for the study outcome variable of job performance was the sum of the 12 Likert scores on the performance evaluation that corresponds with the assignment referred to by each survey participant. Values for the job performance scores were reversed when the data were prepared for analysis so that a high sum score represented better job performance.

This job performance scale had not been validated through use in prior research. A description of the preliminary testing for internal consistency, variability, and inter-rater reliability is documented later in the chapter in the Procedure for Data Analysis

section under the heading *Preliminary Analysis*. The job performance scale can be viewed in Appendix K.

Data Collection and Analysis

Procedures for data collection.

Human Subject Research Office approval was secured for the research protocol prior to implementing the pilot study. Mixed methods data collection for the general study began on January 24, 2013, and continued through March 26, 2013. Quantitative data were collected using a self-report web-based survey questionnaire for analysis to answer research question #1 “Do travel nurses with higher self-rated organizational socialization, nursing work environment, and self-efficacy scores yield higher quality job performance?” and to test its four related hypotheses (detailed in Chapter One).

Qualitative data were collected via focus group interviews for analysis to answer research question #2 “What onboarding experiences do travel nurses perceive to have an impact on their clinical and professional job performance?”

Available technology was employed to collect data for this study. Using such technology requires participants to be uninhibited toward engaging in email correspondence, a point and click survey, and for focus group interviews, attending a web conference meeting. The latter requires the participant to have access to a computer furnished with a webcam, microphone, and Internet connectivity, as was explained in the study consent. Although the need for participants to use Internet technology may have created a study limitation, it was known to the researcher from experience that travel nurses are required to adapt to new technology on a regular basis as they move from hospital assignment to hospital assignment nationwide. Some examples of what travel

nurses adapt to at hospitals include electronic health record systems, medication-dispensing systems, supply dispensing systems, bar-code medication administration systems, electronic medical devices (i.e. various types and models of waived testing devices, hemodynamic monitoring equipment, medication delivery devices and more), and web-based hospital and staffing firm content (learning) management systems. Moreover, travel nurses are known take advantage of social networking, cell phone apps, and voice over internet protocols (i.e. Skype), as well as other electronic or web-based conveniences that offer mobile access to pharmacological, laboratory and medical information, and to maintain a network of friends and family while on the road. For these reasons, it was anticipated that travel nurse invitees would be favorably positioned to take in stride the technological methods for data collection that were used in this study.

Recruitment.

A report generated from the operating system of the staffing firm was specified to list travel nurses who met study criteria. This report was used to compile the email address list for distribution of the general study invitation letter (see Sampling Procedure section for details). The study invitation letter was distributed as an email message via the uSurvey platform to a total of 991 travel nurses in two phases. In January 2013, the letter was distributed to 742 travel nurses and in Feb 2013 it was distributed to 249 additional travel nurses that had reached eligibility status over the passage of time. Up to five reminder email letters were distributed to non-responders and to those who had started but had not completed a survey. The general study invitation letter distribution schedule is detailed in Table 1. The researcher terminated email reminders after the third distribution to the second invitee group, after being alerted by the staffing firm on March

18, 2013 that a travel nurse (a non-responder) had complained about receiving the email too many times. The survey was closed on March 26, 2013, meaning that if an invitee happened to click on the link in the invitation letter to open the consent on or after that date, a message appeared to thank the nurse for expressing interest in the study, and advised that the study survey had been closed.

The invitation letter was sent to travel nurses in the form of an email message from the researcher who was affiliated with the staffing firm, formerly as an employee and after December 31, 2012 in a research-oriented relationship maintained for the purpose of completing this study. The letter was distributed using the uSurvey platform, via the staffing firm's branded email in HyperText Markup Language (HTML). HTML format has the aesthetic appearance and the functionality of a web page (i.e. visible company logo and design, point and click capacity). This firm's travel nurses are accustomed to receiving company email in this professional format, which is familiar to them. Travel nurse recipients of this letter were invited to voluntarily participate in this mixed methods University of Miami study. The letter further explained the researcher's affiliation with both the staffing firm and the University of Miami, the purpose of the study, how the results might benefit the travel nurse workforce, and the methods that would be used to collect data. The nurses were informed that once they consented to participate in the self-administered web-based survey questionnaire, they would be asked to indicate separately if they were also willing to be contacted and scheduled to participate in a 45-60 minute Internet-based focus group interview. The general study invitation email letter can be viewed in Appendix L.

Incentives.

The literature was searched to determine what types of incentives might work best to attract participants to enter and complete a web-based survey. In a study carried out 12 years ago, O'Neil & Penrod (2001) examined the dropout rates for a three-page, 20-minute web-based research survey. Among other predictors, the researchers explored survey progress and completion likelihood as related to the offer of a financial incentive (lottery for \$50.00, \$25.00, and \$10.00) vs. no incentive. Dropout rates were determined at page one, two and three of the survey, while logistic regression was used to estimate the odds of a participant proceeding to the next page based on: (a) being asked to enter their email address, (b) whether they entered the survey on a weekday or weekend, and (c) whether payment via a lottery was offered or not. There was no significant difference in participant dropout rates at page one based on lottery payment (49.3% with payment compared with 47.4% with no payment, $B = -0.08, p = .605$). Findings relative to participants who reached the second page were similar to the first (30.1% with payment compared with 31.8% with no payment, $B = 0.09, p = .672$). For those who reached the third page of the survey, there was a difference and it approached significance ($B = -.056, p = .054$). Contrary to what might be anticipated, the odds of a participant finishing the survey were lower if payment was offered (36.9% dropped out) than if no payment was offered (27.0% dropped out). The researchers acknowledged a confounding factor at page three, because on that page participants were provided an option to enter their name, street address and social security number. Overall, the results indicated that offering or not offering a lottery payment incentive did not significantly affect dropout rates. These researchers recommended that for long surveys (i.e. such as the one in this study), a

larger lottery amount or payment for each participant should be considered. They also posited as a topic for future research that if invitations to participate are communicated by email, a larger financial incentive might be necessary as this type of invitee may be less motivated to participate.

An incentive is regarded as highly necessary for focus group commitment according to Krueger and Casey (2000). Immediate cash payment is what these experts indicate works best. More important than the amount, is the assurance that everyone in the focus group receives the same amount to avoid insinuating that some participants' views are more valuable than others'. A common rate of incentive for focus group participation has ranged from \$25.00 -\$50.00 per person, to make it worth their time and travel, and sometimes childcare. In the current study, time is involved, but no travel or childcare since the interview is hosted via computer. Based on this recommendation it is logical to offer an additional incentive beyond the survey incentive, for those who agree also to participate in a focus group interview. Another example offered by Krueger & Casey (2000) is remuneration in the form of food or a gift instead of cash, as long as it is something that the study population would all value (i.e. emotional or psychological value). Finally, these authors note that when people feel respected and when they perceive their views are valued, they are more likely to attend a focus group meeting. This notion was anticipated to come into play favorably in this first of its kind study to explore the experiences of a population of nurses whose unique work arrangement has not been studied to any extent and who as a result may experience a sense of marginalization.

A questionnaire survey about alcohol consumption was used in a study among a random sample of New Zealand college students ($N = 128$). Of the respondents, 123 completed the survey online and five preferred paper and pencil. The researchers were interested in determining the effectiveness of the Internet for administering a survey and in the types of incentives that might promote participation (Kypri & Gallagher, 2003). They used different types of incentive tokens but did not include a non-incentive or lottery incentive as experimental conditions in this study for comparison. What they found was:

1. An overall response of 85% was achieved. The researchers credit their intensive follow up as a highly effective measure to secure participation. Some invitees were contacted up to eight times: two email reminders were followed by up to five follow up phone calls.
2. An introductory letter mailed to alert invitees of the survey to come was acknowledged by participants as a favorable motivator to participate. Invitees indicated that they regarded this as a respectful gesture.
3. The web address included in the postal-delivered letter was acknowledged by participants as having been helpful in that they did not need to repeatedly check email to look for the upcoming survey, but rather, just retained the letter and logged on to the survey once it opened, at a time convenient for them to complete it.
4. Inclusion of a pen combined with the postal service delivery of the pre-survey invitation letter was a well-received method of initial outreach as evidenced by appreciative comments from participants. The researcher noted that the presence

of an object in the envelope mitigated the likelihood of the letter being discarded before being opened.

5. There was almost no difference in the effectiveness of the various token incentives that were compared. Three unconditional incentives: (a) pen alone, (b) pen + \$1.00 cookie voucher, and (c) pen + \$5.00 sandwich voucher, yielded responses of 85 -90%. An incentive offered on the condition that the survey was completed (pen + promise of a \$5.00 sandwich voucher) yielded a 79% response.
6. Follow up reminders alone were as effective or even more effective than token incentives.

The concluding remarks in the article were that a small token incentive combined with an intense reminder follow up protocol may be sufficient to attract a high response rate for Internet-base surveys. Although these scholars found a token incentive (i.e. a pen or food voucher) to yield a 79% response, for this study, which was funded completely by the student researcher, the associated cost of this strategy was prohibitive for 991 invitees. However, these researchers also found an intense reminder schedule to be as effective or perhaps more effective than tokens, a more feasible measure, which was implemented in this study.

Collins and colleagues (1999) mailed surveys to study substance use among a random sample of 4000 female nurses in Western NY. A combination of incentives was used to maximize the response rate. Each invitee received a pencil, and a stamped return envelope with the invitation letter and survey. If the completed survey was returned within one month of receipt, participants received \$30.00. Reminder postcards were

mailed after one month and after seen weeks. By the fourth month, 2400 surveys (a 60% response rate) had been returned (Collins, Gollnisch, & Morsheimer, 1999).

Cook, Dickinson & Eccles (2009) systematically reviewed 350 studies published between 1996 and 2005, in which surveys were sent to healthcare workers (66% doctors) via Internet or the postal system, to determine factors that may influence response rates. In just 17% of the studies was there any attempt made to explore the possibility of non-response bias, which may have been related to human subject protection policy, as was the case in this dissertation study. More than half the studies had 250 or fewer participants. The largest studies ($N = 34$) had 2500 or more participants. In only 3% of the studies was it reported that financial incentives were used. In 79 studies, one reminder was used; two reminders were sent in 47 studies; three to five reminders were used in 39 of the studies. Consistent with the findings of Kypri & Gallagher (2003), the use of written or telephone reminders was noted to increase the response rates, notwithstanding, this action was instituted in less than 50% of the studies examined.

The focus of a recently published systematic review was on strategies to improve nurse participation in studies (Vangeest & Johnson, 2011). A review of 22 studies yielded from a search across electronic databases from 1975- 2010 was performed with aims to explore incentives and designs as means to draw nurse participants. Small monetary incentives were noted to be more effective than nonmonetary incentives. Postal (especially with a stamped return envelope) and telephone approaches garnered higher participation than web-based surveys. Nurses were also noted to respond more readily to surveys from a source affiliated with a professional organization. The top two reasons identified for non-participation among nurses were time constraints and the perceived

value of participating in a study. Overall, monetary incentives were more effective than nonmonetary incentives. In this review, Vangeest & Johnson (2011) noted seven published articles ranging from 2007-2010 that showed paper surveys to be consistently more successful in garnering participation than electronic surveys. Travel nurses, the unique population of nurses being surveyed in this dissertation study, are accustomed to using electronic means to send and receive job-related documents, communicate with their recruiters (lifeline to jobs), and to maintain social networks as they travel from state to state. Therefore, it was anticipated that there might be a comparably greater propensity for this population to respond favorably to an Internet-based survey, especially in light of the challenge posed by sending a paper survey via the postal system, to mobile professionals with regularly changing street addresses.

Other findings yielded in this review (Vangeest & Johnson, 2011) included:

1. Personalization of the invitation letter did not impact response rates.
2. Signing of the invitation letter by faculty vs. graduate student did not improve response rates.
3. Sometimes a preliminary letter in advance of the invitation improved response rates and other times not.
4. Reminders and repeated contacts improved response rates.
5. Pre-notification letters and sponsorship (affiliation / endorsement) are effective with population-based studies.

Kramer, Schmalenberg, & Keller-Unger, (2009) studied what works to increase nurse survey response rates. To accomplish this, they used a literature review, a case study from M.D. Anderson Cancer Center, a nurse work environment survey across 286

hospitals (national and international), and a survey of nurse leaders in seven hospital units. Based on the nurse leader survey, the researchers identified that when nurses perceived the aim of the study to be pertinent to their practice, they were more inclined to participate. M.D. Anderson succeeded in attaining a 93% response rate to a web-based survey from a staff nurse population of 1635. For two weeks, a hospital-wide campaign preceded the opening of the web-based survey, using the slogan “Nurse Opinions Matter”, to generate the salience factor. Among other nonmonetary incentives, raffles for themed gift baskets and competition for unit-based pizza parties were effective in generating nurse participation in this hospital setting. Posters and postcards were the mechanisms used for reminders.

Consistent with M.D. Anderson’s successful endeavor, it is noteworthy that door prizes, raffles and gift basket drawings are popular activities at celebratory nursing events, such as Nurses Week events and holiday parties for nurse association meetings, which are received with enthusiasm per the author’s personal observations. Comparatively, the value of a nonmonetary token can be observed at nursing trade shows and conferences where nurses can be observed moving from booth to booth in search of pens, lanyards, tote bags, note pads, candy, and other give-away items of low monetary value, as the author has personally observed. With that acknowledged, nonmonetary incentives were offered in this travel nurse study, in the form of a draw, selecting winners of two gift baskets.

Ulrich and colleagues studied the use of incentives to improve survey responses among nurse practitioners ($N = 1950$) and physician assistants ($N = 1950$) (Ulrich, Danis, Koziol, Garrett-Mayer, Hubbard, & Grady, 2005). The sample consisted mainly of

middle-aged white females. Participants were randomized to three groups based on the incentive offered: (a) no incentive ($n = 1300$), (b) \$5.00 bill mailed with the survey ($n = 1300$) and (c) a lottery opportunity to win one of ten \$100 prizes in a drawing after survey completion ($n = 1300$). Paper mail-out survey questionnaires about ethical concerns among healthcare workers were issued. The prepaid \$5.00 cash incentive was clearly the most effective of the three. Sixty-five percent of participants who received the \$5.00 cash incentive completed and returned the survey before any reminder postcards were sent. Completion before reminder occurred with 44% of the non-incentive group and with 54% of the lottery group (Ulrich, et al., 2005).

The literature pertaining to the effectiveness of incentives is suggestive that the offer of a nominal monetary incentive to be awarded at the time of participation in the study offers more likelihood of optimizing response rates than no incentive or a lottery incentive. Moreover, studies strongly support the effectiveness of follow up reminders to bolster response rates. Based on knowledge drawn from the literature, the following measures were instituted in this study to attract participants:

1. \$5.00 electronic gift card for each participant who completed a survey
2. \$5.00 electronic gift card for each focus group interview participant
3. Two non-monetary lottery awards (gift baskets valued at \$50.00 each)
4. Follow-up email reminder notices at weeks one through five after the initial distribution of the invitation letter (see Table 1).
5. Phone call and text message reminders to nurses who committed to attend a focus group interview: (a) a few days after confirming, (b) the day before the scheduled interview, and (c) the morning of the scheduled interview.

The initial email invitation letter and all email reminders included an explanation that each participant would have a chance to win one of two gift baskets via a drawing once the data collection phase was completed. The invitation letter specified that each participant would receive by email, a \$5.00 electronic gift card as a token of appreciation for participating, within in three to five business days after completing either component of the study (survey and focus group interview). Because the researcher personally funded all expenses incurred in this research, it was not feasible to consider offering the incentive to all invitees prior to participation in the survey or focus group interview. A weekly reminder invitation letter was emailed at week one up to week five following the initial invitation letter distribution. A copy of the general study invitation letter may be viewed in Appendix L.

Consent and enrollment.

A hyperlink was embedded in the HTML email invitation letter (“To read the consent and begin the survey, please [click here](#)”), which triggered the general study consent to open on uSurvey, the University of Miami web-based survey platform on which consenting and survey data collection were hosted. The consent, modeled after the University of Miami Human Subjects Research Office adult consent template, contained an explanation of the study purpose and data collection methods that were to be used: survey questionnaire and focus group interviews. The consent included a brief description of the focus group interviews as a means to explore travel nurses’ personal experiences of orientation and integration at travel nurse job assignments, thereafter referred to collectively as onboarding, and how the nurses perceived this process impacted their clinical and professional job performance. The need for access to a computer with a

webcam, microphone, and Internet connectivity for participation in a focus group interview was explained in the consent. Remuneration was described in the consent as it was in the invitation letter.

Nurses were informed of the freedom to withdraw from the study at any time or to choose not to respond to questions that may cause the nurse to feel uncomfortable answering. The consent included a description of how confidentiality would be maintained, any risks, and what benefits were associated with participation. It was made known in the consent that the nurse would be participating in a University of Miami study in which participation or non-participation imposed no effect on the nurse's relationship with the staffing firm, and that only aggregate, not individual information, would be communicated in the study results.

Study enrollment was achieved once the nurse completed the steps of the consenting process. The nurse electronically signed the consent by typing his or her name or email address into a designated field as prompted, after which the date was auto-populated by the system. The nurse was then prompted to click on a radio button (forced field response) to confirm or deny consent to participate in the study. If the nurse clicked "no", a message appeared thanking the nurse for his or her time, expressing regret that the nurse decided not to participate. No further advancement in the consenting process was granted beyond that point. Nurses who clicked "yes" to participate in the study survey proceeded to the next question asking if he or she was willing to participate in a 45-60 minute focus group interview with other travel nurses, hosted via Internet technology. The nurse was prompted to respond by clicking on a "yes" or "no" radio button (forced field response). If the nurse responded "yes" to participate in a focus group

interview, he or she was prompted to type a phone number into a specified field to be reached for coordination of the interview. After completing the consent, the nurse was prompted to click the “next” button, which completed the enrollment process and triggered the survey to open. The general study consent form may be viewed in Appendix M.

Survey questionnaire data collection.

General information and instructions were provided at the beginning of the survey including: (a) the survey will take approximately 30-40 minutes to complete, (b) the participant may withdraw from the study at any time by exiting the survey, (c) the participant may choose to refrain from responding to questions that he or she may be uncomfortable answering, and (d) the participant may exit and then re-enter the survey at the point from which is was exited. Finally, survey participants were asked to respond to the survey questions in the context of their most recently completed travel nurse job assignment and not from the perspective of the job assignment at which they may have been currently working, or other past job assignments. The survey consisted of a demographic section composed of 15 questions, followed by three sets of measurement scale questions corresponding with the predictors of interest, using the scales previously described: (a) organizational socialization (34 questions), (b) nursing work environment (31 questions), and (c) self-efficacy (eight questions). Upon completion of the survey, an acknowledgement of thanks appeared with a reminder that as a token of appreciation for participating the nurse would receive a \$5.00 gift card via email within three to five business days. The researcher monitored the survey website daily for newly completed surveys. Gift cards were distributed within two to three business days to participants who

completed surveys. One enrollment log and one compensation log (both password protected) were maintained by the researcher and updated throughout the data collection period for both survey and focus group participants. Survey data were exported from the IBM-compatible uSurvey platform, directly to an SPSS statistical software file, facilitating easy retrieval of data for analysis, and eliminating the need for manual data entry.

Job performance data collection.

The introduction to the survey questionnaire included instructions for the study participants to complete the survey based on their most recently completed travel job assignment. Pertaining to the existence of performance evaluation data, the travel nurse invitee list was specified by criteria including the necessity for a performance evaluation to be on file for the travel assignment that was completed within three months of when the report was generated. Study participants were asked to type the actual or approximate start and end dates of their most recently completed job assignment into designated survey response fields. This information was essential for assignment tracking purposes so that corresponding performance evaluation scores could be identified and secured from the firm's operating system, summed, and included as the outcome value for each case. These were forced fields in the survey, with a response required in order for the participant to proceed to the next question. Survey instructions directed participants to respond to the questions that followed from the perspective of their experience at the assignment worked between these specified start and end dates.

In order to correctly link surveys with performance evaluation scores, survey participants were identified by the name or email address corresponding with each survey

case. Most participants had more than one performance evaluation on file with the firm. The correct performance evaluation data for each completed survey were identified based on the start and end dates specified by the participant. Even approximate dates were sufficient to facilitate the identification of the correct performance evaluation. These data were retrieved in a report generated from the staffing firm operating system, and were entered into the password protected enrollment log spreadsheet in alignment with the corresponding survey case. A password protected de-identified version of this enrollment log was used when it was time to export performance evaluation data to the SPSS survey data set for statistical analysis.

Focus group interview data collection.

Focus groups and individual interviews are the two most commonly used methods for data collection in qualitative research (Gill, Stewart, Treasure, & Chadwick, 2008). Not simply a compilation of individual interviews (Finch & Lewis, 2003), focus groups yield data from a collective perspective to answer research questions in the context of the population of interest (Gill, et al., 2008). This study is designed to center on the perceptions of a distinct yet sparsely studied population of registered nurses in high demand, nested within the general population of RNs in the US. The questions in this study have not been addressed in research before, representing a topic of inquiry about which little is known. Focus group interviews are appropriate when the researcher seeks to understand factors that influence behavior (Krueger & Casey, 2000). The quantitative outcome variable for this study, job performance, is defined as behavior that enhances or detracts from organizational effectiveness (Motowidlo, Borman, & Schmit, 1997). The purpose of the qualitative arm of the study was to gain an overarching understanding of

how travel nurses perceive onboarding to new job assignments to impact their clinical and professional job performance. In this context, qualitative data for this study were generated through a collective spectrum of participant views, spanning four focus group interviews (Krueger & Casey, 2000).

Compared with one-on-one in depth interviews between the researcher and each participant, discussion in the social context of a focus group tends to generate spontaneous responses among participants, mitigating the potential for researcher influence on participants' expressed views and perspectives (Finch & Lewis, 2003). Focus group participants are less likely to be inhibited from expressing their views on a topic when they do not know the others in the group (Krueger & Casey, 2000). Such an effect was embodied in this study because the travel nurse participants for each interview were located in various cities and states across the nation and did not know each other. As pointed out by Morgan (1996), the synergistic benefit of focus group interviews is facilitated through the questioning and clarifying that occurs part and parcel to interaction among the participants. Conversely, it is not possible to estimate how much influence each participant's response has on the others' (Harrell & Bradley, 2009). Although individual perspectives are important, the aim of the focus group interviews in this study was to elicit a group perspective on the topic of travel nurses' overall onboarding and integration experiences at job assignments.

Focus groups are not the best choice for data collection when the topic of discussion is sensitive in nature (Harrell & Bradley, 2009). The topic of discussion for this study was not highly charged with emotional, sensitive content, further enhancing its suitability for a focus group approach. Notwithstanding, focus groups have been used

with success to collect data about sensitive topics such as HIV/AIDS and other studies of sexual behavior as well as among marginalized groups and cultural minorities (Morgan, 1996).

The logistical challenges of coordinating focus group interviews has been acknowledged in the literature as a potential barrier to their feasibility for data collection (Morgan, 1996; Murray, 1997). In years past, it may not have been plausible or even possible to host focus group interviews with travel nurses separated geographically by distance and time zones across the nation, not to mention shift work, schedules that include weekends and holidays, and relocation as often as every 13 weeks. Indeed no research using web conference focus group interviews to study travel nurses or any other population of interest could be located in the literature for reference when this study was in its planning phases. Notwithstanding an a priori assumption could prevail deeming this method inadequate as evidenced by the absence of literature supporting its use, the advent of Internet technology including web conference service was perceived by the researcher as an opportunity to reach travel nurses for a first of its kind qualitative study. From a practical and innovative standpoint, web conference technology represented a feasible, accessible, and cost-effective means to reach a rarely studied, geographically dispersed population of nurses through virtually hosted real-time focus group interviews. Moreover, web conferencing supports the capacity to audio-visually record the interviews, which was essential in order to achieve verbatim transcription including observed non-verbal nuances. As described in the pilot study section, the focus groups were coordinated and moderated by the RA who received education and preparation to do so (training log and materials can be viewed in the Quality Assurance records for this study), and who

performed the function using a focus group interview guide, under the supervision of the researcher. This arrangement was made to distance the researcher from the participants because the researcher was formerly a corporate employee at the staffing firm, and after December 31, 2012, maintained a relationship with the firm in a nursing research role for the purpose of completing this study.

As can occur with any type of interview process used for data collection, content may emerge in later interviews that did not surface in earlier interviews. This occurrence is acknowledged in the literature as something that can be expected. One suggestion offered in the literature to confront this anticipated effect involves the design of semi-structured questions and probes posed by the moderator. The “funnel” pattern is described as a focus group interview structure in which standardized core questions are asked in the first part of the interview, with an opportunity for more open discussion in the latter part of the interview (Morgan, 1996). This structure supports comparability across all groups, of data collected via the standardized questions, while providing an easement for variability between groups. The focus group interview questions in this study were structured to guide the dialog from general to specific, concluding with an opportunity for participants to communicate additional feedback about their experiences, some of which may be related to previous questions and other content that may present new and unique perspectives not elicited by the previous questions.

Focus groups have been acknowledged as appropriate in mixed methods designs for exploring topics, and to augment the depth and value of data collected using other methods (Gill et al., 2008). In concert with this appropriate use of focus groups, one aim of the convergent parallel mixed methods design used in this study was to compare,

contrast, and merge quantitative and qualitative results and findings, leading to a fuller understanding pertaining to the study's overarching purpose (Creswell & Plano Clark, 2011). Although findings from focus group interviews are not generalizable to a population beyond the focus group itself, this data collection method lends itself well in combination with other methods such as surveys to elucidate those results, and is useful for clarifying and explaining quantitative findings (Harrell & Bradley, 2009). The survey component of this mixed methods study elicited individual perspectives pertaining to three specific integration factors, whereas the aim of the complementary focus group interviews was to generate perspectives of job assignment integration experiences from a travel nurse group perspective.

In this study, the RA retained to coordinate and moderate the focus group interviews was a seasoned travel nurse working a job assignment via the agency of the staffing firm from which the study participants were recruited, and was also a student fulfilling a baccalaureate nursing practicum. The RA coordinated and moderated four focus group interviews consisting of two to five travel nurses each, by performing the following five steps: (a) reach out to each of the consenting, systematically selected nurses via telephone or email (see prior section titled Sampling Procedure for more detail); (b) confirm each nurse's intent to participate, and verify contact information; (c) confirm each nurse's access to a computer furnished with a webcam, microphone, speakers, and internet service which, as the consent indicates, is necessary to participate; (d) confirm each nurse's availability; and (e) coordinate groups and inform/remind confirmed participants of their focus group interview date and time. The assignment of travel nurse participants to focus groups depended more on the availability of these busy

working nurses, situated across various geographic time zones, than on random assignment by the RA. The RA reported that one nurse in Hawaii who was eager to participate was precluded from doing so because of the time zone difference. This barrier prevented her from joining an interview due to incompatibility with other nurses' availability.

Once the focus group interview schedules were confirmed, the RA contacted each participant to iterate the following information: (a) confirmation of the date and time of the focus interview; (b) how to join the scheduled interview by clicking on the URL embedded in the web conference access email that the RA would send to participants on the day of the interview; c) remind each nurse that as noted in the consent, the interviews would be audio-video recorded for subsequent transcription and analysis; d) inform each nurse that a fictitious name may be used in the interview if preferred; e) remind each nurse that he or she may withdraw from the study at any time before or during the interview; and f) encourage each nurse to contact the RA prior to the scheduled interview with any questions, concerns or change in availability.

On the day prior to each scheduled interview, the RA contacted the participants again, to re-confirm intent and availability to participate. Based on pilot study participant recommendations, she also sent a reminder text message to each participant on the morning of their scheduled interview. Instructions were provided in the web-conference email invitation distributed by the RA on the morning of each interview, explaining how to logon to the interview, and how to contact the RA if challenges were encountered while doing so. The focus group interview schedule is detailed in Table 2.

In addition to the formidable task of navigating issues related to travel nurse availability such as time zones, shift work, and geographic relocation schedules, other situations encountered by the RA related to scheduling the interviews included:

- a) A total of 76 nurses consented to participate in a focus group interview. Unfortunately many of these nurses did not return phone calls or text messages or reply to emails when the RA attempted several times to reach them for scheduling.
- b) For each scheduled interview there were nurses who confirmed to the RA on the day or as even proximal as within the hour prior to the interview that they would attend yet they did not, as depicted in Table 2. As the interview was about to begin the RA attempted to reach these nurses to assist in the event they might have been experiencing problems accessing the web conference, but her text messages and calls were not answered or returned. Consequently the minimum targeted number of participants per group (six) was not achieved.
- c) Notwithstanding failure by some nurses to attend even after confirming within 24 hours prior to their scheduled focus group interview, no interviews were cancelled as a result of having too few participants. Professional respect was extended to all of the nurses who were able to honor their commitments, by hosting each scheduled interview as planned.
- d) Some nurses expressed eagerness to participate but informed the RA that they did not have access to a webcam. These nurses were not turned away; rather they were warmly welcomed to join the interview and share their views by accessing

the web conference via computer-audio or telephone, both of which were supported by the web conference service.

- e) An unanticipated number of travel nurses did not have access to a laptop or desktop computer, but instead relied solely on smart phones and/or tablets (i.e. iPad, Kindle) to meet their electronic communication needs. Although these devices did not preclude nurses from participating in a focus group interview, video imaging is not well supported by current web conference technology.

Last minute attrition of confirmed participants was a more prominent challenge than expected. However, Murray (1997) reported the same phenomenon of short notice changes in availability when hosting asynchronous email FGIs with healthcare worker participants over a four-week period. Although the original procedure for the current study called for three focus group interviews, a fourth focus group interview was coordinated and moderated when only two of the six confirmed participants joined the third interview. Within one hour prior to the scheduled start time of the fourth and final focus group interview seven nurses confirmed to the RA their intent to participate, yet just three nurses joined the interview. The RA attempted to contact those who did not appear for their interview as confirmed, to offer assistance if they were experiencing technical problems, but her voicemail and text messages were not replied to, implying that the nurses made a last minute decision not to participate.

In keeping with the focus group interview guide, the RA initiated the interviews by greeting the nurses, welcoming them, and thanking them for taking the time to participate. After describing the purpose of the interview, the RA described the focus group ground rules that were designed to keep the discussion on track and on time. Some

ice-breaking background questions were used to initiate the dialog (Harrell & Bradley, 2009). These questions included for example, asking about which state each nurse was joining the interview from, nursing specialty, and number of previous travel assignments worked. The RA reminded participants that the session was being recorded, at which time the web conference audio-video recorder was activated as well as a portable digital recorder, purchased for back up audio recording, in the event such was needed.

During the semi-structured interview, although the RA used the open-ended questions in the interview guide to ensure that key topics were consistently covered in each interview session, a margin of freedom was permitted for expanding discussion boundaries to capture the essence of group responses (RWJF, 2008). The questions in the interview guide were ordered from general to specific in nature, aiming to generate discussion about the quality of the nurses' onboarding experiences at past hospital travel nurse job assignments, and how the nurses perceived these experiences to have impacted their job performance. Approximate timelines were included with each question as documented in the focus group interview guide, to aid the RA in covering the content within the allotted timeframe. Introductory content, ground rules, and guiding questions comprising the focus group interview guide is in Appendix I. At the conclusion of each interview, the RA thanked the nurses again for their time and participation, iterating the importance of their expressed views as a valuable contribution toward research-generated knowledge that can be used to improve travel nurse work experiences and performance potential. The researcher sent a \$5.00 electronic gift card to focus group participants within two to three business days following their participation.

The benefits of audio-visual recorded focus group interviews include the capability to review the actual discourse repeatedly when transcribing content verbatim, so as not to overlook essential details (voice tones, agreement between participants, voice inflections, throat clearing, laughing, body language etc.). Moreover with recordings, it is not necessary for the moderator to take notes during the interview. Instead, more attention can be directed toward guiding the discussion, redirecting as needed, probing, and inviting contributions and feedback from each participant.

Despite absenteeism affecting focus group sizes in this study, the desired social context did not appear to be hampered during any of the interviews, including the interview for which only two out of six scheduled and confirmed participants attended. Interestingly and by coincidence, those two participants shared the same nursing specialty (PICU). Although they were separated geographically and did not know one another, the high level of engagement and smooth flow of the discussion evident during their interview may have been related to their shared specialty. Based on observations made during the review of the recordings it was clear that participants in each focus group were at ease with and attentive to the moderator, uninhibited to seek clarification if they did not fully understand a question, and responded with no hesitation when called upon to contribute their views. Little moderator prompting was necessary during the interviews to elicit travel nurses' views pertaining to their onboarding experiences. It is entirely possible, and appeared evident that these nurses welcomed the opportunity to talk about their experiences and perhaps had never before been invited to do so in this milieu. A remarkably high level of professional respect and attentiveness was observed among the attendees and toward the moderator throughout the whole span of each interview as

observed in the review of the AV recordings. This high level of professionalism prevailed despite intermittent technological set backs such as audio overlap, microphone issues, and the simple fact that in this virtual environment, no one was personally face to face with anyone else.

All focus group interview data were stored electronically. The data included audio-visual recordings as well as password protected verbatim transcriptions, enrollment logs (identified and de-identified) and compensation log, all of which were also backed up on a flash drive. The portable digital audio recorder used for back up did not have capability for downloading the audio recordings to an electronic file. It served only as a back up in the event that the web conference recording was damaged or lost. This recorder was shipped to the researcher from the RA after all focus group interviews were completed. The recorder will remain stored at the University of Miami with all other study data, for the required length of time as specified by the university Office of Human Subjects Research.

Procedures for data analyses.

Survey data analysis.

Survey responses were exported directly from uSurvey to an SPSS file, eliminating the need for manual data entry. As described earlier, performance evaluation data were obtained from a report generated through the staffing firm's electronic operating system. These data were copied to align with the corresponding cases on the password protected enrollment log spreadsheet. Later, they were exported from the enrollment log to the SPSS survey data set for inclusion as corresponding outcome data

for each case in the analysis. Simple and multiple regression was used to analyze the survey data and to test the research hypotheses.

Preliminary analyses.

Performance evaluation scale.

For over 15 years, a 12-item Likert style job performance scale has been issued to unit managers by the staffing firm to solicit evaluative feedback pertaining to travel nurse job performance for each assignment. The firm-developed job performance measure as described more fully in an earlier part of this chapter, had not previously been used in research. Therefore, during the proposal preparation for this study, prior to pilot or general study data collection, the performance evaluation scale was tested for internal consistency, inter-rater reliability, and variability. Data were obtained and prepared as follows for the sole purpose of evaluating the job performance scale as the outcome measure for this study:

1. A report specified with the following inclusion criteria was generated from the staffing firm's operating system: All performance evaluation data for all active travel RNs in the system ($N = 5185$).
2. These data were de-identified.
3. The number of performance evaluations per nurse case ranged from one to 35.
4. The first 250 nurse cases in the de-identified data set were used.
5. Cases with only one performance evaluation or any missing data were deleted ($n = 114$) so that each case for analysis was fully populated for inter-rater reliability testing purposes.

6. For cases with more than two performance evaluations, all but the two most recent performance evaluations were deleted.
7. The final dataset consisted of 136 cases, each with two fully populated corresponding performance evaluations.
8. The data were saved as two separate sets for the purpose of examining inter-rater reliability: (a) evaluation #1 ($N = 136$) and (b) evaluation #2 ($N = 136$), with the same nurse cases, but with different evaluations in each set.

IBM SPSS statistical software, version 20.0 (IBM Corp, 2011), from this point forward referred to as SPSS, was used for all statistical analyses in this study. Each dataset (#1 and #2) was tested for internal consistency, which yielded a Cronbach's coefficient alpha of .97 and .98 respectively. The Corrected Item-Total Correlation was $> .7$ for each scale item, signifying that each item on the scale contributes meaningfully to the total score. Because the alpha was high for this scale, it was determined that it would not be useful to examine the impact of individual scale items on the outcome. Instead, based on these results, it was determined that the sum of the Likert scale ratings for the 12 items would be used as the outcome value for each case.

To test for inter-rater reliability, Pearson correlation between the scores of the most recent two performance evaluations for each nurse was specified in the analysis, yielding an overall r of .411 ($p < .001$). An assessment of the Pearson correlation for each individual item on the scale yielded a statistically significant r for each ($p < .05$) ranging from .213 - .474. A limitation of this method was that the two raters were evaluating the travel nurse at different times and typically at different hospitals, with some exceptions when the nurse was offered and agreed to sign for another consecutive contract at the

same hospital. However, because the firm receives only one performance evaluation per assignment, this was the only available means to estimate inter-rater reliability for the scale.

Descriptive statistics were generated for each of the two datasets to assess variability. The Likert scale for this measurement ranges from one to five with lower scores representing better performance. The lowest (most favorable) score possible is 12 when all items are rated. The highest (least favorable) score possible is 60 when all items are rated. A moderate range in variability of performance evaluation scores was confirmed, with scores spanning from 12 to 39. Nonetheless, in the preliminary analysis, these data departed from normalcy. Skewness statistics for evaluation #1 and evaluation #2 were .478 and .407 respectively. Kurtosis statistics were -.880 and -.761 respectively. Histograms demonstrated bimodal and tri-modal score distributions at scores of 12, 24 & 36. Notwithstanding the deviation from compliance with this assumption, regression is known to be robust when the distribution is not normal (StatSoft, Inc., 2012). Based on the statistical testing noted above, it was determined that the firm's performance evaluation scale would be used to measure the outcome variable in this study, with an understanding that there may be limitations on the accuracy of the results, which is hereby disclosed.

Preliminary general study data.

One month after general study data collection was initiated, a preliminary analysis was carried out in order to gain familiarity with the data ($N = 84$), to detect inconsistencies that could impact the findings, and to determine whether the six demographic factors would be controlled for in the regression for the final analysis.

Two of the measurement instruments (the Performance Evaluation and the PES-NWI) have scales designed such that a low sum of ratings constitutes a favorable score. With the NGSE scale, a high sum of ratings constitutes a favorable score. The Organizational Socialization scale has 21 questions for which a high sum of ratings represents a favorable score and 13 reverse scored questions that reflect the opposite. When specifying the variable view in SPSS to prepare for the analysis, the scale values were adjusted as needed, so that higher values for all measurements represented more favorable scores.

Pearson correlation values were examined to support or refute that each of the independent, continuous variables was associated with the outcome variable. The results of this preliminary analysis showed no significant correlation between any of the three predictors and the outcome. These results are detailed in Table 3. The only significant correlations noted were between the independent variables of nurse practice environment and organizational socialization, and between self-efficacy and organizational socialization.

Next, the association between job performance and the six demographic controls was examined in a regression model. No significant relationships were identified between the six proposed demographic control variables and the outcome. The results for this part of the analysis can be viewed in Table 4.

Notwithstanding the absence of significant relationships as noted above, a regression model was specified using the preliminary data to include the three predictors of interest and the outcome variable. As could be expected, no relationships were significant. The output for the preliminary multiple regression can be viewed in Tables 5.

Based on the power analysis, a sample size of 78 surveys was sufficient. Although additional survey data beyond the preliminary analysis was not necessary, the survey remained open to facilitate recruitment of additional focus group participants until focus group data saturation was achieved.

Regression assumptions.

Regression assumption testing occurred during the preliminary and final survey data analyses.

Normal distribution.

Data are assumed to be normally distributed around the mean in regression (Miles & Shevlin, 2001). In this study, the data were tested for the presence of outliers, skewness and kurtosis. Unless there was a valid reason to believe an outlier represented an incorrect data point (i.e. an impossible value), it was maintained in the data set. The potential for data entry error, barring participant errors, was expected to be minimal due to the technology that was used.

Electronic survey responses were exported directly from uSurvey to an SPSS data file. Likewise, performance evaluation data were exported to SPSS from a spreadsheet report generated by the staffing firm's electronic operating system. Technology was used for all quantitative data entry, mitigating the potential for transcription-related data entry error.

Linear relationship.

In regression, the relationship between each independent variable and the dependent variable must be linear; that is, the data points when graphed, should be situated in reasonably close proximity to a straight line, indicating that the

effect of the independent variable on the outcome is constant (Hazard Munro, 2005; Miles & Shevlin, 2001). If this assumption is violated, the model cannot be regarded as an accurate predictor of outcomes. Scatterplots were generated in SPSS in order to test for compliance with this assumption.

Independence or lack of autocorrelation.

The assumption of independence requires that no two cases in the dataset be related. The risk of violating this assumption is greater in longitudinal studies where participants may have contact between data collection times (Miles & Shevlin, 2001). The researcher needs to be well acquainted with the data in order to avoid violating this assumption because no statistical tests can identify it. In this study, some margin of risk may have existed for violating independence, although the likelihood was expected to be low. Sampling occurred among travel nurses who were geographically dispersed across the nation; however it was not impossible for circumstances to align in which several travel nurses on assignment at the same hospital could have received an invitation to participate. In these cases, it might be possible for participants to contact one another after one completed the survey but the other had not yet. Little likelihood was anticipated that two communicating study participants would populate surveys pertaining to an assignment recently completed at the same hospital, with the exception of a very small sub-set of nurses who travel in tandem to the same hospitals.

Homoscedasticity.

The spread of variance of the residuals for homoscedastic data needs to be the same at each level of the predicted value. If this assumption is violated, then there is misspecification of the model due to complexity of the relationship between the variables that exceeds the model's capacity, which will alter the p -value, leading to incorrect results (Miles & Shevlin, 2001). A test for homoscedasticity can be achieved using SPSS to generate residual scatterplot graphs, for visual assessment.

Scatterplots for this preliminary analysis did not portray violation of regression assumptions, however there was, as noted in the preliminary results described above, no evidence to suggest the existence of a relationship between the independent variables and the dependent variable. The scatterplots can be viewed in Figure 4, Figure 5, and Figure 6.

Regression analysis.

For the final data set in this study ($N = 107$), a regression analysis was carried out in the same manner as for the preliminary analysis, using quantitative data composed of survey responses and the job performance evaluation scores that corresponded with each case. The data were prepared in the same manner as described in the analysis of the preliminary general data ($N = 84$), adjusting reverse scored items so that high scores represented favorable ratings for all scales.

To estimate how representative the sample was of the population, demographics from this study sample were compared with those from another study in which a homogenous sample of travel nurses was surveyed (Faller, et al., 2011). Demographic

data from this study were compared with similar aggregate data maintained by the staffing firm pertaining to its travel nurse client base, which was released to the researcher for comparative purposes.

Pearson correlation values were examined to support or refute the association of each of the independent continuous variables with the outcome. Correlations between the six demographic controls and job performance were examined via the coefficients table in the regression output. The six demographic variables to be controlled for in the regression included: (a) years of experience as an RN, (b) age of the travel nurse, (c) highest formal nursing degree earned, (d) Magnet® status of the hospital, (e) teaching or non-teaching status of the hospital, and (f) number of licensed beds in the hospital. Three of the demographic variables were categorical: (a) formal degree earned, (b) Magnet® status, and (c) hospital teaching status. The categorical demographic variables were dummy coded for analysis. Simple and multiple regression analysis was used to determine the existence and significance of relationships between the independent variables: (a) organizational socialization, (b) nursing work environment, and (c) perceived self-efficacy, and the dependent variable, job performance, in order to address research question #1 and its 4 related hypotheses. Results are described in Chapter Four, the quantitative methods manuscript.

Missing data.

Evaluative feedback from the 12 pilot study participants confirmed clarity of the survey instructions and questions, thereby mitigating the potential for missing survey data as a result of poor understanding. The study consent indicated that participants could choose not to respond to any question that they felt uncomfortable answering. In order to

ensure that all questions per page were addressed before the participant was granted access to the next page a “prefer not to respond” answer selection was included with each survey item to reduce the potential for survey items to be disregarded or inadvertently overlooked. In order to make a decision about how to handle missing data it is necessary to assess the data for patterns and extent that may point to bias (Polit & Beck, 2008). In this study the analysis included examination of the data for patterns in the selection of “prefer not to respond” as an answer. A listwise deletion was enacted for surveys where at least one full predictor section was not completed. Deleting cases in this manner is an appropriate action if there is substantial missing information and the sample size is large enough to tolerate it (Polit & Beck, 2008).

Missing data on performance evaluations occurs occasionally. At times no explanation is offered for why items have not been rated. Sometimes the section for “flexibility & willingness to float” in the CCS performance evaluation is not populated because the travel nurse has worked in an area where floating was not required. For consistency in this study, it was predetermined that only cases with no more than two missing ratings on a performance evaluation were included in the analysis, and no case deletions were necessary.

Focus group interview content analysis.

Each focus group interview was hosted using web conference technology, and was audio-visually recorded. Dialog from the recordings was transcribed verbatim with the aid of Dragon® dictation software, a Nuance product. Non-verbal cues and behaviors were also transcribed, as could be perceived from the recordings. The texts that constituted the thematic contextual units of analysis were derived from the transcribed

AV recordings. To answer research question #2, “What onboarding experiences do travel nurses perceive to have an impact on their clinical and professional job performance? ”, the researcher analyzed these data guided by the Krippendorff (2004) technique for qualitative content analysis. Inferences made from the texts are valid, replicable, and in alignment with the context of which they were generated (Krippendorff, 2004). The researcher looks for meaning to understand the phenomenon of interest within the context of the data as they are being analyzed, rather than deriving inferences from frequencies that have been catalogued as a result of a coding process. Likewise, value is added to the analysis when the researcher has background knowledge and understanding of the particular context, preserving sensitivity to the text from that perspective so as not to overlook or misinterpret contextual inferences. The nomenclature by which this kind of inference is known is “abductive inference” (Krippendorff, 2004).

Krippendorff’s (2004) model for content analysis consists of six-components. Nonetheless, these procedural components are not bound by linearity, meaning that the components are not steps fixed in a particular order, but that they intermingle to constitute a whole analytical process to facilitate advancement from text as data, to results, or answers to the researcher’s questions. The first four components are a preparatory aspect of the process in which textual data are organized in a way that facilitates inferences to be made. The last two components comprise the process of yielding and communicating the inferential results.

Unitizing.

In unitizing, a determination is made about the type of unit that will be observed and recorded from the data. Krippendorff (2004) describes various types of units that may

be observed including: (a) sampling units, (b) recording/coding units, and (c) context units. Contextual units were used in this study to differentiate constituents of text relevant to the study purpose, meaning that words, phrases and sentences that resonated with the focus group interview guide questions were identified from within the transcripts for use in the analytical process to answer the research question. Contextual units can range from broad to narrow in scope; for example paragraphs, sentences or words. Contextual units can overlap in meaning because roles of words in dialog can vary by context. In this study, contextual units were identified in terms of thematic distinctions because focus group interview participants were asked to share their stories depicting characteristics of their onboarding experiences at job assignments.

Sampling.

In terms of this technique for content analysis, sampling refers to sampling text from the data as a means to transform the totality of texts into a more manageable mass. A representative sampling of texts from the data facilitates the interpretation of the data at different levels such as words, sentences and paragraphs; or as issues or concepts. These samples represent a larger frequency of occurrence among the data. This technique is typically necessary when large data sets are being analyzed such as newspaper and magazine articles related to a specific topic. In this study, the volume of text in the transcripts was manageable. Therefore, sampling was not incorporated, but rather, all of the transcripts in their entirety were included in the analysis.

Recording / coding.

Texts from the focus group interviews were transcribed verbatim from the recordings. It was also essential to capture the nuances of meanings nested in words and

phrases, which required sensitivity to voice tones, inflections, pauses, throat-clearing and the like. When recording (transcribing to text) from the video component of the interview recordings, observer-independent rules for interpretation were not consistently feasible for the accurate interpretation of non-verbal cues and statements in context. In this study, participants attended the focus group interviews virtually, meaning they were not situated in one room together, but instead could view what was captured in webcam images of the moderator and other participants. Only the researcher transcribed the recordings of the focus group interviews, as compared with studies for which there may be more than one research team member transcribing. Recording instructions must be documented in a prescriptive and clear manner so that results may be replicated in other studies of a similar population. Detailed documentation of recording instructions is especially important when there is more than one recorder producing transcripts from audio-visual materials. For this purpose a working spreadsheet was developed and used by the researcher as a record of progress from texts to answers to the research question. The researcher made use of dictation software, Dragon Dictate® 3.0.1 (Nuance Communications, Inc., 2012), to facilitate the initial transcription of each focus group interview recording. Once the initial transcription was completed, the researcher listened to and viewed the recording of each interview session several more times, comparing the recording with the written transcripts, making corrections to the text, and adding notations to depict non-verbal nuances.

In contrast to recording, “coding” is referred to by Krippendorff (2004), as human-exempt in nature when for example computer programs are specified to apply strict non-subjective rules for content analysis of all texts. Coding has limitations,

especially when the analysis involves the interpretation of data that are generated from social sources, as in this study. Without human interpretation, there is a risk of miscoding or omitting essential human elements of the data in order to make it fit the rules. There is, as Krippendorff points out, a need for the involvement of culturally competent human beings to make judgment calls if observed human interactions are to be interpreted fully and within their appropriate contexts. Computer programs lack abstract thought and reasoning abilities that are required in order to achieve this judgment. Thus Krippendorff's method of content analysis utilizes the term "coder" in reference to those who are recording texts from observed phenomena, versus the typical reference to one who examines computer outputs to identify frequencies, patterns and trends as identified by non-human sorting and categorizing methods. One researcher performed the recording of audio-visual materials to texts, which was expected to mitigate inconsistency in the interpretations. No computer software was used to sort or categorize these focus group interview data. Transcripts were copied to the researcher's working spreadsheet to facilitate organizing the data through the phases of the analysis, from thematic contextual units, to categories, to themes.

Reducing data.

In this component of the analysis, repetitive patterns of data emerging from larger volumes of text were aggregated by type, frequency, or paraphrasing instead of in the original detail in order to facilitate efficiency. This strategy essentially condenses large portions of the text to include the most salient points (Krippendorff, 2004). Clustering is an iterative technique employed in the analysis to identify patterns in the data for consolidation into components that facilitate inferences (Krippendorff, 1980). This

iterative inferencing process was used to answer the research question while maintaining the common meanings that emerged from the focus group transcripts. Clustering was achieved in a bottom to top agglomerative fashion, forming progressively larger subsets by merging thematic contextual (meaning) units based on semantic similarities derived from the experiences shared by participants in the focus group interviews (Krippendorff, 1980; Krippendorff, 2004). Common meanings embedded in the semantics of the discourse served as one of the clustering criteria. Points of agreement between focus group members, and groups also guided the formation of clusters. These clustering criteria were grounded in the context of the phenomenon in order to yield rich, trustworthy results. Here, the industry knowledge and experience of the researcher, and the conceptual framework underpinning this study facilitated the respective structural and functional validity of the process (Krippendorff, 2004). The following steps were incorporated in the data reduction process accomplished through clustering:

1. The focus group interview guide was reviewed and referred to throughout the analysis.
2. Transcripts from each interview were read to develop familiarity with the general content. No notes were written, nor was any attempt made to begin categorizing at this point.
3. Transcripts were re-read several times while performing the following analytical functions: (a) identify participant phrases, statements or paragraphs in each transcript that are meaningfully linked to the research purpose and question; (b) cluster these contextual meaning units, identified from all focus group transcripts, to form categories labeled with codes echoing the words used by participants to

describe their experiences; (c) cluster these categories into sub-themes; (d) identify the overarching theme emerging from the subthemes; and (e) review all transcripts again to ensure that all contextual units identified in step (a) were categorized. A spreadsheet was designed by the researcher to capture and organize the data as contextual units were clustered into categories, and themes emerged. This content analysis spreadsheet was used to carry out step four.

4. A dendrogram was used to graphically represent the clustering iterations. A dendrogram is a tree diagram, a schematic that is effective in illustrating the history of the clustering process (Krippendorff, 1980). This figure was included in the qualitative manuscript as a visual depiction of the iterative clustering process used to answer the research question.
5. Subsequent to a discussion of the preliminary results with the dissertation chair, names for the categories, sub-themes and the overarching theme were refined to capture the essence of what was described in the participants' own words, and to create a meaningful presentation for readers who may examine the dendrogram.

Abductive inferences.

Abductive inferences are what distinguish content analysis from other qualitative analyses (Krippendorff, 2004). These inferences represent the progression from texts to the answers to research questions within the specific context of the phenomenon being studied. The emphasis is on context, however, this type of inference often needs to be made without the direct observation of the phenomenon of interest, as was the case in this study. The contextual foundation for interpretation is more readily achievable when the researcher who interprets it, has ample knowledge of the particular field of interest. In

this study, the researcher's familiarity with the healthcare travel industry facilitated the use of logic incorporating knowledge not gleaned from within the specific texts, to draw inferences about the phenomenon.

Whereas deductive and inductive inferences are concrete, logical generalizations, abductive inferences are more abstract, and remain at the level of particulars (Krippendorff, 2004). To clarify, abduction has been described as moving “from a conception of something to a different, possibly more developed or deeper conception if it” (Danermark, Ekstrom, Jakobsen & Karlsson, 2002, p. 91). For example, by examining the phenomenon of onboarding to a new job in the specific context of the travel nurse experience, insight gained pertaining to the learning curve for EHRs may be quite different from that which may emerge from focus group interviews of staff nurses. This feature of abductive inferencing is known as recontextualization (Danermark et al., 2002). In this study, abductive inference transpired as themes emerged from the analysis of texts while centering on the context of travel nurses' unique work arrangement and related onboarding experiences. This process of inference was the hinge to answering the research question. As described earlier, to underpin the analytical structure of this qualitative study component a working spreadsheet was created, which the researcher used to identify themes derived from the text, and to serve as a record supporting replication of the abductive inferences. Moreover the record functions to provide a ready reference should editors request a data audit. This document has been password protected and stored securely with the other electronic data related to this study.

Narrating.

Communicating the results yielded from content analysis must be accomplished in such a way as to ensure that the target audience comprehends and links the results to a gap in the literature. Narrating should include rationale for the choice of content analysis over a method in which the phenomenon is directly observed. In this study, direct observation of a representative sample was not a feasible means since travel nurses are situated as a mobile veil of professional staffing supplementation across all states and territories of the US. For this study narrating has also included the preparation of a manuscript for publication in order to address an identified gap in the literature, communicate with other scholars, and stimulate interest in additional research pertaining to the phenomenon and population of interest. The results of the qualitative arm of the study are presented as a qualitative methods manuscript in Chapter Four.

Data Management and Protection of Human Subjects

Approval for this study protocol was secured from the university Human Subject Research Office before any travel nurses were invited to participate in the pilot study or the general study. Written permission was obtained from the president of the staffing firm, allowing the researcher to access travel nurse personnel file data and to contact the firm's travel nurse clients for the purpose of participating in this study (see Appendix A).

Informed consent was secured from each nurse via the electronic consenting process before access was granted for the participant to complete the survey, and before each participant was contacted for focus group interview scheduling. The same process applied to both the pilot study and the general study.

Consent documentation and survey data were collected electronically via the uSurvey system, backed up on a USB drive, and securely stored at the University of Miami. Prospective participants were informed via the consent that focus group interviews would be audio-visually recorded for qualitative analysis, and that recordings and transcriptions would be stored securely for the length of time required by the University of Miami Human Subjects Research Office, after which they will be destroyed. A statement in the consent informed prospective participants that they may choose to abstain from responding to any survey or focus group question that they are not comfortable answering.

To reinforce confidentiality, the consents, SPSS dataset, audio-visual interview recordings, focus group transcripts, performance evaluation data, and any other analytic notes are stored electronically, and made accessible only to researchers involved in the study. Documents that must be retained in hard copy such as the Quality Assurance binder, will be stored in a designated locked cabinet at the University of Miami, accessible only to the researchers involved in this study.

In the consent, nurses were informed that study results were reported in aggregate terms to protect participants' privacy. Verbatim transcripts of audio-visually recorded focus groups did not include participants' names; altered initials were used to distinguish participants from one another in the transcripts. Although few if any risks were anticipated, participants could potentially experience unpleasant emotions evoked by survey or focus group questions. For example, responding to certain questions could possibly stir up memories of an unpleasant situation encountered while working at a particular job assignment. In the consent, participants were advised to report any such

occurrence to the researcher. In the event of any such occurrence the participant would be offered a referral to a Clinical Liaison at the staffing firm for follow up. One of the roles of the Clinical Liaisons at the firm, all of whom are RNs, is to address clinical and professional concerns expressed by the company's travel nurse clients relative to their job assignments. Participants were informed that their choice to volunteer to participate or not to participate in the University of Miami study would bear no effect on their work status/eligibility with Cross Country Staffing, and that they may withdraw from the study at any time during the survey or focus group interview if they so desired.

CHAPTER 4

A Travel Nurse Focus Group Study: Perceived Impact of Onboarding Experiences on Job Performance

Summary

Travel RNs fulfill temporary full-time contracts in hospitals across the US to bridge critical volume and experience gaps in staffing. Following a brief onboarding process, they are expected to meet hospital job performance standards at each assignment. The impact of assignment onboarding experiences on job performance as perceived by travel nurses has not been studied.

The purpose of this study was to inform understanding about travel nurses' job assignment onboarding experiences, and how travel nurses perceive these experiences to facilitate or hinder job performance. This research represents the qualitative arm of a mixed methods parent study carried out to explore the impact of the onboarding process (orientation and integration) at new job assignments on travel nurses' job performance. Data were collected via four audio-visually (AV) recorded web-conference focus group interviews, each virtually attended by two to five travel nurses geographically dispersed across 10 different states ($N = 15$). Focus group interviews were recorded, transcribed verbatim, and then analyzed using qualitative content analysis.

The overarching theme that emerged, "Onboarding matters: Travel nurses know what they need", has four sub-themes reflecting elements nested in phases of the travel nurse onboarding process at hospitals: 1) Travel Nurse Arrival: Efficient & Practical Onboarding Design; 2) On the Nursing Unit: Blending With the New Team; 3) Logistics:

How the Unit Works; and 4) Tenacity: Meeting Job Assignment Expectations. This study yielded new knowledge to generate understanding of travel nurses' perspectives about how job assignment onboarding experiences at hospitals influence their job performance. This knowledge also informs the development of more effective onboarding procedures, agendas, venues, and techniques that support optimal job performance of these essential healthcare professionals.

What is Already Known About This Topic?

- Research has been carried out to explore the onboarding needs of experienced permanent staff nurses transitioning into new jobs and roles (Bartz, 1999; Dellasega, Gabbay, Durdock, & Martinez-King, 2009). Travel nurses' work arrangements differ substantially from that of their permanent staff counterparts.
- Although there are few studies about travel nurses as a homogenous entity, researchers have suggested that nurses contracted by hospitals from outside agencies require thorough orientation and socialization characterized by clear, effective communication that is consistent between the staffing firm and the hospital, and that these nurses should be regarded as fellow professional team members (Hurst & Smith, 2011; Kane, Shamliyan, Mueller, Duval, & Wilt, 2007; Manias, Aitken, Peerson, Parker, & Wong, 2003; Pham, Andrawis, Shore, Fahey, Morlock, & Pronovost, 2011; The Joint Commission, 2012).

What This Paper Adds

- Understanding of how travel nurses perceive job assignment onboarding experiences to impact their job performance.

- The results of this study contribute new knowledge to support informed approaches for orientation and integration of travel nurses on temporary hospital job assignments, setting the stage for best job performance outcomes.
- Onboarding needs reported by travel nurses align with their unique work arrangement, and differ from those of permanent staff nurses.
- Travel nurses assess, evaluate, compare and contrast the quality of their onboarding experiences at job assignments, which shapes their future decisions pertaining to selection of contract offers.
- The discussion showcases implications for onboarding practices as derived from travel nurses' depictions of what constitutes the ideal onboarding experience.

Background

Orientation and integration (socialization) experiences comprise what is referred to, in this study, as onboarding to a new job. Literature covering this topic spans onboarding practices for experienced and new nurses of various specialties, nurse practitioners, chief nurse executives, transcultural onboarding programs and most abundantly, residency programs for newly hired recent graduate RNs (Bartz, 1999; Dellasega, Gabbay, Durdock, & Martinez-King, 2009; Greene, 2010; Hargreaves, Nichols, Shanks, & Halamark, 2010; Nease, 2009; Olsen-Sitki, Wendler, & Forbes, 2012; Woolforde, 2012). Conversely the degree to which the quality of onboarding experiences is perceived by travel nurses to impact their job performance has not been studied.

The work arrangement of travel nurses differs markedly from that of their permanent RN staff counterparts. Travel nurses comprise a distinct workforce category within the genre of supplemental nurses in the US. They are contracted by health

organizations through the agency of healthcare staffing firms for full-time temporary job assignments lasting typically 13-weeks, to bridge RN volume and experience gaps (Faller et al., 2011; Goodman-Bacon & Ono, 2007; Pham et al., 2011; Shaffer, 2006; Tutas, 2011; Wright & Bretthauer, 2010). These nurses relocate as often as every two to three months to satisfy RN staffing needs in hospitals that are geographically dispersed across the US. Following a brief onboarding period at each job assignment, travel nurses must integrate as productive team members, empowering hospitals to maintain seamless consistent and appropriate staffing to ensure the delivery of safe, high quality patient care. Travel nurses are contracted for a specific period of time and often on short notice (Greene, 2010). Therefore they must adapt promptly to new surroundings and equipment, organizational cultures, policies and procedures, and effectively integrate with hospital staff in order to perform their jobs in a safe efficient manner that meets or exceeds the hospital's expectations.

Little research has been published about travel nurses. No researchers have studied the impact of onboarding experiences on job performance as perceived by these nurses. This paper is a description of the qualitative arm of a mixed methods study designed to answer the following research question: What onboarding experiences do travel nurses perceive to have an impact on their clinical and professional job performance?

Prior Research

Qualitative methods have been used to explore the onboarding experiences of permanent nurses transitioning to new roles and specialties. Researchers used daily journaling followed by a focus group interview to explore the onboarding experiences of

experienced RNs transitioning into new roles and jobs as case managers for persons with diabetes mellitus, over a six-month orientation period (Dellasega et al., 2009). Journal entries describing the first few weeks of orientation portrayed high levels of anxiety related to concerns such as the degree of capability to perform the new job, and how to blend with new co-workers as the nurses experienced a change from being an expert in their previous specialty, to a novice in the new role. The nurses expressed that an opportunity to consult with a nurse who had completed this transition before them, would have facilitated their own transition.

In earlier research, open-ended interviews were used to explore orientation-learning needs of 10 experienced nurses who transitioned to a new role spanning one to three years preceding the study (Bartz, 1999). Participants described what characteristics of the three-week onboarding program facilitated or hindered their transition. Facilitators to successful onboarding were identified as having access to a physician directory with corresponding photos, and having access to a specifically designated clinical nurse as a resource to whom questions could be directed during the onboarding process. Drawbacks to effective onboarding were identified as preceptors who were perceived not to be an appropriate fit for the role, and onboarding agendas that were deficient in content regarded by the nurses as relevant to their success.

In structuring an effective onboarding program, it is necessary to base the content on knowledge about the learners and their expressed learning needs, realizing that not all types of orienting groups have the same needs (Kiel, 2012). When selecting preceptors for orientation of newcomers one must recognize that not all clinical experts are suited for the role (Kiel, 2012). Interventional researchers have documented strategies to

improve the socialization process for newly hired RN staff during the onboarding period including but not limited to personalized email welcome letters and photo boards to prepare existing staff to receive the newcomer (Hinson & Spatz, 2011). Other scholars described the development of a “Clinical Scholar” role, fulfilled by nurses who demonstrate an affinity toward the role of a preceptor (Hattler, Stoffers, Kelly, Redding, & Carr, 2011). Current literature yields no studies relative to the onboarding experiences or expressed onboarding needs of travel nurses.

Study Description

Design.

Using a qualitative system of inquiry, data were collected via Internet technology using four audio-visually (AV) recorded web conference focus group interviews ($N = 15$) with the intent to explore travel nurses’ overall experiences, feelings, beliefs and general opinion pertaining to the process of onboarding at new job assignments. The researcher retained a research assistant (RA) to coordinate and moderate the focus groups. The RA was an experienced travel RN fulfilling a baccalaureate degree research practicum in preparation to transition into a masters degree program. After being educated along with the researcher by an experienced qualitative researcher, which is the researcher’s dissertation chair, the RA coordinated and moderated the study focus groups using a focus group interview guide designed by the researcher. The guide was composed of core and probing questions funneling from general to specific in scope to maintain a purposeful trajectory and to facilitate efficient use of participants’ time. The focus group interview guide is in Appendix I.

Sample and setting.

The travel nurse sample for this study was acquired as a subset of the parent study. Reports generated from the electronic operating system of a national healthcare staffing firm in January 2013 and February, 2013 listed all travel nurses in the firm's database that met parent study inclusion criteria: (a) travel RNs who; (b) had completed at least two job assignments in the past 18 months and who; (c) had completed an assignment within the past three months through the agency of the firm from which they were being recruited for the study, and for which; (d) there was a performance evaluation on file for that assignment. These criteria were purposefully specified to include only participants who had acquired sufficient and recent enough travel nursing experience to contribute ample and current feedback regarding the onboarding process. The reports yielded a total of 991 travel nurses, which were invited to participate in the study. The RA contacted the parent study enrollees who specifically consented to be contacted for participation in a focus group ($N = 76$). A systematic selection process was used (Krippendorff, 2004), in which the RA attempted to contact every third travel nurse that consented to a focus group interview, recycling the progressively expanding list of candidates until four focus groups had been hosted. Focus group participants were geographically dispersed across 10 states in the US, with the greatest concentrations in the following states: Florida (20%), California (20%), and Hawaii (13%). The remainder of the sample was dispersed among the following states: Kentucky, Maine, New Hampshire, Pennsylvania, Tennessee, Virginia, and Washington.

Although six to 12 is a generally accepted number of participants per focus group interview, Finch & Lewis (2003) acknowledge that groups composed of professionals,

such as in this study, tend to contribute more freely in a focus group interview, so a smaller group may be preferable in order to accommodate this feedback. In this study, four virtual focus groups were each attended by two to five travel nurse participants. The web conference system allowed for each participant to see, hear and interact with one another. Although the size of focus groups fell short of the anticipated six to eight participants per interview, the dynamics for the smaller groups did not differ from those of larger groups and each group yielded substantial contributions to the data.

Procedures.

The collaborating healthcare staffing firm provided written permission to contact travel nurses from its client database. Once protocol approval was secured from the university Human Subject Research Office, recruitment and data collection commenced on January 24, 2013, ending on March 26, 2013. An invitation to participate in the study was distributed by email to the 991 travel nurse invitees that were selected as described in the preceding Sample and Setting section. This letter provided a general overview of both study components, and invited recipients to click on an embedded link triggering the consent to open with more details about the study. Consent for the focus group interview was obtained within the single electronic consent form. Invitees were informed via the consent that focus group interview participation required access to a computer with a webcam, microphone, speakers and Internet connectivity. The capacity to establish an audio connection to the web conference by telephone was also available.

The recruitment effort proved to be challenging because not all of the consenting nurses responded to the RA's repeated calls or emails to be scheduled for a focus group interview. Of the nurses who could be reached, some indicated that their availability had

since changed rendering them no longer available to participate, and others advised the RA that they changed their minds and were not interested in participating after all. That being said, the RA was still able to confirm, schedule, and reconfirm six to 13 travel nurses for each of four focus groups. Confirmed participants received a text message and email reminder from the RA the day prior and the morning of their respective focus group interviews. Nonetheless, last minute attrition impacted focus group sizes as a portion of confirmed travel nurses from each focus group did not attend their interviews, even after re-confirming to the RA their intent to join the interview as proximal as one hour prior to start time.

Thirty minutes before the focus group interview was scheduled to begin each participant received an email message containing an embedded link, which when clicked on, triggered the web conference Internet site to open, granting each participant access to attend the virtual interview. Instructions guided participants to click on icons displayed on the web conference Internet page to activate webcam and audio connectivity, enabling them to interact with one another and the moderator via webcam and microphone.

The moderator confirmed connectivity of all participants, then described the purpose of the interview, outlining the ground rules designed to maintain order, accommodate participation by all, and to facilitate timely completion. Before activating the AV recorder, the moderator reminded participants that per the consent, the interview would be recorded for study analysis purposes, and that at any time during the interview, participants might choose to exit the interview, disable the webcam image or mute the microphone. The RA used a semi-structured focus group to guide the discussion. This guide included questions such as: “How would you describe some of your onboarding

experiences at new job assignments in the past?” and “How would you describe the ideal onboarding experience to a new job assignment?” The focus group interview guide is in Appendix I. Participants were thanked for their time and contributions to the research at the conclusion of the interview, and the recorder was stopped. The interviews ranged in length from 33 to 52 minute each. At the conclusion of each focus group interview, the moderator closed the web conference “meeting room”, thereby disabling any further access to it by participants. Participants were compensated with a \$5.00 electronic gift card that they received from the researcher within three to five business days after participating in the focus group interview.

Data analysis.

The researcher retrieved the interview recordings from the secure web conference platform, and carried out the analysis. Each interview recording was viewed for the first time without any note taking or analytical processing. The researcher transcribed each recording verbatim during the next several viewings, observing group dynamics and non-verbal activity. The researcher used qualitative content analysis as described by Krippendorff (2004) to analyze the verbatim transcripts. By reviewing the transcripts several times in the context of the research question, the researcher identified contextual meaning units, which are phrases, sentences and paragraphs within the transcript that contribute directly toward answering the research question. Partitioning these units from the transcript data onto a spreadsheet, the researcher re-examined them in the context of the research question and clustered into 31 categories that were labeled using the participants’ own words. By this iterative process of inferencing, themes emerged as categories were clustered with the emphasis on context. The same process was used to

analyze the transcripts for each focus group interview. Saturation had been reached at the completion of the fourth focus group interview. Results of the analysis are depicted graphically as a dendrogram in Figure 7.

Results

Participant characteristics.

Participants, representing six general nursing specialty categories and spanning four age range groups, were located in 10 different states ($N = 15$). Females comprised 87% of the sample. Characteristics of participants in this study are further detailed in Table 6.

Overview of themes.

Four themes emerged from travel nurses' reported onboarding experiences as they relate to job performance: (a) Travel Nurse Arrival: Pragmatic, Efficient Onboarding Design; (b) On the Nursing Unit: Blending With the New Team; (c) Logistics: How the Unit Works; and (d) Tenacity: Meeting Job Assignment Expectations. In essence, these themes map the progression of the onboarding process from the pre-arrival telephone interview to the initial arrival and reception for general and unit orientation, exposure to the personalities, culture and work flow of the assigned unit and finally, the travel nurse's self-assessment of what personal skills, attributes and attitudes are needed in order to integrate promptly to meet hospital expectations at each assignment.

The final overarching theme, "Onboarding Matters: Travel Nurses Know What They Need", emerged from iterative inferencing that transpired throughout the content analysis. Common to all of the focus group interviews was a notion of confidence as travel nurses openly and willingly shared their experiences, often expressing agreement

with one another both verbally and non-verbally, and offering clear direction pertaining to how and what onboarding practices serve as facilitators or barriers to their performance.

Travel nurse arrival: Pragmatic, efficient onboarding design.

Eight categories comprised this theme. Participants expressed a need to receive specific and accurate information from the nurse manager prior to accepting a contract, such as patient ratios, floating policies, scheduling policies, and clinical orientation structure. Nurses shared experiences in which the information they received about the orientation schedule or how the unit operated was not what they encountered upon arrival. For some assignment interviews, nurses could not speak directly with a manager because the hospital engaged in a third party liaison arrangement, which was perceived by travel nurses as a barrier to receiving pertinent information. Often, there is only a brief window between assignments to relocate. There was agreement among participants about the need to receive specific accurate information prior to arrival, so that they could “plan a little in advance”, and be free to focus directly on performing the job immediately upon arrival to the hospital:

One of the pieces that has stressed me out and made things harder for me is... the lack of communication between the facility and you about where you are supposed to be when, on day one, how long that orientation piece is going to be....it makes you look bad, when you're not there at the right time.

Today, many hospitals administer onboarding content to travel nurses via Internet technology prior to arrival or in the hospital's computer lab upon arrival, eliminating the need for a lecture room and presenters. Some travel nurses favored this modular approach while others preferred a classroom lecture. Concerns were raised about being required to

complete time-consuming online content prior to arrival while still working a busy assignment elsewhere. Being paid for the hours it takes to complete these modules was also an expressed concern.

A perceived lack of hospital preparedness for the arrival of travel nurses emerged as a prevalent source of frustration that hampered the efficiency of an already ephemeral onboarding agenda. Participants expressed such concerns largely in terms of system passcodes and ID badges that granted clearance for these nurses to access the technology necessary to perform their jobs:

I've been at assignments where I didn't have Pyxis access for a couple weeks and that becomes an issue...that can potentially create...delays in your patient care because you cannot access what you need to complete your task.

Having to repeat annual mandatory safety modules with each assignment such as hand washing, fire safety and blood borne pathogens was described as “tedious”, “annoying” and “redundant”. Content such as the hospital’s philosophy, mission, and values although not discounted, was perceived as “fluff” that shifted the use of limited onboarding time away from what these nurses really needed to support job performance, such as more exposure to key policies and procedures, hands-on practice with medical equipment and computer charting, and time with a preceptor on the unit to learn the unit routine and specific processes, all of which was often cited as deficient.

On the nursing unit: Blending with the new team.

This theme emerged from 10 categories relating to experiences and the perceptions of onboarding that occur once the travel nurse proceeds to the assigned nursing unit, is paired with a preceptor, and begins to integrate with the team. Participants

agreed on the importance of an appropriately selected preceptor as succinctly described by one participant:

Hopefully the person that you're precepting with... shows you around the unit, where to find things, introduces you to people. I think that is the key, a very key part of the onboarding process; how you are precepted how long you're precepted, and how well the person you are paired with knows things themselves.

Agreement was noted within and between travel nurse focus groups about how the preceptor's influence is "very key to the onboarding process", and how a poor quality onboarding experience results when a travel nurse is paired with a disengaged preceptor. One travel nurse explained that when a preceptor "didn't want to do anything", the orientation became "a waste of seven hours".

Participants concurred that face-to-face introduction, communication, and accessibility of the nurse manager and others such as charge nurses, educators, and assistant nurse managers was of high importance relative to their job performance. They indicated that they want the manager to put a face with the travel nurse's name; the manager submits the written job performance evaluation and makes the decision as to whether contract renewal will be offered or the nurse will be welcomed back in the future. These evaluations also affect travel nurses' ability to secure future job assignments at other hospitals because they become part of their permanent profiles. Participants expressed that they would like to receive face-to-face feedback from nurses in leadership roles on the unit about their clinical and professional performance a few weeks into their assignments to help them gauge their own performance and determine how well they are meeting the hospital's expectations.

Expressed perceptions relative to interactions with staff and the process of “fitting in” while adjusting at job assignments were favorable with few exceptions. The general sense that emerged in terms of interactions with the staff was that the travel nurses perceived they were welcomed as a relief to staffing shortages and that staff was generally very understanding and willing to answer questions.

Logistics: How the unit works.

The six categories leading to the emergence of this theme showcase the importance of the unit-specific information, tools and resources required by travel nurses to perform their work. A salient preference expressed by travel nurses was for the allocation of a greater proportion of quality onboarding time on the assigned unit with a preceptor, learning the work flow specific to the unit, and spending less time in a classroom setting listening to orientation lectures and receiving generalized hospital information. One participant summed up the common preferences well in this statement:

...to be able to kind of shadow ... and do the charting and do the calling and do the, you know retrieval and finding out where everything is on the unit and you know pulling the labs. And doing all that stuff, stuff that can slow us down so much when we don't have someone to help us and we need something you know right away. To be allotted a certain amount of time ...to do those kinds of things ...and cut out the fluff and stuff we don't need and the redundant things.

A central point of interest related to unit-based onboarding pertained to the challenge of adapting to electronic documentation systems, which vary from hospital to hospital. Participants emphasized that hands-on exposure while on the assigned unit with the preceptor was the best means for them to develop adequate proficiency with an unfamiliar system. Agreement was noted among participants that the typical two to four hours of orientation in a computer lab is not usually sufficient, albeit with the

accumulation of completed assignments these nurses develop some intuitive ability to adapt more readily to new systems. Concern was voiced about the implications of not knowing where to document patient care or how to navigate the charting system, for example:

...that's what gets me the furthest behind every day...I've got four patients to chart on and I'm still doing my noon meds...its one - two - three in the afternoon and I really need to get on this...and it seems like they... figure you'll just pick it up as you go along but I feel like in my professional practice I would like to be better at doing something that is so, so important because it's your legal documentation and if you can't get that right, you could be in trouble.

Tenacity: Meeting job assignment expectations.

The fourth theme emerged from seven clustered categories characterized by a degree of abstraction via a notion that emulates resoluteness, a spirit of endurance, and a will to succeed. The theme represents a need to deal with transient, newcomer-related experiences, such as: (a) feeling “incompetent” for the first few shifts; (b) “being a bother” to staff while adapting to new surroundings, and asking questions; (c) needing to “prove and advocate for yourself” as a newcomer, and (d) garnering “support” and professional “respect”. While there was agreement among participants across focus groups regarding the need to address newcomer experiences afresh at each new job assignment, there was also an awareness that it was to be expected in this work arrangement, and that the interpersonal art and skill of a successful travel nurse calls for the ability to “advocate” for oneself, not hesitate to “ask questions”, proactively “introduce yourself” to others, and let the staff “see that you are willing to work”. As one participant described these essential attributes, “You have to improve your versatility

skills...you develop little tricks here and there to adjust to being floated around everywhere and, and in unfamiliar places”.

Participants expressed that a degree of anxiety precedes the start of a new job assignment, even for a seasoned travel nurse. However, with little time to become a productive team member, these nurses acknowledged that it is essential to start building relationships immediately upon arrival, and to be proactive in securing the information and tools necessary to perform the job, while maintaining an awareness and attitude that a contract nurse is a “guest in the house”. Job performance is weighed in the balance, yet it is challenging at the start of the assignment when there are so many questions to ask, for example:

I realize I am interrupting everybody with their work but it would be helpful if I could get the answers I need quickly and then I can carry on and not have to keep looking from one person to the next person to the next person just to figure out where does this go, where can I find this, how do I chart this...

From this perspective, there was a desire for a specific resource person or designated “ambassador” to whom a travel nurse could refer all questions. Some participants suggested that a unit educator or resource nurse would be appropriate. Others offered that another travel nurse who has been on the unit for a few weeks already, would be the ideal resource and could most effectively anticipate what a fellow travel nurse would need to know.

Discussion and Implications

Interviews for this study may have been the first opportunity for travel nurses to directly contribute to a body of scientific knowledge that can be used to improve their onboarding processes. Results of this study broaden a modest but growing body of

knowledge about the onboarding experiences of non-novice RNs by showcasing the perspectives of travel nurses, whose work arrangements differ widely from that of permanent staff nurses, and who regularly experience what it is like to be a newcomer.

The overarching theme: “Onboarding Matters: Travel Nurses Know What They Need” resonates somewhat with previous research despite differences between the work arrangements of permanent staff nurses and travel nurses, exposing a viewpoint among experienced nurses that formal onboarding itineraries are typically not founded on what the nurses themselves deem important (Bartz, 1999). In this study, participants made known their specific priority onboarding needs. These nurses did not identify a lack of confidence in clinical skills or the degree of acceptance by the permanent staff as a concern or barrier to performance.

Deemed important was prompt access to clearance codes, key people, unit-based information, documentation systems, policies, procedures, standing orders, contact lists and other workflow resources essential to reach productivity over a brief window of time. Links were noted between the findings of previous studies (Bartz, 1999; Dellasega et al., 2009) and this study. In previous studies onboarding nurses preferred to have access to a designated resource person to whom questions could be directed. Participants in this study envisioned this resource ideally as another travel nurse that was already on assignment at the facility. The influence of the preceptor on the quality of onboarding, and a desire to have a physician photo directory were other basic facilitators common to this and previous research (Bartz, 1999).

Study limitations.

In this study, the sample was derived as a subset of the convenience sample of travel nurses enrolled in the parent study, recruited from the client database of one national healthcare staffing firm. Travel nurses are commonly registered with several staffing firms simultaneously, which augmented the degree to which this sample was representative of the US travel nurse population at large. Nonetheless, findings from this study cannot be generalized. The technological requirements for participation in this study represented a potential limitation in that not all study invitees had access to a computer with webcam, speakers and microphone as was necessary to participate in the web conference focus group interviews. The relationship of the researcher to the staffing firm as the Director for Standards and Certification representing the firm to The Joint Commission, and subsequently as a nurse researcher for the purpose of completing this study, may have influenced the decision of some invitees to participate or not. Hence the RA was retained for data collection in an effort to distance the researcher from the participants. Finally, the number of participants per focus group was fewer than what was aimed for as nurses' availability or willingness to participate often changed over the 24 hours preceding each interview. This challenge of changing availability was congruent with the experience reported by Murray (1997) when attempting to coordinate asynchronous email focus groups with healthcare workers.

Despite potential limitations of this study, a high level of participant engagement and professional courtesy were characterized in the dynamics of each focus group interview as observed in the review of the AV recordings. Each travel nurse spoke without evidence of hesitancy, contributing with little prompting or probing regardless of

how many or few participants attended each focus group. Interaction between participants flowed and agreement or disagreement was expressed, both verbally and non-verbally with nods, smiles, and chuckles. These dynamics echo the observations of Finch & Lewis (2003) who acknowledge that participants in groups composed of professionals tend to contribute more freely in a focus group interview, so a smaller group may be more effective to accommodate this feedback. In likeness to the richness and abundance of the data yielded from a single focus group interview with three participants in the research of Dellasega et al., (2009), the four focus group interviews in this study generated findings that can be used to inform policies and interventions addressing the specific onboarding needs of travel nurses.

Implications.

Concern has been exposed in prior literature about the abbreviated orientation of temporary staff and their unfamiliarity with new settings (May, Bazzoli, & Gerland, 2006; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsjy, 2002). Researchers have argued that danger is posed by inadequate orientation, despite the notion that paying for more extensive onboarding of temporary staff is a challenge to justify (Pham, Andrawis, Shore, Fahey, Morlock, & Pronovost, 2011). In this study, participants referred to a two to three day onboarding experience as adequate if it is well organized to include the necessary information, tools, and resources. In this sense, there is a clear call to re-visit the onboarding design including structure, content selection, and time allocation to better match travel nurses' specific needs. The results of this study showcase a wealth of knowledge and opportunity for organizing and structuring travel nurse onboarding programs differently to achieve efficiency, value, and standardization central to travel

nurses. Some of the salient points extracted from the data are summarized in Table 7 as practice implications for nurse managers, educators, and others who are responsible for organizing the onboarding agenda for travel nurses.

Conclusions

The findings of this study harmonize with those of earlier research pertaining to the onboarding of experienced nurses to new jobs, while adding to the literature in the context of onboarding effectiveness specific to travel nurses, whose work arrangement and onboarding timeframe differ widely from that of permanent staff nurses. These findings point to opportunities for improvement of onboarding practices to support greater efficiency, and to facilitate prompt, yet effective integration of travel nurses to their job assignments, setting the stage for optimal job performance. New information generated by this study is derived from travel nurses' directly communicated, first hand experiences, establishing a feasible foundation from which to design onboarding agendas that incorporate content and practices defined by the nurses themselves as essential to support optimal job performance.

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Conflict of Interest and Funding

Effective December 31, 2012, after six years of employment with the company, the researcher resigned from the position of Director of Standards and Certification at Cross Country Staffing to focus directly on completing this research, yet remained in affiliation with the firm in a modestly compensated role as a nurse researcher in order to maintain access to the firm's operating system until this study was completed. Relative to this relationship, and to distance the researcher from the participants, a research assistant was engaged to coordinate and moderate the focus group interviews. The study consent disclosed the relationship of the researcher with the staffing firm, and articulated assurance that: (a) the decision to participate or not to participate in the study had no bearing on a travel nurse's eligibility for placement on job assignments with Cross Country Staffing, and (b) that the staffing firm would not have access to study data. No funding was received from Cross Country Staffing or any other source, to carry out this research. The researcher personally funded all participant remuneration and any other expenses incurred by the research.

CHAPTER 5

The Impact of Job Assignment Integration Factors on Travel Nurse Job Performance

Overview

Relationships were examined between travel nurse job performance, and three factors that are theoretically linked to job performance: (a) organizational socialization, (b) self-efficacy, and (c) the nurse work environment. Cross-sectional survey and job performance data of travel nurses ($N = 107$) were analyzed using simple and multiple linear regression. Relationships were not statistically significant, albeit response bias and a ceiling effect might have influenced the results. Limitations, implications and directions for future research are discussed.

Introductory Remarks

Nurse staffing as an antecedent to patient outcomes, is widely addressed in the literature (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; American Nurses Association, 2012; Blegen, Goode, Sptez, Vaughn, & Park, 2011; Cimiotti, Aiken, Sloane, & Evan, 2012; Kane, Shamliyan, Mueller, Duval, & Wilt, 2007; Needleman, Buerhaus, Pankratz, Leibson, Stevens, & Harris, 2011; Needleman, Buerhaus, Soeren, Stewart, & Zelevinsky, 2001; Weston, Brewer, & Peterson, 2012), as are efforts to define appropriate nurse staffing (Aiken, Sloane, Cimiotti, Clarke, Flynn, Seago, . . . Smith, 2010; Anderson, Frith, & Caspers, 2011; DeVandry & Cooper, 2009; Weston, et al., 2012). A shortage of experienced hospital nurses may exist (Xue, Smith, Freund & Aiken, 2012) as baby boomer generation RNs approach retirement (Juraschek et al., 2012; Kimball & O'Neil, 2002; Richardson, 2011; Buerhaus, 2008) and general

population “boomers” enter the life phase of increased healthcare use (Juraschek, et al., 2012; Pritchard, & Potter, 2011; Keehan, Lazenby, Zezza, & Catli, 2004) leaving a diminishing supply of experienced hospital nurses to meet increasing demand. Twenty-first century nurse staffing calls for flexible, cost-effective staffing models that correspond with fluctuating patient censuses to assure continuity of safe, quality patient care. Experienced, mobile, and flexible, travel nurses are contracted through the agency of staffing firms by hospitals for temporary (typically 13-week) full-time job assignments to bridge volume and experience gaps, preserving appropriate, stable nurse staffing. For more than three decades travel nurses have been contracted to restore nurse staffing in hospitals, and trends offer no promise of reduced utilization in the foreseeable future. Fifty-six percent of hospitals surveyed by First Consulting Group (2001) used travel nurses to meet staffing needs ($N = 1092$). In Round Five of the Community Tracking Study, 75% of participating hospitals ($N = 32$) used temporary nursing staff (May et al., 2006). Ninety-five percent of Magnet® designated hospitals meet up to 6% of nurse staffing needs with supplemental staff (Aiken, 2012). Data from 2005-2006 showed that of 665 hospitals spanning four states (California, Florida, New Jersey, and Pennsylvania), 19% reported use of supplemental nurses to meet more than 15% of nurse staffing needs (Aiken et al., 2012).

As newcomers to jobs on a frequent, recurring basis, and with just a few days to reach full productivity at each job assignment, travel nurses must begin to integrate with the healthcare team in a new setting immediately upon arrival. A knowledge gap exists pertaining to the impact of job integration factors on travel nurse job performance. Researchers have relayed concerns that temporary nurses lack familiarity with hospital-

specific policies and protocols, and that a well-structured, effective orientation and socialization process is necessary to underpin their effectiveness, yet there is a deficiency of research to guide policies and practices about staffing with temporary nurses (First Consulting Group, 2001; Harding, 2004; Hurst, & Smith, 2011; Kane, et al., 2007; Pham, Andrawis, Shore, Fahey, Morlock, & Pronovost, 2011). Despite lingering concerns about quality care and patient safety in the face of supplemental staff use, researchers have failed to show a direct link between the proportion of supplemental nurses used and adverse patient outcomes (Aiken, Shang, Xue, & Sloane, 2012; Xue, Aiken, Freund, & Noyes, 2012). Taking into account travel nurses' unique work arrangement, the abbreviated window of time allocated to adapt to each new work setting, and perceived quality concerns expressed by healthcare leaders related to the use of temporary nurses (Aiken, Xue, Clarke, & Sloane, 2007; Estabrook, Midodzi, Cummings, Ricker, & Giovannetti, 2005; Hurst & Smith, 2011; May, Bazzoli, & Gerlans, 2006; Pham, Andrawis, Shore, Fahey, Marlock, & Pronovost, 2011; Roseman & Booker, 1995), the degree to which newcomer job integration factors affect travel nurses' job performance merits examination.

Research specific to travel nurses is lacking (Kane et al., 2007; Faller, Gates, Georges, & Connelly, 2011). The initial compendium of onboarding integration experiences has been theoretically associated with newcomer job performance (Harton, Borrelli, Knupp, Rogers, & West, 2009). Researchers have explored associations between specific factors and newcomer job performance including: (a) organizational socialization (Fisher, 1985; Randall, Cropanzano, Bormann, & Birjulin, 1999; Reio & Wiswell, 2000; Saks, Uggerslev, & Fassina, 2007; Wang, Lin, & Yang, 2011), (b) perceived self-efficacy

(Bandura & Locke, 2003; Judge & Bono, 2001; Manojlovich, 2005; Lee & Ko, 2010; Saks, 1995; Stajkovic & Luthans, 1998), and (c) the nursing work environment (Hassmiller, & Cozine, 2006; Shader, Broome, Broome, West, & Nash, 2001; Spence Laschinger, Finegan, Shamian, & Casier, 2000; Spence Laschinger, Finegan, & Wilk, 2011). To date, no researchers have examined the degree to which a relationship exists between these factors and job performance in the specific context of travel nurses. The purpose of this study was to examine the association between three theory-linked job assignment integration factors: (a) organizational socialization, (b) perceived self-efficacy, (c) the nursing work environment, and travel nurse job performance evaluation scores as rated by nurse managers. These findings can add to a diminutive existing knowledge base about travel nurses to offer guidance in the development of onboarding programs purposefully designed to successfully launch these nurses to productivity and optimal job performance within the brief window of onboarding time after arrival to each hospital job assignment.

Background

Social Cognitive Theory.

The conceptual framework for this study, Social Cognitive Theory (SCT) is the occurrence of human activity via reciprocal interactions between three sources of influence: (a) cognitive and other personal factors, (b) environmental factors and (c) behavior (Bandura, 1986). This set of interactions, identified by Bandura as “triadic reciprocity”, involves human agency, meaning human beings generate contributions toward their own incentives and conduct. In the current study, SCT was used to conceptualize the relationship among cognitive and other personal factors (perceived self-

efficacy and organizational socialization), environmental factors (nursing work environment) and behavior (job performance). The research question for this study was: Do travel nurses with higher self-rated organizational socialization, self-efficacy, and nursing work environment scale scores, yield higher quality job performance? To answer this question, four hypotheses were incorporated, each controlling for demographic factors shown to have an impact on job performance. These hypotheses were:

1. Nurses who rate their experiences more positively measured on the organizational socialization sub-scales developed by Chao and colleagues (1994) will yield higher quality job performance.
2. Nurses who perceive the nursing work environment more favorably measured on the PES-NWI scale (Lake, 2002) will yield higher quality job performance.
3. Nurses with higher levels of self-efficacy measured on the NGSE scale developed by Chen and colleagues (2001) will yield higher quality job performance.
4. The combined effects of organizational socialization scores, nursing work environment scores, and self-efficacy scores will predict job performance ratings as measured by their managers.

Organizational socialization.

Organizational socialization is “the process by which newcomers transition from being organizational outsiders to being insiders” (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007). In their seminal work, Chao, et al. (1994) examined socialization across six dimensions: (a) Performance Proficiency; (b) People; (c) Politics, (d) Language (e) Organizational Goals and Values; and (f) History. Among their results these researchers found that the process of social adjustment to a new organization was more complex than

the process of socialization to a new job within the same organization. From another perspective using a different scale, Taormina & Law, (2000) examined socialization among Hong Kong RNs ($N = 154$) and found an inverse relationship between burnout and dimensions of socialization. Burnout has been linked to job performance (Parker & Kulik, 1995; Poghosyan, Clarke, Finlayson, & Aiken, 2010), and researchers studying newcomers to hospital jobs ($N = 422$) found well-socialized newcomers to hospital jobs less likely to experience burnout (Thomas & Lankau, 2009). Other studies have centered on the direct relationship between organizational socialization and job performance. Wang and colleagues found a significant direct relationship between elements of organizational socialization and job performance among 203 Chinese employees (Wang, Lin, & Yang, 2011). Similarly, a meta-analysis ($N = 30$) carried out by Saks and colleagues showed a significant positive relationship between organizational socialization tactics and job performance (Saks, Uggerslev, & Fassina, 2007). One of the aims of the current study was to examine the relationship between organizational socialization and the job performance of US travel nurses.

Perceived self-efficacy.

Perceived self-efficacy is the self-rated degree of “capability to accomplish a certain level of performance” (Bandura, 1986, p. 391) “across a variety of situations” (Judge, Erez, & Bono, 1998, p. 178). Self-efficacy levels of newcomers may influence the impact of training and socialization on job performance. In a longitudinal study with two data point times ($N=198$; $N=154$), the level of initial self-efficacy significantly predicted job performance among entry-level accountant newcomers whereas orientation did not (Saks, 1995). A meta-analysis of 114 studies showed that self-efficacy was

significantly related to job performance (Stajkovic & Luthans, 1998). Other studies align with these findings. Lee and Ko, (2010) studied how self-efficacy, affectivity (an individual personality disposition to feel either optimistic or non-optimistic affects), and collective efficacy (self-efficacy manifested as a group characteristic) influenced the job performance of 1966 hospital nurses in 28 Korean metropolitan hospitals. These researchers found the strongest correlation was between self-efficacy and nursing performance ($r = .57, p < .001$).

Manojlovich (2005) studied 376 Michigan nurses to examine the effects of self-efficacy on professional practice behaviors in conjunction with the effects of two environmental factors: (a) nursing leadership and (b) structural empowerment (opportunity, resources, information, and support). Self-efficacy was significantly related to professional practice behavior ($r = .45, p < .01$). High levels of self-efficacy might be associated with behavioral choices conducive to achieving success in new ventures (Judge, Erez, & Bono, 1998). A theoretical link exists between perceived self-efficacy and job performance. The relationship between perceived self-efficacy and job performance was examined in the context of travel nurses in this study.

Nursing work environment.

In this study the work environment of nurses is regarded interchangeably with the nurse practice environment as “the organizational characteristics of a work setting that facilitate or constrain professional nursing practice” (Lake, 2002, p. 178). Its influence on

professional practice behavior is acknowledged in the literature (Aiken, Cimiotti, Sloane, Smith, Flynn, & Neff, 2011; Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Committee on Quality of Healthcare in America, Institute of Medicine, 2001; Hassmiller & Cozine, 2006; Kimball & O'Neil, 2002; Lake, 2002; The Joint Commission, 2009; Trinkoff, Johantgen, Storr, Gurse, Liang, & Han, 2011). Nurses are empowered to interact more effectively with other disciplines and to perform their jobs most efficiently when working in a supportive, professional environment (Lake, 2002).

Staffing adequacy impacts the nursing work environment and has been studied in terms of its effect on patient safety and quality of care (Buerhaus, Donelan, Ulrich, Norman, Williams, & Dittus, 2005; Kovner & Gergen, 1998; Unruh & Zhang, 2012). An unsatisfying work environment is a prime contributor to hospital staffing crises, including high staff turnover and staffing gaps that necessitate the use of supplemental nurses including travel nurses (Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Hassmiller & Cozine, 2006; The Joint Commission, 2010). Researchers using data collected from 13,152 RNs working among 198 Pennsylvania hospitals found poorer nursing work environments with high-attrition to be linked with unfavorable nurse and patient outcomes. (Aiken, Xue, Clarke, & Sloane, 2007). Compromised nurse staffing in these practice settings renders them more likely to rely on temporary nurses compared to units with better quality nursing work environments. Hence a perceived link between supplemental staffing and adverse patient outcomes may exist. This dissertation study examined the association of the nurse practice environment among other job integration factors, on travel nurse job performance.

Job performance.

Job performance is defined as behavior that either enhances or detracts from organizational effectiveness (Motowidlo, Borman, & Schmit, 1997). Satisfactory job performance of clinical staff, permanent or temporary, reflects a hospital's commitment to ensure safe, quality patient care. The focus on job performance has escalated to new levels under auspices of transparency such as public reporting of core clinical measures and the Healthcare Consumer Assessment of Healthcare Providers and Services (HCAHPS) survey that institute pay-for-performance.

Contrary to the dearth of studies about travel nurses in the US, researchers have examined job performance of temporary nurses in other countries where they account for a greater proportion of nurse staffing. For example, in Taiwan where contract nurses comprise up to 47% of nursing staff in some public hospitals, researchers found that supervisors ($N=9$) generally rated the performance of 26 contract nurses ($M= 83.58$, $SD = 7.08$) significantly lower than that of 77 staff nurses ($M=78.58$, $SD=6.46$) ($p = .002$) (Chu & Hsu, 2011). The authors pondered reasons for this difference, adding that more research is needed.

AbuAlRub (2004) examined a triad of job stress, co-worker support and job performance among a sample of hospital nurses of which 263 were American and 40 were non-American. Job performance was self reported using previously validated existing scale. Results of a 5-step hierarchical regression analysis showed that job stress, co-worker support, the interaction between these two variables, and demographic variables explained just 20% of the variance in job performance. The author suggested that the use of self-reporting might have influenced the low percentage of variance.

Working in the emergency department setting was significantly and negatively associated with job performance across all 5 steps of the analysis ($p < .05$). Research about travel nurses is conspicuously sparse in the literature, including the impact of job integration factors on job performance as evaluated by the nurse manager. The current study was carried out with aims to address that gap.

Study Description

Design.

This paper is a description of the quantitative results of a parent study that used a convergent parallel mixed methods design (Creswell & Plano Clark, 2011) with aims to examine predictors of travel nurse job performance (quantitative), and to understand job assignment integration experiences as perceived by travel nurses to impact their job performance (qualitative). A cross-sectional descriptive correlational design was employed for the quantitative component of the study described here, whereby data pertaining to integration factors (i.e. organizational socialization, perceived self-efficacy, and the nursing work environment) were collected using an online survey method, and corresponding job performance data were obtained via a report generated from the aligned healthcare staffing firm's operating system.

Sample and setting.

A convenience sample was used consisting of travel nurses profiled in the client database of a US healthcare staffing firm. Inclusion criteria for the study consisted of: (a) registered nurses, (b) who completed at least two travel job assignments within the past 18 months, (c) one of which was contracted with the collaborating firm and which, (d) ended within three months prior to the date of participation and, (e) for which a

corresponding performance evaluation was on file with the firm. These criteria stemmed from the rationale that best-fit participants had acquired sufficient travel job assignment experience and completed an assignment recently enough to support adequate recall of the latest assignment integration experience while completing the study survey. An *a priori* power analysis was estimated using G*Power3 software (Faul, Erdfelder, Buchner, & Lang, 2009) to determine the appropriate sample size. To specify three predictor variables, controlling for six demographic variables, a sample size of at least 78 nurses was needed for a moderate effect size of .15, alpha of .05, and power of .80.

After the university Human Subject Research Office granted approval, and permission was granted from the staffing firm to access its client database a report was generated from the staffing firm's electronic operating system in January 2013. The report listed all of the travel nurses in the firm's nurse client database that met study criteria and yielded 742 eligible invitees. This process was repeated one month later to capture additional nurses who may have since become eligible, yielding an additional 249 eligible invitees. Therefore, an email study invitation letter was distributed to a total of 991 eligible travel nurses, followed by up to five reminder emails distributed at one week intervals. Due to the frequent relocation of travel nurses to temporary residences, hard copy invitation letters were not mailed to street addresses. The invitation email letter provided a general overview of the study and contained an embedded hyperlink for the nurse to click, triggering the consent to open with more details. Nurses consented to participate by typing their name or email address into a specified text field, and then clicking on the NEXT button. This action enrolled the nurse in the study and triggered the survey to open.

Of the 991 study invitees, 190 (19%) travel nurses clicked on the link embedded in the letter to open the consent. After opening the consent, six travel nurses clicked on “I do not consent” and 128 travel nurses electronically consented, thereby enrolling in the study, constituting a 13% response rate. Of those who enrolled, 112 travel nurses proceeded to respond to the survey questionnaire.

Procedures.

Once a nurse enrolled in the study as described above, that action triggered the study survey to open on the web-based university platform called uSurvey. Instructions appeared at specific points throughout the survey to guide participants through each section. The survey began with 15 demographic items, followed by 73 items presented in three sections to correspond with the predictor measures. Participants were instructed to respond to the predictor scale items from the perspective of their most recently completed job assignment. The researcher secured a report generated from the staffing firm’s operating system that contained the corresponding performance evaluation data for each case based on the assignment start and end dates entered by each participant in the designated survey fields.

Each survey question included an option to indicate a preference not to respond. It was necessary to address each item by clicking on a response button in order to proceed to the next item, thus mitigating the occurrence of missing data caused by inadvertently overlooking any survey items. The survey system log report indicated that the survey took an average of 17-18 minutes per participant to complete. At the completion of the survey, a note of thanks for participating appeared along with a reminder that participants completing the survey would receive a \$5.00 electronic gift card from the researcher via

email within three to five days as a token of appreciation for their participation, and that their names would also be entered to a drawing for a chance to win one of two gift baskets, each worth \$50.00, which was to occur after the study data collection phase was complete.

Measures.

Demographic characteristics.

Six demographic factors were designated as controls for the statistical analysis. Three pertained to the nurse: (a) age range, (b) highest academic nursing degree, (c) years of RN experience; and three pertained to the hospital where the nurse was contracted for an assignment that was completed within three months of study participation: (a) teaching or non-teaching hospital, (b) American Nurses Credentialing Center (ANCC) Magnet® designated (or not), and (c) number of licensed beds. Other demographic questions were included to expose additional comparative characteristics of the sample including: race, gender, academic degree at initial licensure, highest academic degree outside of nursing, country of initial nursing licensure, and primary nursing specialty.

Organizational socialization.

Each participant's self-rated level of organizational socialization was measured using the 34-item, six-dimension scale developed by Chao and colleagues (1994). The scale dimensions are: (a) History, (b) Language, (c) Politics, (d) People, (e) Organizational Goals and Values, and (f) Performance Proficiency. Each dimension is represented by five to seven survey questions. Some examples of items included in this scale are "I understood what all the duties of my job entailed" and "I knew who most of the influential people were in the organization". Responses were selected from and

scored on a 5-point Likert scale (strongly disagree = 0, disagree somewhat = 1, neutral = 2, agree somewhat = 3, strongly agree = 4). Thirteen items in this scale are reverse-scored. Published internal consistency values for each of the six dimensions of this scale were $>.78$ (Chao, et al., 1994). In this study, scores for all six sub-scales were included to compute one overall organizational socialization score per case. Correlation analysis using data from the current study to compute one overall organizational socialization score per case yielded Cronbach's alpha of .91 indicating a high level of internal consistency.

Self-efficacy.

Perceived self-efficacy was measured using the eight-item New General Self-Efficacy (NGSE) Scale (Chen et al., 2001). Some examples of items included in this scale are "When facing difficult tasks, I am certain that I will accomplish them" and "I will be able to successfully overcome many challenges". Respondents self-rated each item on a Likert-style scale ranging from (1) "strongly disagree" to (5) "strongly agree". Published internal consistency for this scale ranged from .86 - .90 (Chen et al., 2001). Data from the current study yielded a Cronbach's coefficient alpha of .94, indicating a high level of internal consistency.

Work environment.

Respondents rated the quality of the nursing work environment using the Practice Environment Scale of the Nursing Work Environment (PES-NWI), a 31-item scale divided into five subscales: (a) Nurse Participation in Hospital Affairs; (b) Nursing Foundations for Quality of Care; (c) Nurse Manager Ability, Leadership, and Support of

Nurses; (d) Staffing and Resources Adequate; and (e) Collegial Nurse-Physician Relations (Lake, 2002). The PES-NWI scale has been used in numerous nursing studies globally (Warshawsky & Sullivan Havens, 2011), and has been endorsed by The Joint Commission and the National Quality Forum (National Quality Forum, 2012). Some examples of items included in this scale are “A nurse manager who is a good manager and leader” and “Working with nurses who are clinically competent”. Items are scored on a Likert-style scale ranging from one (strongly agree) to four (strongly disagree). No reverse-scored items are mixed into this measure, however the scoring system itself was reversed in the analysis for this study so that a higher sum score represented a more favorably perceived nurse practice environment. Published internal consistency for these subscales yielded Cronbach’s alpha $\geq .80$ with the exception of the nurse-physician relations subscale with a coefficient of .71 (Lake, 2002). Data from the current study yielded a Cronbach’s coefficient alpha of .97 for the overall scale, indicating a high level of internal consistency.

Job performance.

For over 15 years the staffing firm has used a company-developed standard 12-item scale for the evaluation of travel nurse job performance. In compliance with The Joint Commission standards (The Joint Commission, 2012), the firm presents this evaluation scale to the nurse manager during each assignment worked by each travel nurse. Using the scale, the manager evaluates the degree to which the nurse has met clinical and professional job performance expectations of the hospital. The performance evaluation items on this scale are structured as characteristics of job performance rather than as questions. For example: “Demonstrates competency caring for patients” and

“Adheres to facility policies and procedures”. The scale items are scored on a Likert-style scale as follows: exceptional (1), above standard (2), standard (3), almost standard (4), and below standard (5). For analytical purposes in this study, scores for this scale were reversed so that higher scores represented more favorable outcomes. The performance evaluation ratings used for this study corresponded with the job assignment completed by each participant within three months prior to survey participation. Using data from this study the scale, which had not been used in research before, was tested for reliability, yielding a Cronbach’s alpha of .98, indicating a high level of internal consistency.

Analysis

Surveys with less than at least one predictor measurement scale section completed ($n = 5$) were excluded from the analysis due to missing data. Using IBM SPSS Statistics version 20 (IBM Corp, 2011), descriptive statistics were generated to determine the average scores for each predictor scale. Reliability statistics were generated to affirm internal consistency of the measurement scales. Next, the six previously identified demographic variables were analyzed using regression to determine whether they were significantly related to the outcome variable and would therefore be controlled for in the study. No statistically significant relationships were found between these demographic control variables and job performance. Theoretical rationale was not regarded as sufficient enough to offset the absence of statistical relationships; therefore, these variables were not controlled for in the simple or multiple linear regression analyses that followed.

Preliminary analyses were carried out to examine the assumptions for linear regression. Performance evaluation data and self-efficacy data were negatively skewed

with scores bunching at the top of the scales and skew statistics greater than twice the standard error, substantiating a distribution concern.

The PES-NWI scale, used to measure the perceived quality of the nursing work environment, showed a high frequency of instances where participants selected “I prefer not to respond to this question” in contrast to a low frequency in the other two predictor scales. A pattern analysis was carried out. Ten participants (10%) selected “I prefer not to respond” for 10 or more ($\geq 30\%$) of the 31 PES-NWI scale items. A listwise deletion of these 10 cases was not instituted as it might impact the power of the analysis by reducing the sample size. The data that were present were included in the analysis. The pattern analysis identified that “I prefer not to respond” was distributed mainly among 14 PES-NWI scale items. These items pertained to nurse practice environment elements such as: (a) visibility and executive power of the CNO, (b) career advancement and self-governance opportunities for staff nurses, and (c) ability of nurse leaders. These scale items’ direct applicability to travel nurses was not so much the focus as was their perceived existence or quality, because these are characteristics of Magnet® practice environments. However, participants may not have taken notice of or been concerned with these aspects of the nursing work environment over their short tenured job assignments, or perhaps determined that they were not exposed to that part of the culture thoroughly enough to evaluate these points. The high frequency of participants’ selection of “I prefer not to respond to this item” for this particular scale posed a challenge to estimating the overall mean score and standard deviation. To determine the overall mean score for this predictor, a mean item score was determined for each individual participant case and then multiplied by 31 (the number of survey items in this scale) to produce an

adjusted sum score for each case. The adjusted sum scores for each case were used to determine the overall mean score and standard deviation for this scale.

Finally, the three hypothesized predictors were specified along with the outcome variable in simple and multiple linear regression models. A p value of less than .05 was used for statistical significance.

Results

Participant and hospital characteristics.

Participants represented 15 different general nursing specialties. The top four were: (a) general adult medical surgical (20%), (b) pediatric/neonatal (19%), (c) emergency department (17%), and (d) adult ICU (14%). Most participants (90%) identified with the white race. Academic nursing preparation among participants ranged from diploma through masters degree; more than half (53%) were baccalaureate prepared. Ninety-seven percent of participants in this study received their initial nursing education in the US. Forty-two percent of the participants held additional academic degrees outside of nursing, spanning associate degrees (12%), bachelors degrees (26%), and masters degrees (4%). Years of RN experience among the participants ranged widely from two to 45 years ($M=12.43$, $SD=10.87$). Nearly half of the participants (49%) had acquired between five and 15 years of RN experience, and nearly one third (28%) had greater than 15 years of experience. Participant characteristics are detailed in Table 8.

As reported by the participants, the hospitals most recently worked in spanned 24 different states. The most frequently reported states were California (12%), Virginia (10%) and New Hampshire (9%). Most of the participants described the hospital they had most recently worked in as a teaching hospital (64%), compared with non-teaching

(34%), while some were not sure. Thirty-two percent of participants identified the hospital they worked in as having earned Magnet® designation. A wide range of hospital sizes was reported, ranging from 22 to 990 licensed beds. Urban population settings were the most frequent hospital location (62%), with assignments in suburban (30%) and rural (8%) settings also reported.

Descriptive statistics showed the mean average participant scores for each predictor scale as follows: (a) Organizational Socialization ($M=18.02$, $SD=2.95$), (b) Nurse Practice Environment ($M=90.14$, $SD=16.09$), and (c) Self-Efficacy ($M=35.82$, $SD=4.85$). Performance evaluation scores ranged from 19 to 60, with the highest score possible being 60 ($M=51.04$; $SD=8.17$).

Regression analysis.

No significant relationships were found between job performance and organizational socialization ($\beta = .086$, $p = .794$), nurse practice environment ($\beta = -.040$, $p = .445$), or self-efficacy ($\beta = -.010$, $p = .958$). The regression results reflected no significant change in job performance ratings given an increase in scores of any of the predictor variables, $R^2 = .028$, $F(3.97) = .919$, $p = .435$. Results from simple and multiple linear regressions are detailed respectively in Tables 9 and 10.

Discussion

Although the findings of this study did not support the hypotheses, the study calls for future research questions aimed to develop understanding about a contingent of the US nursing population rarely studied in any context by nursing workforce researchers. The results of this study did not align with the theoretical links present in the literature

between job performance and organizational socialization (Saks & Gruman, 2011; Wang et al., 2011), the nursing work environment (Aiken et al., 2011; Lake, 2007), and self-efficacy (Lee & Ko, 2010; Saks, 1995; Stajkovic & Luthans, 1998). Although self-efficacy and job performance are strongly linked theoretically as documented in the literature (Lee & Ko, 2010; Saks, 1995; Stajkovic & Luthans, 1998) there was not a statistically significant relationship between the high self-efficacy scores and high job performance scores across the cases in this study. The participant characteristics in this study portray a group of well-educated RNs spanning a broad array of nursing specialties, averaging over 12 years of nursing experience, and who are geographically dispersed across the US. The sample was demographically comparable with general demographics provided by the staffing firm as well as with those published in previous research (Faller et al., 2011), suggesting it was similar to the travel nurse population. Still, the results of the regression analyses were not statistically significant.

The effects of job integration factors on travel nurses' job performance have not been addressed in prior research to serve as a point of reference or a benchmark for gauging the findings of this study. Further, the results of this study may be indeterminate based on limitations that surfaced relative to characteristics of the invitees who chose to participate, and certain measurement factors. Performance evaluation scores and self-efficacy scores were remarkably high across all of the cases in this study, which might have affected the results by imposing a ceiling effect. While it is possible that the sample in this study is sufficiently representative of the travel nurse population and that consistently high self-efficacy scores and performance evaluation ratings are characteristic of travel nurses at large, no research has been carried out to explore the

demographics of this workforce as a whole, which is an opportunity for future research. The study invitation response rate (13%) was low. Through the concurrent data collection process for the qualitative arm of the parent study, it became apparent that there was a tendency for travel nurses to rely on cell phones and text messaging to meet most of their electronic communication needs, which is more suited to their mobile lifestyles. Therefore, the study invitation emails may have become buried, sent to junk mail, or otherwise not picked up. Hence even with up to five reminder invitation emails, some travel nurses who may have chosen to participate may not have been aware they had been invited. Further, those who did respond had particularly high job performance scores and self-efficacy scores.

Strengths and limitations.

Several threats to validity and reliability were identified in this study: (a) convenience sampling, (b) a performance evaluation measure not previously validated in research, (c) performance evaluation data generated by nurse managers with an unknown degree of experience in providing job performance feedback, and (d) response bias and ceiling effects. The convenience sample was acquired from an accessible population of travel nurses who are registered in the database of a particular national healthcare staffing firm. There is overlap of travel nurse clients across staffing firm databases since these nurses commonly register with more than one firm simultaneously. Therefore, this overlap may have helped to improve the representation of the travel nurse population at large despite convenience sampling. The high performance evaluation scores and self-efficacy scores across this sample may represent response bias and a ceiling effect. Travel nurse invitees' decisions to participate may have been influenced by the knowledge that

their performance evaluation scores would contribute to the aggregate outcome results. If the participants were prone to respond in ways that they interpreted to reflect favorably on them, response bias may have further affected the results by creating a ceiling effect. Researchers have reported a tendency for self-efficacy scores to be over-rated in surveys, resulting in a ceiling effect (Carey & Forsyth, 2013; Holbrook, 2013). Finally the performance evaluation scale, not validated in prior research, may have contributed to results that were not significant, but perhaps another influence was in how the evaluations were populated. There is an element of subjectivity involved when rating performance, and there are always other priorities competing for a busy manager's or delegate's time while they populate the form, both of which could alter the quality and accuracy of the evaluation.

Despite these limitations, this study had a number of strengths. First, the sample consisted solely of active travel nurses, a homogenous sample of a population that has not been well studied. Another strength was portrayed in the similarity of the participant demographics to those provided by the staffing firm and to those published in prior research (Faller et al., 2011), suggesting that the sample was similar to the travel nurse population at large. Last, the predictors examined in this research are theory-linked; their associations with job performance are repeatedly implied in the literature, although not in the context of travel nurses.

Implications.

Notwithstanding the results of this study did not yield significant relationships between organizational socialization, the nursing work environment, perceived self-efficacy, and job performance, further investigation is warranted about travel nurses, a

widely utilized yet rarely studied contingent of the US nursing workforce. Development of a body of knowledge about this particular workforce holds promise of cultivating novel strategies to address the demand for experienced nurses and flexible staffing patterns in hospitals across the US, a need that is projected to continue or increase moving forward (KPMG, 2011). In recent years, researchers have garnered interest in the supplemental nurse workforce, a work status category that includes but is not limited to travel nurses. Recent studies have reinforced the value of supplemental nurses (Aiken, Shang, Xue, & Sloane, 2012; Xue, Aiken, Freund, & Noyes, 2012). Nonetheless, the work arrangement of travel nurses is distinct within the array of work statuses represented in the broad category of supplemental nurses. Travel nurses stay long enough to integrate with interdisciplinary hospital staff and they become part of the team to a degree on the spectrum between newcomer and insider at each job assignment. This distinction in travel nurses' unique work-life and job experiences warrants more scientific inquiry. There is a rich body of accumulated knowledge nested among this population of experienced nurses that work in hospitals spanning all parts of the country, observing how healthcare system problems are approached and solved, and becoming privy to what works, and what doesn't work in the current healthcare system. Researchers could begin to tap into this knowledge for comparative effectiveness studies that could address an array of healthcare delivery challenges.

The design of this study might have instigated response bias as described in the discussion section, thereby influencing the results. With that said, a suggestion for future research would involve surveying travel nurses about job integration factors soon after the onboarding period at the assignment, in closer proximity to the assignment start date,

and before a performance evaluation has been populated by the manager, and using a performance evaluation scale that has been validated as a measure in prior research. This design might accommodate better recall for the particular assignment and perhaps mitigate potential reluctance among invitees to participate, improving the likelihood of collecting more normally distributed data.

For decades, travel nurses have been contracted to relieve critical needs by bridging experience and volume gaps every day in hospitals across the US. Further, with a history of consistent use for over 30 years, a possible RN retirement exodus on the horizon, a large proportion of the general population now entering the years of greater healthcare use, and healthcare reform that promises to make healthcare accessible to additional millions of people, hospital demand for these nurses may be likely to continue in the foreseeable future. These circumstances call for the development of a body of knowledge pertaining to this unique workforce to support best job performance as they integrate with new healthcare teams on a regularly recurring basis. Further research is merited to understand how and what aspects of each newcomer integration encounter affects a travel nurse's ability to perform the job, and perhaps also to determine how these nurses' skills in adapting to new work settings over a brief onboarding period can be translated to other segments of the onboarding nursing workforce. Qualitative studies may yield more intuitive research questions about this scarcely studied contingent of the US nursing workforce. Future longitudinal studies may also promise useful insight relative to the impact of integration factors across several job assignments per travel nurse over time.

Conclusions

This study was the first to examine newcomer integration factors as predictors of travel nurse job performance. The study findings stimulate the cultivation of further research questions about a widely used contingent of the US nursing workforce. The work arrangement of travel nurses calls for effective and efficient onboarding agendas and practices that can facilitate the achievement of full productivity within a brief window of time upon arrival to each assignment. Travel nurses experience what it is like to be a newcomer to a job more often than do most other work status divisions of the nursing workforce. Hence, there is much to be learned from the study of travel nurses in order to capitalize on their attributes toward achieving better patient outcomes. Future studies about travel nurses are warranted, the results of which may translate to other sectors of the nursing workforce to maximize productivity through effective integration to new jobs as evidenced by high quality job performance leading to better patient outcomes.

CHAPTER 6

Lessons Learned Using Web-Conference Technology for Online Focus Group Interviews

Motivation

Internet technology has been utilized in the past for data collection in qualitative research. Synchronous (real time) and, more commonly, asynchronous (non-real time) focus group data collection methods have been supported by such technology in the form of email correspondence, listservs, discussion boards and chat rooms. However, real-time audio-visual web-conference technology shows promise of more closely resembling a traditional face-to-face focus group experience. The purpose of this paper is to describe how web-conference technology was used as the platform for hosting online focus group interviews in a study about geographically dispersed travel nurses. Discussion follows about the lessons learned from the use of this innovative qualitative data collection method, and recommendations for future use of the technology in research.

Background

The rapid advancement of Internet technology has broadened the options for recruitment and data collection methodology in healthcare research. Hence, it is feasible to reach and simultaneously include study participants situated almost anywhere in the world. While nursing researchers were not front-runners to engage Internet technology for data collection, the number of nursing related studies in which researchers describe the use of online environments for this purpose has been on the rise in recent years (Kenny, 2005). However, literary guidance to assist researchers in the selection and use of the best-fit technology for a given study has lagged behind the proliferation and advancement of these virtual venues.

Focus groups are a popular means to collect qualitative data in healthcare research (McLafferty, 2004). Methods identified in the literature as online focus group interviews (FGIs) have typically been asynchronous, most often engaging discussion boards, listserv mailing lists and closed email discussions, as well as some reports of synchronous methods where chat room environments were used. The purpose of this paper is to explain the methods employed in a qualitative study to host virtual face-to-face focus group interviews with travel nurses geographically dispersed across the US, through the use of real-time audio-visual web conference technology, and to discuss the corresponding lessons learned throughout the course of the data collection phase. The paper contributes to a limited body of knowledge and guidance nested within the scope of technology-assisted qualitative data collection methods.

For several decades, discourse has encompassed the utility of Internet-based research methods (Matthews & Cramer, 2008; O'Connor & Madge, 2003). The Internet is acknowledged in the literature as an effective means to reach key populations whose participation would otherwise be precluded by time, distance, and even social barriers (Murray, 1997; Turney & Pocknee, 2005). The transition toward virtual FGIs began in the marketing industry with the use of asynchronous non-audio/visual Internet techniques (Murray, 1997; Stewart & Williams, 2005). Personally attended face-to-face FGIs are embraced by social scientists, but the notion of a virtual venue has been slower to gain popularity (Turney & Pocknee, 2005). The Internet environment of discussion boards, listserv mailing lists, closed email discussions, and chat rooms has been posited to lift inhibitions among FGI participants, facilitating a more free flowing discussion; but there

is also loss of the potential for a moderator to have an active role, and to pick up on verbal or visual cues that trigger the finer probing questions (O'Connor & Madge, 2003).

In a research project to determine the scientific soundness and utility of discussion boards for online virtual FGIs, Turney & Pocknee (2005) benchmarked the online discussion board method against six key elements for FGIs established by Krueger (1994), such that focus groups: (a) involve people, (b) occur in a series, (c) involve homogenous participants who do not know one another, (d) are used for data collection, (e) involve qualitative data, and (f) facilitate discussion that remains focused on the topic. In follow up to two national surveys in Australia to seek public opinion on two sensitive topics, DNA paternity testing and stem cell research, 12 focus groups were hosted to gain more perspective, three of which were carried out online via Blackboard® discussion boards over one week. Two separate password protected discussion boards were created for male and female participants responding to the paternity testing topic. Another discussion board was created for the stem cell topic. The discussion board venue facilitated accuracy by eliminated manual transcription. The secure password protected environment ensured privacy. All participants re-entered the discussion boards to enter additional comments and to respond to the comments of others, indicating willingness to express their views on these sensitive topics via the virtual setting. The researchers subsequently validated the soundness of the method as compared with Krueger's (1994) six key elements of focus group interviews, especially when hosted in the secure environment of a university learning management system such as Blackboard®.

Asynchronous Internet-assisted FGI methods.

Asynchronous methods are not carried out in real time, meaning that participants do not directly interact with one another. For example, the use of discussion boards affords FGI participants days, weeks or even months, to respond to the researcher's questions. An advantage of using a discussion board is that it offers a perceived identity shield of sorts, allowing participants to feel less socially inhibited and more willing to openly discuss sensitive topics than they might be in a face-to-face FGI environment (Turney & Pocknee, 2005).

Kenny (2005) acknowledged that the use of computer technology for qualitative data collection has not often been adopted in nursing research. Using WebCT®, a secure university learning management system, researchers explored the potential for online discussion board FGIs to capture the essential elements of the method in terms of interaction and engagement among 38 Australian nurse participants (Kenny & Duckett, 2005). An 8-week discussion board FGI was hosted for these nurses to share their experiences and reasons for attending a university conversion program. These researchers' method parted company in a number of ways with the traditional focus group interview process. For example, there was just one question presented, unlike a traditional focus group where a series of semi-structured interview and probing questions is typically used to funnel the discussion from general to more specific content. The researchers did not report on the presence or role of a moderator; however, they did report that all 38 participants maintained full engagement, and contributed for the full eight-week span. These researchers engaged a large number of participants ($N = 38$) to define as a focus group in contrast to the traditional, generally accepted six to eight, or

even 12 participant compositions of face-to-face FGIs. Nonetheless, the researchers asserted that there was a high degree of detailed discussion and diversity among positions expressed. Multiple postings, as many as 16, were contributed from each participant.

Other researchers have since attested to the effectiveness of asynchronous online methods to collect qualitative focus group data. Williams & Reid, (2012) hosted online discussion board FGIs over a four-week period via a university learning management system (WebCT®) to explore the daily life experiences of persons motivated to recover from anorexia nervosa ($N=5$). Participants completed an online survey and then received a user name and password granting them access to participate in the FGI. Four of the five participants generated most of the data, with 99 posts received over the four-week period. Participants responded to the moderator's questions, commented on each other's posts, and sometimes posed their own questions to one another. The researchers' evaluation of the method's soundness and effectiveness resonated with those of previous researchers in that participant interaction and focused discussion were achieved through this venue. Nonetheless, some reluctance persists to accept online methods as an appropriate alternative to real-time face-to-face FGIs. For example, the president of a Connecticut-based research firm contended that the concept of Internet focus groups is not sound, arguing that these methods cannot capture the essential elements of a focus group such as: (a) role of the moderator, (b) ability to note non-verbal responses, and (c) group atmosphere and group dynamics (Greenbaum, 2008).

Listserves (discussion groups operated through emailing lists) have been used as a method to host asynchronous online FGIs in a manner similar to discussion boards, with the moderator presenting questions one at a time as participants post their responses and

reactions to others' responses (Gaiser, 1997; Rezabek, 2000). A benefit to this method is that the discussion points are organized into threads as they are contributed (Murray, 1997).

In one of the earliest documented accounts reporting the use of computer-mediated communication to collect qualitative data, Murray (1997) described the use of private email discussions as a venue for asynchronous focus group interviews. This researcher described his experiences in hosting asynchronous email FGIs with participants characterized as computer-savvy healthcare professionals situated around the world. Each FGI was hosted over a four-week period. A major benefit identified by the researcher was that the participants themselves produced the text record of FGI discussions, eliminating the necessity for manual transcription. This researcher speculated that internet-based audio-visual conferencing technology was not advanced enough at the time for such use and that online FGIs would remain almost exclusively text-based for the foreseeable future. Indeed, 15 years later, a literature search yielded no guidance pertaining to hosting real-time, audio-visually recorded web conference FGIs. Despite some researchers' assertions that asynchronous methods are effective for capturing the essential elements of a FGI, others maintain that asynchronous methods are too distant from the traditional notion of a FGI in that the moderator has no active role, and the sense of participant engagement and immediacy of responses is lacking or absent (Matthew & Cramer, 2008; O'Connor & Madge, 2003).

Synchronous Internet-assisted FGI methods.

Synchronous (real-time) Internet-based FGIs are less restricted by some of the limitations of asynchronous methods; however, these methods present a different set of

challenges. Real-time chat room software has been used with some success, but with skill-related limitations such as participants' typing speeds, and the need to "think, type, which is to look at the screen, read the text and maintain a logical thread of answering" (O'Connor & Madge, 2003, p. 140). In an exploratory study, Chase and Alvarez (2000) used secure online message board software to host a single real-time FGI with a group of six faculty participants teaching an online information retrieval course. The focus was on issues surrounding curriculum development for the course, offered in library programs. As the moderator posted interview questions, participants responded immediately by typing in their responses. The moderator's questions and all responses were displayed on each participant's screen in real-time as they were typed. These researchers found that some participants could adapt more readily than others to process the inflow of other participants' responses while simultaneously crafting and typing in their own views, as well as expressing agreement or disagreement with others' postings. Another limitation was the governed character space in the message intake box, which constrained the potential to accommodate in depth responses that are needed in FGI settings.

Using purchased online focus group software Stover and Goodman (2012) hosted four synchronous chat room FGIs to explore lesbian, gay, and bisexual college students' experiences with the healthcare system, via a community-based participatory research approach ($N=19$). The software program included features to enable some representation of non-verbal cues through use of facial emoticons (i.e. smiley icon). Similar to the challenges identified in prior research, there was potential for fast typists to monopolize the dialog, not necessarily with the intent to do so. Hence, the software program included pre-formatted statements that the moderator could select to intervene, such as a request

for a contribution from another member of the group. The researchers observed that this environment was well suited to the population of interest and the sensitive topic, as evidenced by participants' comments that they would not have been as candid with their responses or may not have consented to participate at all had this venue not been engaged to host the FGI.

Real-Time web conference FGIs.

Like chat rooms and message board software, Web conference technology offers the advantage of real-time communication among multiple users situated in various geographical locations with Internet connectivity. An additional advantage of web conference technology is that participants and the moderator can see each other via full-motion webcam images, and hear each other via microphone/speaker. These features support a FGI environment that more closely resembles a traditional face-to-face FGI wherein participants can interact across more dimensions than in a chat room environment. Web conference facilitates immediacy in responses and enables the researcher to gain additional perspective about the degree and quality of interaction, engagement, and non-verbal activity among participants.

The effectiveness of Internet technology for hosting FGIs is acknowledged in the literature (Chase & Alvarez, 2000; Gaiser, 1997; Kenny, 2005; Kenny & Duckett, 2005; Rezabek, 2000; Stewart & Williams, 2005; Stover & Goodman, 2012; Watson, Peacock & Jones, 2006; Williams & Reid, 2012). However, despite the important contributions these articles have made to the state of the science in technology-assisted focus groups, to the author's knowledge, no published studies have discussed the use of synchronous audio-visually supported FGIs in the social space of a web conference. This paper details

the method used to host real-time technology-assisted focus groups by engaging web conference technology to explore travel nurses' integration experiences at job assignments. Discussion follows about the lessons learned pertaining to the use of this innovative method of qualitative data collection.

Study Description

Design.

Web conference technology was used to host focus group interviews for a study about geographically dispersed travel nurses. Travel RNs are experienced mobile professionals who are contracted through healthcare staffing firms to work temporary job assignments at hospitals across the US. Hence these nurses are newcomers to jobs on a frequent recurring basis. Data for the parent study were collected via a web-based survey to quantitatively examine the impact of three theory-linked job integration factors on the job performance of travel nurses ($N = 107$). Data collected via four web conference FGIs were analyzed using qualitative content analysis to explore travel nurses' perceived onboarding experiences at new job assignments in the context of the impact on their job performance ($N = 15$). Focus group sizes ranged from two to five participants each. A pilot study was carried out prior to the general study to assess effectiveness of the quantitative ($N = 12$) and qualitative ($N = 4$) data collection methods.

Rationale for using web conference FGIs.

Travel nurses are not widely studied despite their essential role in enabling hospitals to reach and maintain appropriate nurse staffing. The near absence of published research about this specialized constituent of the US nursing workforce warrants a qualitative approach to understand these nurses' perceived job integration experiences in

a work arrangement whereby they are newcomers to jobs on a recurring basis. One way to augment knowledge about a topic that has not previously been studied is through the use of focus groups. Advantages of FGIs include: (a) the interaction between and among interviewees adds a valuable dimension to the data collection, absent from other methods (Kitzinger, 1995); (b) group dynamics factor into the quality of the data that are yielded, as member interactions and responses are called out in a stimulating, yet non-threatening setting (Burns & Grove, 2009; Kitzinger, 1995; Krueger & Casey, 2000; McDaniel & Bach, 1994; Polit & Beck, 2008; Twinn, 2000); and (c) knowledge yielded from focus group data analysis can elucidate contextual meaning from the results of quantitative analyses (McDaniel & Bach, 1994).

Hosting face-to-face focus group interviews with travel nurses in person is not feasible because these nurses are situated in various geographic regions across the nation and they relocate on average three to four times per year. To capitalize on the advantages of focus group methodology for use in a study about mobile professionals, the researcher selected technology with the capacity to create a milieu resembling a personally attended face-to-face FGI. Technology available at the time of data collection for this study included web conference service as a means to host online FGIs such that participants and moderator may see and be seen as well as hear and be heard by all other meeting attendees in real time.

Procedures.

Selection of the platform.

Criteria for selection of the web conference service employed for this study included: (a) the technology can support meetings attended by up to 10 participants; (b)

the service supports real time audio and full motion video (webcam) attendance; (c) meetings can be audio-visually (AV) recorded; (d) audio and all webcam images must play back on the recording; (e) access to recordings must be limited to the research team; (f) service must require no more than low to moderate technical competency requirements for participants, meaning the research team should carry out the bulk of the technical activity necessary for participants to join the meeting; (g) participants are not required to purchase or install software; and (h) only invited parties may join the meeting.

During the fall of 2012, the researcher evaluated several AV technology options for web-based FGI data collection. Points of assessment contributing to the selection of the Internet platform used to host FGIs for this study were based on the technology available at the time, and are detailed in Table 11. The Adobe Connect web conference system was the platform selected for hosting FGIs in this study.

Pilot study FGI.

In December 2012, prior to general study recruitment, a pilot FGI was coordinated and moderated. Prior to hosting the pilot web conference FGI, the researcher and research assistant (RA) engaged in numerous “mock FGIs” by inviting colleagues to attend, in order to become familiar with and competent using the web conference service.

The purpose of the pilot was to evaluate the effectiveness of and refine the methods used for the recruitment process, the electronic consent process, and web conference data collection prior to initiating general study data collection. After securing university Human Subject Research Office approval and written permission from the president of a national healthcare staffing firm to contact travel nurse clients registered in its database, the researcher contacted 42 travel nurses by telephone to describe the study and invite the

nurses to participate in the pilot FGI. Nineteen nurses agreed to receive an email pilot study invitation letter. The letter contained a link to open the pilot FGI electronic consent hosted on the university's web-based survey platform. Eight travel nurses electronically consented and four participated in the pilot FGI, which was coordinated, scheduled, and moderated by the RA. The general study FGI guide questions were presented, followed by pilot study questions developed to solicit evaluative feedback from the participants regarding their perception of the process.

The pilot study yielded evaluative participant feedback and researcher operating experiences comprising a large proportion of the lessons learned from this study relative to the use of web conference technology to host FGIs. This feedback enhanced methodological readiness before moving forward with the general study. The lessons learned from the pilot and general study FGIs are detailed in a later section of this paper.

Coordination of pilot FGIs.

An experienced travel nurse situated in Texas was retained as the RA to coordinate and moderate the travel nurse FGIs for the study. Travel nurses are geographically dispersed across time zones, their schedules involve shift work spanning various tours of duty, and they are mobile professionals, relocating as often as three to four times per year. These work arrangement characteristics presented a combination of challenges less likely to be encountered when coordinating and hosting in-person FGIs attended by local participants. As pilot FGI consents were received, the RA coordinated the interviews by contacting the enrollees. The RA maintained a spreadsheet for scheduling, organizing, and updating throughout the coordination process. The coordination process worked well

therefore these same basic steps were followed when coordinating the FGIs for the general study.

Hosting pilot FGIs.

Once the pilot FGI date and time were established, the RA logged on to the web conference system to open a unique “meeting room” for the purpose of hosting the FGI on the system. Once the meeting room was opened, a URL was generated by the system, specific to that meeting. The RA initially engaged a system feature in which a meeting appointment message containing the URL can be sent days or weeks prior to the scheduled meeting, so that participants can update their calendars and plan ahead. However, after sending this email to the first few participants on the roster, it became apparent that these messages were being misinterpreted as an invitation to click on the URL immediately to join the meeting. Therefore, moving forward, meeting access emails were distributed to participants on the day of the meeting, approximately 60 minutes prior to the start time.

On the morning of each scheduled FGI, the RA sent a voicemail and/or text message to the participants, reminding them to stand by for the meeting access email that would follow within one hour of the scheduled FGI start time. At the appointed time, the RA distributed the meeting access email to each participant, where she copied and pasted the meeting room URL and some bulleted instructions to guide the participant to access the meeting. Participants were instructed to click on the URL 15 minutes before the meeting was scheduled to begin so that the RA could ensure everyone was logged on successfully and ready to start at the scheduled time.

The RA opened the meeting room 20 minutes prior to the scheduled FGI start time and as each participant clicked on the URL to join the meeting, a dialog box appeared on the RA's screen to identify who was attempting to enter, a system feature that empowers the moderator to ensure that only invited parties are permitted to enter the meeting space. The RA "allowed" participants to enter the meeting space and "enabled" their webcam and microphone icons with the click of her mouse, so that they could activate their webcams and microphones by clicking on the respective icons located at the top of their computer screens. If a participant's microphone or webcam was not subsequently activated, the RA provided guidance either by telephone, or the chat box feature at the bottom of the meeting screen, informing the participant how to locate and click on the appropriate icons to activate these elements. The system had an option to use the telephone for audio participation; however this option had to be selected while participants were accessing the meeting and it was observed that nearly all participants chose to join by computer.

Participants were reminded to turn their computer speakers on if they did not join by telephone, and to turn them off (to eliminate feedback) if they did join by telephone. If feedback or environmental noise persisted, participants were also asked to mute their computer and telephone microphones when not speaking so that everyone could hear what was being said. With all participants logged on, the RA proceeded with the agenda, using the FGI guide to navigate the discussion and complete on time. Just before the first question was posed, the RA reminded all participants that per the consent, the FGI would be AV recorded, and verbally reaffirmed their consent to proceed. By clicking on the record button, which appears only on the host side, the AV recording started. The same

button was used to stop the recording at the end of the FGI. For an audio back up in the event of a system failure, the RA also activated a portable digital recorder. These same processes were followed to host the general study FGIs.

Hosting general study FGIs

The RA carried out the coordination of FGIs for the general study in the same manner as described for the pilot study with the exception that for the general study, phone calls to schedule the nurses were ordered by a rotating systematic selection process, as detailed in Chapter Four. Of 76 nurses who consented to participate in the general study FGIs, the RA was able to confirm and schedule a total of 35 nurses across four FGIs. However, the impact of last minute attrition reduced the actual number of participants to just two to five nurses per FGI ($N = 15$). Out of professional respect toward the nurses who honored their commitments to attend, no FGI was canceled, although two FGIs did not meet the minimum of four participants that is generally accepted in the literature. Coordination and hosting of the general study FGIs were carried out following the same processes as described for the pilot FGI.

Transcription software.

Methods of Internet-assisted FGIs do not include a transcription process because transcripts are generated when participants type in their responses to the moderator's questions. However, when web conference technology is used to host FGIs, transcription of the AV recordings is necessary. The initial transcription of each web conference AV recording in this study was facilitated by the use of transcription software purchased by the researcher. The next section of the paper includes an outline of how this technology was utilized.

Lessons Learned

This section of the paper is devoted to sharing what was learned over the course of coordinating and hosting one pilot FGI and four general study FGIs using web conference technology as an innovative synchronous method to collect qualitative data from travel nurses. This knowledge was generated mainly from experience with two particular web conference services. It offers insight and guidance that have not appeared in prior literature pertaining to technology-assisted FGIs.

Testing and re-testing the technology.

Before using web conference technology to host FGIs in this research, numerous mock FGIs were carried out by the researcher and RA to gain familiarity with the selected service. A short time prior to hosting the pilot FGI, an adverse occurrence was detected and confirmed within the web conference system, WebEx, which subsequently resulted in the researcher's decision to select a different service. The researcher became aware of a sporadic tendency for the web conference system to distribute an unsolicited automated email message to FGI participants shortly after the moderator closed the virtual meeting room at the conclusion of a FGI. The message advised participants that they could click on a link embedded in the email to re-enter the meeting space web page where they could then access and view the recorded interview. Allowing participants access to the recordings after the FGIs posed a threat to participant privacy and to the ethical integrity of the study.

After the researcher alerted the senior engineer at the web conference service about this sporadic unwanted occurrence, a "work around" procedure was developed by the engineer and explained to the researcher. This "work around" consisted of a specific

alternative procedure to close the web conference meeting in order to prevent the unwanted email from being distributed. After testing for effectiveness by hosting more mock web conferences, the researcher instructed the RA about the new process for closing the FGI meetings. The work around process was effective in preventing distribution of the unwanted follow up email to participants of the pilot FGI. However, a lingering perceived potential for a breach of participant privacy led the researcher to select a different, more secure web conferencing service (Adobe Connect) for use in the general study. This experience validated the importance of judiciously testing and re-testing a web conference service to determine its soundness for research purposes.

Establishing effective lines of communication.

During the pilot FGI coordination phase, the RA soon discovered that the travel nurses were much more responsive to her attempts to reach them via cell phone text messaging, rather than by phone calls or emails. Hence, text messaging was adopted as the primary mode of communication for coordinating and following up with FGI reminders. Several participants expressed particular appreciation for the text message reminders sent from the RA on the morning of their scheduled FGI, therefore, this practice was continued for all FGIs. What we learned in the pilot study about the best way to communicate with travel nurses was confirmed in the general study in that the travel nurses relied mainly on cell phone text messaging for almost all of their electronic communication needs. Many who were called did not return calls from voice mail messages, and some of the nurses who were reached informed the RA that they did not own or have access to a laptop or desktop computer.

Assessing technological capacity of participants.

When designing this study, the researcher determined that by virtue of their mobile lifestyles, the majority of travel nurses owned or had access to a laptop with a webcam and Internet connectivity in order to stay connected with family, friends while on the road, and with the staffing firm, which is their link to maintaining a flow of income. However, when coordinating the pilot and general FGIs, the RA encountered situations in which nurses who consented to and were willing to participate in a FGI did not own or have access to a laptop or desktop computer or a webcam, notwithstanding the consent indicated that this technology was required for participation. It came as a surprise to learn that this was the status among a greater number of travel nurses than anticipated. These nurses rely instead on cell phones and tablet devices to meet their electronic communication needs.

In hindsight, their choice of devices is understandable since these devices have undergone a remarkable expansion in technical capacity over recent years and are more compact than a laptop for a mobile professional to pack and transport from location to location. Unfortunately, neither of these devices is effective for joining a web conference, although a few travel nurses tried to join using a tablet, with limited success. This experience elucidated the existence of a potential for web conference technology requirements to preclude participation by certain invitees who otherwise met study inclusion criteria.

Establishing rapport.

The interview coordination process involved several points of contact between the RA and each participant. The initial correspondence occurred typically by phone,

followed by several additional points of contact, usually via text messaging, as the RA coordinated mutually feasible dates and times for participants to meet, thereby forming the four focus groups. Once each FGI date and time was solidified, the RA followed up with email and text reminders to each participant the day prior to and the morning of their respective FGIs. We learned that these multiple points of contact between the RA and each participant served well in establishing a rapport so that when the FGI commenced, each participant had already become somewhat acquainted and comfortable with the RA, facilitating a smooth and natural introduction of participants to one another, as it is when a professional introduces one colleague to another.

Access to the virtual meeting space.

We learned during the pilot study that sending the meeting access email within one hour prior to the meeting start time was most effective. The RA encouraged participants via the morning text message reminder to watch for and open the FGI access email that would arrive approximately one hour before the FGI was scheduled to begin, and to click on the embedded URL to log in 15 minutes before the scheduled start time. This 15-minute lead-time allowed for participants' connectivity to be established prior to FGI start time.

During the pilot study several nurses attempted to access the virtual meeting space using a tablet, and at least one nurse tried to gain access using a smart phone. These participants estimated that their devices would be as technically capable of establishing an audio and visual connection as a laptop or desktop computer. Neither of these nurses was able to secure a webcam image although they were both able to secure an audio connection through which they participated. The tablet audio connection was of

substandard quality; the phone audio connection was much better. To establish audio connection by telephone when joining an Adobe Connect meeting, the participant simply enters a call back telephone number in a field on the login screen, and within a few seconds a call back is received via that number, activating the participant's audio connection to the meeting by telephone. We realized during the pilot study that this method yielded better sound quality than a computer audio connection. Hence, the general study FGI access email sent one hour prior to start time encouraged participants to select the option to activate their audio connection by telephone call back. Still, most participants chose to establish their audio connection via computer, presumably because it appeared to be more convenient or more desirable than typing a telephone call back number into a field. Some FGI participants were not able to maintain a video connection or were only able to establish an audio connection. For such cases, in keeping with the study purpose, these nurses were not excluded from the FGI. The video images were an important component for assessing the level of group engagement and interaction, but the incapacitation of video connectivity was not a sufficient reason to exclude a participant's valuable views from the data.

Another connectivity issue emerged when a pilot study participant used a USB laptop stick device to secure an Internet connection on her laptop. The device had the capacity to secure an Internet connection but it was a slow connection and the participant was not able to gain entry to the meeting space until 15 minutes into the interview. Further, her video image only lasted for a short time once she accessed the interview. Hence, the pilot study reinforced the necessity to remind participants to use a laptop or desktop computer with a solid wireless signal or Ethernet Internet connection.

Sound quality management.

Even with just two to five participants in a FGI, for sound quality purposes the RA realized it was necessary to ask and intermittently remind participants to click the microphone icon at the top of their conference screens to activate the mute function when not speaking and to unmute when they spoke. Participants discretely helped to remind each other of this by communicating via the chat box at the bottom of the screen. Some sporadic technical challenges occurred with individual participants. For example, one participant had an excellent webcam image and could hear all that was being said, but her microphone was not operating. Fortunately, she was able to contribute using the chat room window visible to all participants and the moderator at the bottom of the conference screen. Another participant also had excellent webcam and speaker capability but each time she unmuted her microphone to speak a noxious sound transmitted, obliterating all other audio. Resolution was improvised by having the participant type in her contributions via the chat room window. Both of these participants had activated audio connection via the computer, once again reinforcing the rationale for encouraging participants to join using the telephone to secure the best possible quality sound transmission.

Managing FGI attendance challenges.

Six to eight participants were proposed for each FGI in the general study; however due to coordination conflicts and last minute attrition, just two to five participants each attended the four FGIs. Even when the RA confirmed as many as 13 participants for a FGI, the largest FGI consisted of just five participants. While short-notice changes in availability are an unavoidable reality when scheduling geographically

dispersed mobile professionals, we also surmised that for some nurses, the virtual methodology might have distanced them from a sense of commitment to attend their meetings as scheduled. This notion was reinforced when several participants who were not in attendance as scheduled and confirmed, also did not respond to follow up text messages or phone calls when the RA reached out to ask if they were experiencing technical issues that prevented them from joining. We learned that in order to secure a group of six to eight FGI participants it is necessary to confirm a much larger number of participants, anticipating at least 50% attrition. Unfortunately for this study, with the exception of the first general study FGI, the pool of enrolled participants who were willing and available to meet at one time was not large enough to schedule twice the desired number of participants.

Technology-assisted transcription.

Other Internet-assisted methods reported in the literature for hosting online FGIs generate textual data, bypassing the need to transcribe AV recordings. However AV recordings are the product yielded from web conference technology, which require transcription. In this study, the researcher purchased and used dictation software called Dragon Dictate® 3.0.1 (Nuance Communications, Inc., 2012) to aid in the initial transcription of each FGI recording. The system requires a compatible USB microphone that is purchased separately. The microphone is highly sensitive; therefore, the environment where transcription is carried out needs to be almost absent of background noise.

Prior to use, set up time is required to establish voice recognition by the software, and to learn how to use the product by completing a tutorial. The software was helpful for

documenting the first draft of each FGI transcript, although somewhat awkward for several reasons. The system did not recognize fillers like “uhm”, “uh”, “like”, or healthcare jargon, and certain contexts that commonly occurred within the FGI dialog. The transcriber must load such utterances, words and phrases to the program vocabulary so that they can be recognized and not “corrected” by the system.

Transcribing AV recordings is not a smooth, uninterrupted process, which factored into the researcher’s dictation software learning curve and influenced the evaluation of the software’s utility for this purpose. Using two computer monitor screens, the researcher listened to a segment of the FGI recording with a headset and then spoke what was heard into the dictation software microphone, a process referred to as “parroting”. The best quality dictation output is yielded when the speaker uses a methodically paced rate of enunciated speech. Speaking too fast prevents the software from accurately capturing the words that are spoken. The FGI recordings consisted of natural speech by numerous persons, typically spoken at a faster pace than what the dictation system could accurately transcribe if parroted at that speed. Frequent toggling between the recording and the dictation platform was necessary as the researcher needed to “catch up” or replay a segment of the recording that was difficult to comprehend. Therefore, it was not possible to achieve a smooth and continuous listen/speak rhythm. Finally, the researcher was a novice user of the software, which slowed the process, creating an element of frustration at times because the intent of purchasing the software was to reduce transcription time. However, with continued use of the software and improved competency, it holds promise as a useful tool for transcribing FGI recordings.

Discussion

Web conference technology offers a promising and evolving synchronous data collection method that more closely resembles the milieu of personally attended FGIs than other currently available Internet-assisted methods. Experience acquired from the use of web conference technology to host FGIs in this study yielded a number of recommendations for researcher interested in using this method in future research.

Pilot study feedback.

When asked for their feedback pertaining to the web conference method used to host the pilot FGI, participants emphasized how much they appreciated the opportunity to share their experiences and views in a real time electronic “face-to-face” scientific milieu as a specialty cohort of nurses. One pilot participant suggested that healthcare staffing firms could benefit by hosting web conference FGIs with travel nurses to seek their feedback about what their occupational needs are and what impacts their ability to perform their jobs. Another pilot participant suggested that a few more participants might have further enhanced the depth of their discussion. All pilot participants indicated that the web conference was appropriate in length, which was approximately 40 minutes. With the exception of one nurse using a USB Internet connection device and another nurse attempting to log on using a tablet device, there were no reports of difficulty encountered in accessing the meeting space using the web conference URL provided by the RA. As previously explained, the web conference service used in the pilot study, WebEx, was different from the service finally selected for use in the general study, Adobe Connect. The selected service, although more secure, was somewhat more complex to navigate, but the broader learning curve existed mainly on the host side.

Recommendations.***Determine appropriateness.***

When contemplating the use of web conference technology to host FGIs it is prudent to perform an early assessment to determine the appropriateness of this method relative to the study topic and population. For example, participants must have access to the Internet and to the type of hardware necessary to participate in a web conference. They also need to have at least a low to moderate level of technological comfort and competency that enables them to follow instructions to log on and participate in the meeting. Moreover, not all participant populations or topics of interest are amenable to FGI discussions via this venue (Stover & Goodman, 2012). Incompatibility of the method could preclude otherwise eligible invitees from participating, subsequently affecting study results. The researcher needs to establish criteria for selection of the web conference service and make comparisons accordingly in order to determine which service appropriately matches the study requirements.

Sufficient preparation.

Once a conference system was selected, and prior to implementing the pilot study, numerous mock FGIs were hosted by the researcher and the RA to acquire sufficient knowledge of how the system operated. The practice gained from repeated use of the system equipped the RA with knowledge to troubleshoot and intervene on behalf of participants when technical issues arose. The pilot study enabled us to garner practical knowledge pertaining to the use of web conference technology for qualitative data collection in the general study. Therefore, a recommendation to researchers considering

the use of web conference technology for qualitative data collection is to host numerous mock web conference sessions and to build a pilot study into the design.

Size of focus groups.

Although the literature generally suggests six to 12 as a common appropriate number of participants per focus group interview, Finch & Lewis (2003) acknowledge that groups composed of professionals, as was the case in this study, tend to contribute more freely in a focus group environment, thus smaller groups may be more advantageous to accommodate this feedback. Participant engagement and interaction among group members are described in the literature as essential elements of FGIs (Kenny, 2005). A well functioning FGI has been described as “self- managed” (Gaiser, 1997), meaning that the group interaction is characterized by a degree of spontaneity. Likewise, in harmony with the literature, despite the smaller than anticipated focus group sizes in this study, travel nurse participants contributed richly and freely, requiring only enough prompting to inform them of what the researcher sought to learn from them. There was no hint of inhibition, lack of engagement or want of interaction, and the real-time environment preserved the quality of immediacy in response time (Matthew & Cramer, 2008; O’Connor & Madge, 2003). There was no evidence to suggest that the modest focus group sizes impeded the quality of the data, however no prior research using web conference technology to host FGIs could be located in the literature for comparison.

Benefits of webcam technology.

Full motion video creates an element of resemblance to in-person FGIs that is not achievable via the methods of Internet-assisted FGIs previously described in the

literature. The webcam images in this study portrayed participants who maintained attentiveness, professional respect, and interest in what their colleagues were saying. This behavior was observed despite several potentially distracting audio technical issues that occurred at some point during each FGI, which could have disrupted engagement. Interaction among participants was observed often as they agreed with, differed from, and built upon comments of their colleagues. Participants even tried to assist one another in troubleshooting and resolving technical issues if they arose. AV capacity with webcam full motion video also fulfilled another essential FGI characteristic by enabling the moderator to maintain an authentic, visible presence and an active role throughout all of the FGIs (Greenbaum, 2008; Matthew & Cramer, 2008; O'Connor & Madge, 2003).

Combined procedures.

For future studies using this technology, a plan that incorporates a secondary means for participants to join an FGI may mitigate loss of willing invitees who do not have the hardware or Internet connectivity to join a full audio-visual FGI. For example if an invitee is willing to participate but cannot join the web conference with full AV capacity, rather than lose this valuable data, offer that participant the web conference telephone number to join by audio only. It might also be worthwhile to consider opening a discussion board for a day or two following each FGI, providing participants with a secure electronic meeting space where they may type in any afterthoughts pertaining to the FGI topic of discussion.

Conclusion

This paper may be one of the first to provide guidance for the use of web conference technology as an Internet platform to synchronously collect qualitative data in

nursing research. This method, when used for appropriate populations of interest and subject sensitivity levels, offers a suitable venue for FGIs that supports the free flow of rich data with high levels of participant engagement and interaction. Web conference technology furnishes a means to host FGIs for geographically dispersed populations in a synchronous virtual environment that more closely resembles in-person FGIs than other Internet-assisted methods described in the literature.

As with any technological platform there are limitations associated with the use of web conference technology. Nonetheless, the evaluation of this technology's effectiveness for qualitative data collection in this study concurs with prior research supporting the use of both asynchronous Internet-assisted methods (Kenny, 2005; Murray, 1997; Turney & Pocknee, 2005; Watson et al, 2006; & Williams & Reid, 2012) and synchronous Internet-assisted methods (Chase & Alvarez, 2000; Stovner & Goodman, 2012) for qualitative data collection.

This paper addresses a gap in the literature pertaining to the use of web conference technology as a method to host synchronous online FGIs for qualitative data collection in research. The knowledge presented here was acquired through use of web conference technology for data collection in a qualitative study about travel nurses. This technology offers promise of a more authentic online FGI environment than other reported synchronous web-based methods. Future research using a web conference service to host FGIs will contribute to this developing body of knowledge, bolstering the utility of the method, as will the perpetual enhancement of Internet technology.

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CHAPTER 7

Discussion and Conclusions

The purpose of this final chapter is to summarize the mixed method dissertation study described in previous chapters. A convergent parallel design was used for this study (Creswell & Plano Clark, 2011). Quantitative and qualitative data were collected and analyzed simultaneously yet separately to address the research questions as detailed in Chapters One through Five. Chapter Six is dedicated to describing how an innovative non-traditional technique for online qualitative data collection was used in this study to create a virtual focus group interview environment that more closely resembled a face-to-face group interview than has been achieved via online approaches in prior research. In this final chapter, discussion ensues to address links and divergence among the findings of each arm of the study and to report how a fuller understanding of the topic was gained through the complementary lenses of qualitative and quantitative methods of inquiry. The discussion includes implications for practice, research, and policy intended to stimulate ideas for interventional application of the findings and to generate additional hypotheses for further inquiry. Study strengths and limitations are reviewed.

Study Summary

For decades, travel nurses have been and continue to be widely used throughout the US (Faller, Gates, Georges, & Connelly, 2011; Goodman-Bacon & Ono, 2007; Shaffer, 2006; Tuttas, 2011; Wright & Bretthauer, 2010; Xue, Aiken, Freund & Noyes, 2012). These experienced, mobile RNs bridge critical staffing gaps on short notice via temporary full-time contractual job assignments in hospitals spanning the nation. Yet, despite quality and safety concerns expressed by hospital leaders related to the use of

supplemental staff (Aiken, Xue, Clarke, & Sloane, 2007; Estabrook, Midodzi, Cummings, Ricker, & Giovannetti, 2005; First Consulting Group, 2001; Harding, 2004; Hurst & Smith, 2011; Kane, et al., 2007; May, Bazzoli, & Gerlans, 2006; Pham, Andrawis, Shore, Fahey, Marlock, & Pronovost, 2011; Roseman & Booker, 1995) there is little research to explore travel nurses' unique work arrangement and the onboarding challenges they navigate in order to integrate with new teams and perform their jobs effectively (Aiken, Shang, Xue, & Sloane, 2012; Kane, Shamliyan, Mueller, Duval, & Wilt, 2007).

Travel nurses are newcomers to jobs three to four times per year. With just a brief onboarding process to initiate each new job assignment these nurses are expected to reach productivity, integrate with new teams, and meet hospitals' job performance expectations. A link has been identified in the literature between job performance and the initial compendium of onboarding processes and experiences (Harton, Borrelli, Knupp, Rogers, & West, 2009). The literature also identifies a theoretical link between job performance elements and: (a) organizational socialization (Bauer, et al., 2007; Chao, O'Leary, Wolf, Klein & Gardner, 1994; Saks & Gruman, 2011; Saks, Uggerslev, & Fassina, 2011; Wang, Lin, & Yang, 2011), (b) the nursing work environment, by virtue of its link to patient outcomes (Aiken, Shang, Xue, & Sloane, 2012; Aiken, Xue, Clarke, & Sloane, 2007), and (c) perceived self-efficacy (Lee & Ko, 2010; Manojlovich, 2005; Saks, 1995; Stajkovic & Luthans, 1998). No prior published studies were located that were designed with a purpose to examine relationships between job integration factors and travel nurse job performance, or to understand how travel nurses perceive onboarding experiences to impact the quality of their job performance. The conceptual framework of

Social Cognitive Theory (Bandura, 1986) and the theoretical links between the predictors and the outcome variable as established in the literature, gave rise to the research questions for this study.

Research question #1.

Do travel nurses with higher self-rated organizational socialization, self-efficacy, and nursing work environment scores, yield higher quality job performance? To answer this question, 4 hypotheses were incorporated, each controlling for 3 participant and 3 hospital demographic covariates:

1. Nurses who rate their experiences more positively measured on the organizational socialization sub-scales developed by Chao and colleagues (1994) will yield higher quality job performance.
2. Nurses who perceive the nursing work environment more favorably measured on the PES-NWI scale (Lake, 2002) will yield higher quality job performance.
3. Nurses with higher levels of self-efficacy measured on the NGSE scale developed by Chen and colleagues (2001) will yield higher quality job performance.
4. The combined effects of organizational socialization scores, nursing work environment scores, and self-efficacy scores will predict job performance ratings as measured by their managers.

Research question #2.

What onboarding experiences do travel nurses perceive to have an impact on their clinical and professional job performance?

To answer the first question a survey comprised of demographic questions followed by three measurement scales validated in prior research, and representing job integration

factors in this study. Data were analyzed using SPSS version 20 to run simple and multiple linear regression analyses ($N = 107$). For the second question, transcripts from four online web conference focus group interviews ranging from two to five participants each ($N = 15$) were analyzed using qualitative content analysis.

Summary of Major Quantitative Findings

As described above, theoretical links have been established in the literature between job performance and the three predictors examined in this study: (a) organizational socialization, (b) the nursing work environment, and (c) perceived self-efficacy. Nonetheless, the regression results were not significant to support any of the four hypotheses in the context of travel nurses. A pattern was observed among the survey responses for the Practice Environment Scale of the Nursing Work Index (PES-NWI) that was used to measure the quality of the nursing work environment. There was a high frequency of the selected response option “I prefer not to respond to this item”, contrasting with a low frequency of this selected response for the other two scales in the survey. The scale items most affected by this response pattern were contained mostly within 2 subscales of the measure: (a) Nurse participation in hospital affairs, and (b) Nurse manager ability, leadership, and support, leading to a notion that perhaps these two subscales were not well fit for use in the context of travel nurses. Notwithstanding, there may simply have been perceptions of the practice environment that participants preferred not to share.

Another distinct characteristic of the quantitative data was that self-efficacy and job performance scores were consistently high and statistically skewed, resulting in in

departure from a normal distribution, which called for attention to examine the degree of similarity between the sample and the travel nurse population.

Characteristics of participants in this study were compared with recent demographics of the overall travel nurse client base provided by the staffing firm, and with characteristics of the sample from recent prior research about travel nurses (Faller et al., 2011). The male gender was represented in the current study to a greater extent (15%) than either the staffing firm demographics (9%) or those of Faller et al., (2011) (10%). The sample of travel nurses in Faller et al.'s (2011) research was more ethnically diverse than the sample in this study (a demographic not included in the firm's data). Forty-five percent of participants in this study were within the age range of 25 to 34 years compared with 36% in the staffing firm demographics. For both the study and staffing firm groups more than half of the travel nurses, 54% and 63% respectively, were age 35 years or greater. Age was not reported in Faller et al.'s (2011) demographics. Forty-four percent of the participants in this study had over 10 years of experience compared with 51% in the staffing firm demographics. The proportion of participants in this study holding a BSN degree (53%) was comparable with that of both the staffing firm (54%) and Faller et al. (2011) (52%). The demographics of participants in this study were similar to those of the staffing firm and the sample demographics reported by Faller et al. (2011). Participant and comparison groups' demographic details are presented in Table 12.

High performance evaluation scores across the study sample might have been an indicator of response bias, creating a ceiling effect, subsequently affecting the regression results. The researcher was granted access to performance evaluation scores that the staffing firm uses internally to monitor performance of its travel nurses clients. The mean

and standard deviation of the study sample performance evaluation scores ($N = 107$) were compared with that of performance evaluation scores received by the staffing firm from its healthcare facility clients over the past 13 months ($N = 2928$). Scores were not reversed for the comparative analysis as they were for the regression analysis; therefore, a lower score represented a more favorable rating. For the firm's data: $M = 23.1$ and $SD = 8.68$. For the study sample data: $M = 20.3$ and $SD = 8.34$. The comparison showed that the mean job performance sum score of travel nurses who chose to participate in the study was more favorable than the mean score of the performance evaluations received by the firm over the past 13 months.

Summary of Major Qualitative Findings

Results of the qualitative study shed light on the onboarding experiences and needs of travel nurses as newcomers to job assignments. Prior studies have yielded accounts of permanent staff nurses' onboarding experiences and needs. Experiences described in one study centered primarily around feelings of anxiety that lingered for weeks, about the ability to perform the new job and to blend with new co-workers (Dellasega, Gabbay, Durdock, & Martinez-King, 2009). These aspects of onboarding did not emerge as a main concern in any of the focus groups. Other onboarding researchers highlighted the importance of appropriate preceptors, access to key information, and a resource person to address questions (Bartz, 1999). These findings aligned with some of the essential components of onboarding programs identified by travel nurse participants as necessary to facilitate their achievement of productivity and to meet hospitals' job performance expectations.

One of the most salient points made by travel nurse focus group participants was the setback experienced upon arrival to a hospital that was not prepared to provide them with an ID badge, parking pass, and most importantly, operating system passcodes that are fundamental to the performance of their jobs. Additionally, travel nurses described certain common onboarding content as “fluff” that absorbed valuable chunks of their limited onboarding time. These participants suggested this time could be allocated instead to other content that they identified as more pertinent to meeting their onboarding needs. For example, while not discounting its importance, participants categorized content such as hospital philosophy, mission, vision, values and other high level organizational information as that which absorbs time better spent on the nursing unit to learn “how the unit works” and to have more hands-on practice with the electronic documentation system to “get a better understanding of it up front”, while paired with an appropriately selected preceptor.

Interpretation of Converged Results

The convergent parallel mixed method approach was an effective means to examine the research questions in this study. Because the combination of population and topic in this research has not been studied before, knowledge gaps exist. The mixed method approach yielded co-perspectives to allow interpretation of results of one study method against the backdrop of the other’s results. Another advantage of the design was that the focus group participants were a sub-sample of the survey participants, each having also contributed to the quantitative results.

Regression results did not indicate that any relationships existed between the predictors of interest and travel nurse job performance despite the literature-supported

theoretical links between job performance and these same predictors. However, the conspicuously high self-efficacy scores across the sample offered a lead to explain why the qualitative results in this study did not center on concerns such as anxiety about being accepted by the new team, or apprehension about capacity to perform the job, as was depicted in the literature about permanent staff newcomers. The statistically insignificant relationships between the quantitative predictors and job performance could be interpreted as markers of travel nurse onboarding needs that differ from those of permanent staff newcomers. If so, then travel nurse onboarding programs might be improved if designed in accordance with the specific needs of travel nurses.

Focus group participants freely articulated their onboarding needs without hesitation when asked about their experiences, including what works and what doesn't work within the brief onboarding period, to facilitate optimal job performance. A hospital's definition of priority onboarding content is not always compatible with what travel nurses regard as essential content and appropriate time allocations for their brief onboarding period. Despite high self-efficacy scores, a need expressed by travel nurses across focus groups was to shift allocated time from the general hospital orientation content to unit-based time where hands-on access to systems and direct observation of unit logistics could be achieved. This resonates with published anecdotal evaluations of specific unit orientation programs in the literature (Harton, et al., 2009).

A common thread across focus group discussions depicted the necessity for travel nurses to engage proactive tactics to acquire the information needed to perform their jobs. Descriptions were articulated about how these nurses cannot be reluctant to ask questions even when they sense they are interrupting busy permanent staff. This finding echoes

previous organizational socialization research pertaining to how a newcomer makes sense of the new work environment by receiving as well as probing for information needed to perform the job, and how individual differences and organizations' onboarding structures influence the degree to which this occurs (Ashforth, et al., 2007; Zedeck, 2011). The overarching theme emerging from the qualitative analysis exposes that onboarding clearly matters to travel nurses, and they know what they need from the onboarding experience to facilitate job performance that meets hospital expectations.

Implications for Nursing

Several implications for nursing can be derived from this mixed methods research.

Implications for practice.

Knowledge acquired through this research can be incorporated into the development of hospital onboarding programs specific to travel nurses in terms of what content to include and exclude, preparedness for the nurse's arrival, and time allocation for onboarding agenda components. Educators can benchmark travel nurse onboarding programs against the results of this and future studies about travel nurses to design onboarding programs that effectively launch these nurses to perform the important work they do at each job assignment.

In this study, there was frequent agreement among travel nurses that centered on disorganization and lack of adequate preparation by hospitals to receive them. For example, when system passcodes and ID badges are not created and fully functional by the end of the travel nurse's first day, the nurse cannot access systems that are essential to practice such as but not limited to medication dispensing and administration systems,

supplies, documentation systems, and waived testing instruments, resulting in a serious impediment to job performance. The travel nurse must then rely on access codes of permanent nursing staff, which creates delays in patient care and frustration for the nurses, as well as identity tracking and risk management issues. Further, delays in issuing functioning clearance codes to travel nurses postpones their acquisition of hands-on familiarity with how to access and navigate these systems until after the brief onboarding period concludes, and the nurse is responsible for a full patient assignment.

Because travel nurses are only at a hospital for a period of weeks and need to reach full productivity over a just few days, their onboarding needs differ from those of permanent staff. Data acquired directly from travel nurses in this study indicated that the typical travel nurse onboarding structure, content and allocation of time should be re-assessed. There was emphatic agreement across focus groups that the greatest proportion of travel nurse onboarding needs to occur directly on the assigned unit promptly after arrival, where they can become familiarized with workflow, doctors and other key people, policies, procedures, equipment and systems, with the guidance of a preceptor. Travel nurses perceived that often, too much time is allocated instead to covering more high-level hospital content, redundant annual mandatory training, and unreasonably lengthy skills checklists above and beyond that which was submitted upon interview for the job assignment. These findings harmonize with those of Pham et al., (2011) such that supplemental nurses' unfamiliarity with the core staff, management systems, protocols, and procedures could lead to communication and teamwork related insufficiencies contributing to medication error likelihood. Hence, these researchers recommended that the onboarding design for supplemental nurses be revisited and improved.

The current study showed that travel nurses need a source of just-in-time answers to questions that arise after the onboarding period, when they and the permanent staff are busy with full patient assignments. Participants expressed that oftentimes a travel nurse who started an assignment on the unit before them can be the best resource because they can anticipate what a fellow travel nurse will need to know. A computer-based, source of unit-specific information accessible to travel nurses around the clock on the unit could serve as a front-line source of information for travel nurses during and after the onboarding period. A resource such as this could be set up discussion board style, populated and updated by and for travel nurses who work on the unit.

In this study, travel nurses identified an appropriate preceptor as a linchpin to successful onboarding that facilitates optimal job performance. Travel nurses described the ill effects and waste of valuable onboarding time incurred when paired with a disengaged, unknowledgeable, or otherwise inappropriately selected preceptor. Travel nurses' need for a greater proportion of clinical onboarding time spent directly on the assigned unit with an appropriate preceptor who takes a lighter patient assignment for at least a portion of the shift, resonates with prior onboarding research relative to permanently hired staff (Meyer & Meyer, 2000).

Implications for research.

Certainly, further research about travel nurses is warranted to better understand their work arrangement and its challenges, and to capitalize on the utility and benefits of these mobile professionals. This dissertation work adds to a modest body of knowledge yielded by a scant number of existing studies about travel nurses. The results of this study

can stimulate an array of additional hypotheses pertaining to this essential yet understudied RN population.

Performance evaluations in this study lacked variation in scores with most scores being very high, perhaps reflecting response bias, which might have affected the regression results. Although the performance evaluation measure used in this study had good internal consistency (.97), it had not been validated in prior research. A performance evaluation measure that has been validated in previous research might produce better quality data pertaining to factors that impact travel nurse job performance and by extension, patient outcomes. In future research examining travel nurse job performance as an outcome, a design incorporating a previously validated measure such as the 7-item in-role performance subscale developed by Williams & Anderson (1991), or the Schwirian 6-dimension scale of nursing performance, also used in prior research (AbuAlRub, 2004) might yield better quality outcome data. Additional qualitative focus group studies with travel nurses can generate a broader foundation of knowledge that is needed to select from existing scales or to develop a new measurement scale, specific to travel nurses.

Researchers have examined the relationship between the proportion of supplementary nursing staff use and adverse patient outcomes (Aiken, Shang, Xue, & Sloane, 2012). These researchers' approach collectively evaluated the job performance of supplemental staff, a workforce category that can include travel nurses, in terms of patient outcomes. The study results showed that lower quality practice environments rather than the presence of supplemental nurses may be associated with adverse patient outcomes. These findings lend support to a notion that patient outcomes analyzed in

conjunction with the proportion of travel nurses contracted can be used as an indirect, aggregate measure of travel nurse job performance instead of direct individual measurement via nurse manager evaluations. More studies are needed to substantiate the impact of travel nurses on patient outcomes.

Although the remarkably high self-efficacy scores and high job performance scores observed across the sample in this study resonated with the theoretical link repeatedly identified between these two elements in prior research (Saks, 1995; Stajkovic & Luthans, 1998), there was no statistical association identified between them in the results of this study. Nevertheless, from an industry perspective a future study suggestion for staffing firm researchers would entail recruiting a pilot group of travel nurses who each populate a self-efficacy scale. Obtain subsequent job performance outcome data from managers using a reliable and validated scale. Analyze these data, controlling for appropriate covariates, for example the number of previous job assignments completed, to determine if it would be useful to incorporate a measure of self-efficacy into the process of matching travel nurses to job assignments or to determine the readiness and fitness of a first time travel nurse applicant to be placed on a contract job assignment.

Finally, travel nurses' direct patient care roles in hospitals around the country position them as an ideal source of comparative data that can be used to address and resolve healthcare delivery challenges faced by hospitals. Yet to date, no studies have tapped into this valuable solution-generating potential. For example, travel nurses gain repeated exposure to various brands and customizations of electronic health records from which they acquire a wealth of knowledge that can be drawn from to improve the utility of these systems and to reduce new user learning curves.

Implications for policy.

Qualitative results of this study yielded a voice of travel nurse frustration related to redundancy of general onboarding requirements including but not limited to hand washing, blood borne pathogens, corporate compliance and skills check lists. To compound this, travel nurses commonly maintain profiles in the databases of multiple staffing firms. Because travel nurses work in hospitals all over the country, the formation of a nationally recognized central credential verification organization for these nurses could streamline onboarding processes by standardizing travel nurses' health, competency and onboarding requirements, consolidating to one profile per nurse, and eliminating the need to repeatedly meet requirements that are common to all hospitals. Profiles could be centralized and protected electronically in likeness to a national repository. By this process, all travel nurses would be required to maintain adherence to these criteria, fulfilling the same standards, in turn mitigating onboarding redundancy, and allowing that time to be re-allocated for unit-specific onboarding activity identified by travel nurses as essential.

Study Limitations and Strengths

Limitations.

There are a number of limitations identified in this study. First, convenience sampling was used in this study, meaning that not all individuals in the theoretical population (the universe of US travel nurses) had an equal chance of being invited to participate. Rather, an accessible population was used, defined as those who can actually be selected for participation (Pettus-Davis, Grady, Cuddeback, & Scheyett, 2011). Two characteristics of this study offset the limitation of convenience sampling, escalating the

likelihood of attaining similarity with the theoretical population. First, travel nurses were recruited from the client database of one of the largest healthcare staffing firms in the US. Second, travel nurses often simultaneously maintain profiles with multiple firms. This obscure boundary means that a percentage of travel nurse study participants recruited from one firm are also listed in other firms' databases, thereby increasing capture of travel nurses in the theoretical population.

Several measurement related limitations existed. Predictor variable data were collected via a self-report design, which can be cause for concern pertaining to accuracy (Parker & Kulik, 1995). Self-efficacy scores were severely skewed to the left, causing a ceiling effect that might have impacted the regression results. Performance evaluation scores provided by nurse managers were also skewed to the left, as previously discussed in the research implications section. Although regression is known to tolerate a degree of abnormal distribution, the skewness of these data may have exceeded that capacity.

From a qualitative perspective, each focus group in this study was comprised of fewer participants than proposed. Through the implementation of this study, we learned that many travel nurses rely almost exclusively on cell phone and tablet technology to meet their electronic communication needs. Therefore the technology requirements for web conference participation could have precluded otherwise willing invitees from agreeing to participate.

Strengths.

Despite these limitations, the study had a number of strengths. This study is one of only a few for which a undiluted sample of US travel nurse participants was accessible. Further, all of the participants were actively working travel nurses with

current, experience-based perspectives on the topic of interest. Another strength was portrayed in the similarity of the participant demographics to those provided by the staffing firm and to those in prior travel nurse research (Faller et al., 2011), suggesting that the sample was adequately similar to the travel nurse population at large. Also, the predictors examined in this research are theory-linked; their association with job performance is supported in the literature, although not previously examined in the context of travel nurses. Finally, this study is possibly the first to use web conference technology to collect qualitative focus group data in research. Researchers who consider this method of data collection in the future can benefit from knowledge generated via its use in this study as described in Chapter Six.

Conclusions

Current literature yields little research about travel nurses, despite the fact that they are relied upon every day and night to bridge critical staffing gaps in hospitals across the US. Additional studies about US travel nurses will build on the current diminutive body of existing knowledge to facilitate understanding about: (a) how travel nurses' work arrangements and onboarding needs differ from those of permanent staff nurses, (b) travel nurse roles and efficacious utility in the evolving healthcare milieu, and (c) how the quality of onboarding to new job assignments impacts travel nurses' job performance and by extension, patient outcomes. Further qualitative and quantitative studies about travel nurse onboarding experiences will lead to the subsequent development of onboarding programs, policies and practices that are better suited to support optimal travel nurse job performance.

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Appendix A

Cross Country Staffing Written Permission Letter

University of Miami

**PERMISSION TO CONTACT HEALTH CARE PROFESSIONALS AND
ACCESS CORRESPONDING DATA REQUIRED FOR RESEARCH STUDY
PURPOSES**

**Travel Nurse Job Performance: Integration Factors as Predictors,
and Travel Nurse Integration Experiences**

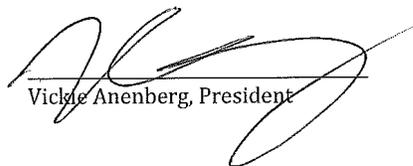
Carol Tuttas PhD(c), MSN, RN

Carol Tuttas, RN, an employee of Cross Country Staffing, and a doctoral candidate enrolled in the PhD in Nursing program at the University of Miami, Coral Gables, Florida, is hereby permitted to contact travel RNs who are listed in the Cross Country Staffing database, for the purpose of inviting them to participate in a PhD dissertation research study, implemented through the University of Miami. For study purposes, Carol Tuttas may access performance evaluation and relevant corresponding demographic data pertaining to participants.

Study title: Travel Nurse Job Performance: Integration Factors as Predictors, and Travel Nurse Integration Experiences

Travel nurse participation is voluntary and involves responding to a web-based questionnaire, and possible participation in a focus group interview about integration to travel nursing job assignments. This letter also serves to acknowledge that for participant confidentiality purposes, no survey data or focus group data generated from this study will be shared with Cross Country Staffing.

The nurses will be informed that their choice to volunteer to participate or not to participate in this University of Miami research study is unrelated to their employment status with Cross Country Staffing, and that they may withdraw from the study at any time during the study if they choose to.


Vickie Anenberg, President

7-9-12
Date

Appendix B

Travel Nurse Pilot Study Invitation Letter Verbiage (HSRO Approved 11-08-2012)

Dear Cross Country Staffing Travel Nurse,

My name is Carol Tutas. I am the Director for Standards and Certification at Cross Country Staffing and a PhD Candidate at the University of Miami. I invite you to participate in a pilot study that will precede a general study about travel nurses that I will be carrying out as my dissertation research. The study is titled “Travel Nurse Job Performance: Integration Factors as Predictors, and Travel Nurse Integration Experiences”. The purpose of the pilot study is to seek your evaluative feedback about a web-based survey questionnaire and a focus group interview guide that will be used to collect data for the general study that follows. Your decision to participate or not to participate in this pilot study will have no bearing or affiliation with your work eligibility status at Cross Country Staffing.

Despite the critical healthcare staffing needs satisfied by travel nurses across the nation every day, very little research exists concerning the travel nurse workforce. Travel nurses have the unique skill sets and expertise necessary to contribute valuable input toward a study about the processes and experiences occurring during job assignments, which impact the way travel nurses perform their important work. The general study that will follow this pilot study will yield new knowledge useful for improving the integration processes, experiences and job outcomes of travel nurses as they repeatedly adapt to complex healthcare work settings.

Participation in this pilot study will require some of your time. The pilot study is being carried out in 2 parts, both of which you can complete using a computer from wherever you are. By electronically signing a University of Miami study consent you will agree to participate in a web-based pilot survey, which will take approximately 40-50 minutes to complete. The consent will also ask if you also agree to participate in a 55-75 minute pilot focus group interview. For this part of the study, a small group of 6-8 travel nurses will talk about specific aspects of their travel assignment experiences in a web-based group interview moderated by a research assistant.

The study is dissertation research being conducted by me, Carol Tuttas. Cross Country Staffing will not have access to any pilot survey questionnaire data or pilot focus group interview data. Additional measures implemented to protect your rights as a pilot study participant are listed in the pilot study consent form.

As a token of recognition for your participation in this pilot study you will receive a \$10.00 gift card for completing the pilot survey questionnaire, and a \$10.00 gift card for participating in a pilot focus group interview. Your voluntary participation is greatly appreciated.

Respectfully,



Carol Tuttas, PhD(c), MSN, RN

Instructions:

- Not sharing this logon with others is important because it is unique to you.

- To read the consent and begin the pilot survey, please click only once on the *click here* hyperlink below. Double-clicking will initiate a 60 second delay before you may re-attempt to access the consent and survey.
- If you are unable to click on the *click here* hyperlink below, please copy the entire URL below and paste it into your browser address field.

<https://umsurveys.miami.edu/mrIWeb/mrIWeb.dll?I.Project=EMAILTEST&form=98348>

To read and sign the pilot study consent and begin the pilot survey, please

*****click here*****

Appendix C

Pilot Study Consent (HSRO approved 11/08/2012)

Travel Nurse Job Performance: Integration Factors as Predictors, and Travel Nurse Integration Experiences

*University of Miami
Coral Gables, Florida*

You have been asked to voluntarily participate in a pilot study to validate a web-based survey and a focus group interview guide that will be used to collect data for a mixed methods study about travel nurses. The pilot study that you are being asked to participate in precedes and is separate from the general mixed methods study to follow.

The purpose of the general study that will follow the pilot study is a) to explore the association between job assignment integration factors and job performance of travel nurses, and b) to understand the orientation and socialization experiences of US travel nurses as they integrate to new job assignments. The general study will address an important gap in knowledge about the work arrangement of travel nurses. This knowledge will open avenues of further study to learn how travel nurses may integrate more effectively with healthcare teams, improving their utility and job performance.

This study is being carried out by Carol Tuttas, who is an employee of Cross Country Staffing and who is also a PhD candidate at the University of Miami School of Nursing and Health Studies in Coral Gables, Florida.

Helena Johnson is the research assistant who will moderate the focus group interview component of the study, including the pilot study. The research assistant is a travel nurse who works contracted assignments via the agency of Cross Country Staffing, and is fulfilling a research practicum for an academic nursing degree.

Participant Procedures

If you agree to participate in the pilot study you will be asked to complete an 88-question web-based survey followed by additional questions seeking your feedback pertaining to the survey process. The pilot web-based survey is anticipated to take approximately 40-50 minutes of your time.

You may also be asked to participate in an audio-video recorded web-based focus group interview moderated by the research assistant. To participate in a focus group interview you need a computer with a web-cam, microphone, and Internet access. At the conclusion of the focus group interview the moderator will solicit your feedback about the focus group interview process. The pilot focus group interview is anticipated to take approximately 55-75 minutes.

Your honest feedback will contribute to ensuring that the survey and focus group interview processes are valid for carrying out this study.

Confidentiality

Your identity will be kept confidential. Cross Country Staffing will not have access to any pilot survey questionnaire data or pilot focus group interview data. The purpose of the pilot study is to seek feedback about the process you experience as a participant. Your responses to questions in the survey and focus groups will not be incorporated into the data set to be analyzed in the study. Although you will read about the record review component of the study in the actual participant consent (which you are evaluating as part of the pilot study), the record review component does not apply to you as a pilot study participant.

Risks and Benefits

There is a nominal risk for you to experience emotional uneasiness when responding to survey or focus group questions that may activate memories of an unpleasant work experience. You may choose not to respond to such question(s). If you find that a question has triggered disturbing thoughts about the assignment and you would like to talk with someone about it in confidence, you are encouraged to alert the researcher, who will ask an RN Clinical Liaison from Cross Country Staffing to contact you within 24 hours for supportive follow up.

To recognize and appreciate you as a consenting pilot study participant, you will receive a \$10 gift card for survey participation and a \$10 gift card if you participate in a focus group interview. The gift card(s) will be delivered to you by email within 7-10 days after you have participated in the pilot study.

Study Affiliation

Your choice to volunteer to participate or not to participate in this University of Miami pilot study is unrelated to your work status with Cross Country Staffing. You may withdraw from the pilot study at any time during the survey or focus group interview. Participating in or withdrawing from the pilot study will have no effect on your work status with Cross Country Staffing.

Contact Information

You may contact the researcher Carol Tuttas by calling 561-951-7523 or by email at c.tuttas@umiami.edu. Carol Tuttas will gladly address any questions that you may have pertaining to the purpose, procedures and outcomes of this pilot study.

The research assistant, Helena Johnson, can be reached at sapodilla3@gmail.com.

If you have questions relating to your rights as a research subject, please contact the

University of Miami HUMAN SUBJECTS RESEARCH OFFICE (HRSO), at
305-243-3195 or eproost@med.miami.edu.

Pilot Participant Agreement

I have read the information in this pilot study consent form.

I have been provided the opportunity to ask questions about this pilot study. I agree to voluntarily participate in the pilot study survey. I am entitled to a copy of this consent form after I read and sign it, which I may obtain by contacting the researcher or research assistant named above or by accessing it using a hyperlink to be presented on the next page.

Please sign the consent electronically by typing in your first and last name.

(If preferred, you may choose to electronically sign this consent by typing the email address to which the invitation for this study was sent, instead of your name).

(Participant types in name or email address here)

Date:

(Date is auto-populated by uSurvey)

By signing above, selecting the "I consent" response below and clicking on the "Next→" button below, you will verify that you have read this page in its entirety and that you consent to participate in this University of Miami pilot study.

I consent to participate in this University of Miami pilot study
If "I consent..." is selected (above), the participant proceeds to click "NEXT"

I **DO NOT** consent to participate in this University of Miami pilot study
If "I DO NOT consent..." is selected (above), a fresh screen opens that states:
We are sorry that you have decided not to participate in our pilot survey and appreciate your time.

NEXT

You may use the following hyperlink or URL to access the consent form for this University of Miami pilot study.

https://umshare.miami.edu/team/it/itpublic/IT_ILS/pdf_Form/TSR.pdf

[THE LINK BELOW OPENS A PDF OF THE PILOT CONSENT FORM]

[Click to view consent form](#)

Would you be willing to participate in a pilot focus group interview? Please respond by clicking on the appropriate button below to indicate YES or NO:

By selecting the "YES" response below and then clicking on the "Next→" button, I also agree to be contacted for participation in a pilot focus group interview:

YES

NO

I agree to be contacted at the following Telephone Number for a pilot focus group interview to be scheduled

Please enter phone number in the format: (nnn)nnn-nnnn

(Participant types in phone number)

NEXT

General study consent opens when pilot participant clicks on NEXT button, followed by survey.

Appendix D

Organizational Socialization Scale (HSRO Approved 11-08-2012)

SECTION 2 of 4: The following section is composed of 34 items. It relates to your perceived degree of transition from being an "outsider" to being an "insider" at your travel assignment.

Please respond to the items from the perspective of the travel assignment for which you indicated the start and end dates in the demographic section.

Organizational Socialization Scale

<i>[Items are presented in the order, 1 through 34, specified by the instrument author.]</i>	Strongly Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Strongly Agree	I prefer not to respond to this question
I learned how things "really work" on the inside of this organization.						
I knew very little about the history behind my assigned work group/department.						
I would be a good representative of the organization.						
I did not consider any of my coworkers as my friends.						
I have not yet learned "the ropes" of my job.						
I have not mastered the specialized terminology and vocabulary of my trade/profession.						
I knew who the most influential people were in the organization.						
I have learned how to successfully perform my job in an efficient manner.						
I was not familiar with the organization's customs, rituals, ceremonies and celebrations.						
I was usually excluded in social get-togethers given by other people in the organization.						
The goals of the organization were also my goals.						
I did not master the organization's slang and special jargon.						

Within my work group, I was easily identified as "one of the gang".						
I knew the organization's long-held traditions.						
I did not always understand what the organization's abbreviations and acronyms meant.						
I believed that I fit in well with the organization.						
I did not always believe in the values set by the organization.						
I understood the specific meanings of words and jargon in my trade/profession.						
I mastered the required tasks of my job.						
I understood the goals of the organization.						
I would be a good resource in describing the background of my assigned work group/department.						
I have not fully developed the appropriate skills and abilities to successfully perform my job.						
I did not have a good understanding of the politics in the organization.						
I understood what all the duties of my job entailed.						
I would be a good example of a nurse who represents the organization's values.						
I was not always sure what needed to be done in order to get the most desirable work assignments in my area.						
I was usually excluded in informal networks or gatherings of people within this the organization.						
I had a good understanding of the motives behind the action of other people in the organization.						
I was familiar with the history of the organization.						
I understand what most of the acronyms and abbreviations of my trade/profession mean.						

I was pretty popular in the organization.						
I could identify the people in the organization who were most important in getting the work done.						
I believe most of my coworkers liked me.						
I supported the goals that were set by the organization.						

Appendix E

Practice Environment Scale of the Nursing Work Index
(HSRO Approved 11-08-2012)

SECTION 3 of 4: This section relates to your perception of the nurse practice environment at the travel assignment. There are 31 items to rate according to the extent that you agree or disagree.

Please respond to the items from the perspective of the travel assignment for which you indicated the start and end dates in the demographic section.

	Strongly Agree	Agree	Disagree	Strongly Disagree	I prefer not to respond to this question
Adequate support services allowed me to spend time with my patients.					
Physicians and nurses had good working relationships.					
Supervisory staff was supportive of the nurses.					
Active staff development or continuing education programs existed for nurses.					
Career development/clinical ladder opportunity existed.					
Opportunity for staff nurses to participate in policy decisions.					
Supervisors used mistakes as learning opportunities, not criticism.					
There was enough time and opportunity to discuss patient care problems with other nurses.					
There were enough registered nurses to provide quality patient care.					
Nurse manager was a good manager and leader.					
Chief nursing officer was highly visible and accessible to staff.					
There was enough staff to get the work done.					
Praise and recognition for a job well done.					
High standards of nursing care were expected by the administration.					
Chief nursing officer was equal in power and authority to other top-level hospital executives					

A lot of team work between nurses and physicians.					
Opportunities for advancement existed.					
A clear philosophy of nursing pervaded the patient care environment.					
Worked with nurses who were clinically competent.					
Nurse manager backed up the nursing staff in decision making, even if the conflict was with a physician.					
Administration listened and responded to employee concerns.					
An active quality assurance program existed.					
Staff nurses were involved in the internal governance of the hospital (e.g. practice and policy committees).					
Collaboration (joint practice) existed between nurses and physicians.					
A preceptor program existed for newly hired staff RNs.					
Nursing care was based on a nursing, rather than a medical, model.					
Staff nurses had the opportunity to serve on hospital and nursing committees.					
Nursing administrators consulted with staff on daily problems and procedures					
Written, up-to-date nursing care plans existed for all patients.					
Patient care assignments fostered continuity of care, i.e., the same nurse cared for the patient from one day to the next.					
Used nursing diagnoses.					

Appendix F

New General Self-Efficacy Scale (HSRO Approved 11-08-2012)

SECTION 4 of 4: This is the final section. It relates to your perceived level of self-efficacy while you worked at this travel assignment.

Perceived self-efficacy is the degree to which you perceive you are capable of accomplishing a certain level of performance (Bandura, 1986, p. 391) across a variety of situations (Judge, Erez & Bono, 1998, p. 170). There are 8 items to rate according to the extent that you agree or disagree.

References

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall Inc.

Judge, T., Erez, A., & Bono, J. (1998). The power of being positive: The relation between positive self-concept and job performance. *Human Performance*, 11(2/3), 167-187

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I prefer not to respond to this question
I will be able to achieve most of the goals that I have set for myself.						
When facing difficult tasks, I am certain that I will accomplish them.						
In general, I think that I can obtain outcomes that are important to me.						
I believe I can succeed at most any endeavor to which I set my mind.						
I will be able to successfully overcome many challenges.						
I am confident that I can perform effectively on many different tasks.						

Compared to other people, I can do most tasks very well.						
Even when things are tough, I can perform quite well.						

[This will conclude the survey questionnaire. The final pages of the survey will read as follows]

Thank you for completing this survey.

Please verify all your answers and select the "Submit Survey" button below to finalize your survey. After you click the 'Submit Survey' button, no further changes may be made to your survey answers.

Once again, thank you. Your perspective is valuable and appreciated.

Submit Survey

End of survey.

Thank you for your participation. You will receive a \$5.00 electronic gift card within 14 days via the email address to which your invitation to participate in this study was sent. Your name will be entered into a drawing for one of two gift baskets valued at \$50.00 each. The approximate date for the drawing will be in December 2012. Gift basket winners will be notified via the email address to which your invitation to participate in this study was sent.

Appendix G

Demographic Questions for Survey Questionnaire (HSRO Approved 11-08-2012)

Survey Instructions:

- Do NOT use your browser's Back button (or Refresh). Instead use the survey's "Next" or "Previous" button at the bottom of each screen.
- If you are interrupted during the survey you can stop part way through. Clicking on a survey navigation button at the bottom of the page will save your responses for that page. After closing your browser, you can click on the URL in the invitation email to return to where you left off.

SECTION 1 of 4: This section of the survey consists of 15 demographic items. You will be prompted to provide information about yourself as a professional RN, and about the organization at which you completed a travel assignment within 3 months prior to participating in this study.

1. To which of these age groups do you belong?

18-24

25-34

35-44

45-54

55-64

65 and over

I prefer not to respond to this question

2. With which race do you most closely identify

American Indian or Alaskan Native

Asian Indian

Black, African American, or Negro

Chinese

Filipino

Hispanic, Latino, or Spanish origin

Japanese

Korean

Native Hawaiian

White

Vietnamese

Other Asian

Other Pacific Island

None of these
I prefer not to respond to this question

3. What is your gender?

Male

Female

Other

I prefer not to respond to this question

4. What was your academic degree in nursing upon initial licensure?

Diploma

Associate degree

Bachelors degree

I prefer not to respond to this question

5. Currently what is your highest formal degree in nursing?

Diploma in nursing

Associate degree in nursing

Bachelors degree in nursing

Masters degree in nursing

PhD in nursing

DNP

I prefer not to respond to this question

6. What is your highest formal degree outside of nursing?

No formal academic degree outside of nursing

Associate degree (non-nursing)

Bachelors degree (non-nursing)

Masters degree (non-nursing)

Doctoral degree (non-nursing)

I prefer not to respond to this question

7. How many years have you practiced as a licensed RN?

_____xx_____

I prefer not to respond to this question

8. In what country did you receive your initial education to become a registered nurse?

United States

Canada

China

India

Latin America

Philippines

UK

United Arab Emirates

Other _____

I prefer not to respond to this question

9. What is your primary nursing Specialty? If more than one specialty, please indicate the specialty worked at the travel assignment that you finished within 3 months prior to completing this survey.

Medical-Surgical

Adult Intensive Care

Operating Room

Recovery Room

Pediatrics

Maternal/Newborn Nursery

Obstetrics

Pediatric Intensive Care

Neonatal Intensive Care

Geriatric / Long Term Care

Interventional Radiology

Other _____

I prefer not to respond to this question

10. Please indicate the approximate START date (mm/dd/yyyy) of the travel assignment you completed within 3 months prior to responding to this survey.

Note, this is not the assignment that you may currently be working, and not an assignment that ended more than 3 months ago.

_____xx_____

I prefer not to respond to this question

11. Please indicate the approximate END date (mm/dd/yyyy) of the travel assignment you completed within 3 months prior to responding to this survey.

Note, this is not the assignment that you may currently be working, and not an assignment that ended more than 3 months ago.

_____xx_____

I prefer not to respond to this question

Please respond to all remaining survey items in all sections, from the perspective of the travel assignment for which you indicated the start and end date in the previous 2 questions.

12. Was this travel assignment worked at a ®Magnet designated hospital?

Yes

No

Do not know

I prefer not to respond to this question

13. Was this a teaching hospital (residents and physicians in training) or non-teaching hospital?

Teaching

Non-teaching

Do not know

I prefer not to respond to this question

14. *Approximately how many licensed beds did this hospital have?

_____xxx_____

I don't know

I prefer not to respond to this question

15. What hospital setting was this travel assignment worked in?

Urban

Suburban

Rural

I prefer not to respond to this question

*[*The investigator has access via the staffing firm database, to the actual # beds in each hospital. Nonetheless, the question will be included in the demographic section of the survey as it is relevant from the perspective of travel nurses' perceptions of the size of the facility they were working in].*

Appendix H

Pilot Survey Feedback Questions (HSRO Approved 11-08-2012)

(Sections A, B, & C below immediately followed the web-based survey for pilot study participants).

Thank you for participating in the pilot study for this research. Your involvement is highly valued as a means by which the data collection methods can be evaluated from a participant perspective prior to launching the study in its full capacity. Kindly respond to the following questions pertaining to what you experienced during the pilot study.

A. INVITATION LETTER FEEDBACK

1. The study invitation letter was written in an understandable format that caught my attention.

(Strongly Agree; Agree; Disagree; Strongly Disagree)

2. The invitation letter did not make me feel coerced to participate.

(Strongly Agree; Agree; Disagree; Strongly Disagree)

3. When I clicked on the link in the invitation letter, the consent on the web-based survey platform opened promptly.

(Strongly Agree; Agree; Disagree; Strongly Disagree)

4. What suggestions would you like to offer to improve the invitation letter?

___ I have no suggestions.

B. CONSENT FEEDBACK

1. I understood the information in the consent.

(Strongly Agree; Agree; Disagree; Strongly Disagree)

2. I understood the option to participate in a) the survey, or b) both survey and focus group interview.

(Strongly Agree; Agree; Disagree; Strongly Disagree)

3. Once I electronically signed the consent the survey start page opened promptly.

(Strongly Agree; Agree; Disagree; Strongly Disagree)

4. What suggestions would you like to offer to improve the consent process?

_____ I have no suggestions.

C. SURVEY FEEDBACK

1. The combined 4 sections of the survey took me approximately this many minutes to complete:

(10; 15; 20; 25; 30; 35; 40; 45; 50; 55; 60 or more)

2. *Except for the demographic items, the survey items are components of validated instruments and therefore cannot be changed.*

My level of satisfaction with how well I understood the survey questions is:

(Very Satisfied, Satisfied, Dissatisfied, Very Dissatisfied)

3. No survey questions made me feel uncomfortable or reluctant to answer.

(Strongly Agree; Agree; Disagree; Strongly Disagree)

4. What suggestions would you like to offer to improve the survey experience?

___ I have no suggestions.

Submit Pilot Feedback

End of Survey.

Thank you for participating in the pilot study for this research. Your involvement is highly valued as a means by which the data collection methods can be evaluated from a participant perspective prior to launching the study in its full capacity.

As a token of appreciation for your participation in this pilot study, an electronic gift card in the amount of \$10.00 will be sent within the next 3-5 days, to the email address where your study invitation was sent.

Appendix I

Focus Group Interview Guide (HSRO Approved 11-08-12)

Introduction

When you arrive at a new job assignment, it is necessary for you to become familiar with the facility's expectations, operational systems, key policies and procedures, and to integrate or blend in with the facility and the team that you will be working with in order to effectively perform your role there. In this interview I will refer to these components collectively as 'onboarding'. I am interested in learning about your perspective regarding this process. As we move through the interview, please tell me if clarification is needed at any time, so that you can feel comfortable contributing to the discussion that follows each question.

Ground Rules for the Focus Group

- A. Your opinion and perspectives are necessary for this process. Your complete honesty in describing your job assignment experiences is necessary in order for the study to produce meaningful results. If something I am asking you is hard to understand, please request clarification.
- B. The opinions and ideas that are expressed in this interview should stay here. We will need to respect one another's right to confidentiality.
- C. Open discussion is encouraged, but you will need to speak one at a time. What each of you will have to say is extremely important in this process therefore it is necessary for your contributions to be accurately captured in the recording. Please raise your hand visibly on the video screen in order to respond in turn.
- D. We have a limited amount of time to complete the interview; therefore we must stay on topic. If I as the moderator change the direction of the discussion, or have to stop someone from continuing what they are
- E. saying, it will be due to time considerations, and should not be taken personally. Your willingness to participate in the focus group interview is greatly appreciated, and I will do what I can so that you finish on time.

- F. The intent of this interview is to offer you an opportunity to share your perceptions of orientation and integration experiences at travel nurse job assignments. It is our hope that you will feel comfortable sharing your perceptions and opinions. However, it may happen that you hear some things during the discussion that trigger negative work experience memories. If this occurs please advise me, the moderator. A Clinical Liaison RN at Cross Country Staffing can be asked to contact you for follow-up and support.

My role is to direct the discussion. The work that needs to be done here is dependent on your full participation.

Introductory / Background Question

1. Would each participant please share your name, the state in which you are participating from, your nursing specialty and how many travel job assignments you have worked?

Opening Interview Question

1. How would you describe your overall onboarding experiences at job assignments in the past?
 - a. What were some good experiences (5 minutes)?
 - b. What were some bad experiences (5 minutes)?

Additional Questions

1. In what ways does onboarding to a new job assignment affect your ability to meet the hospital's expectations of your clinical performance and your professional performance?
 - a. What are some barriers (6 minutes)?
 - b. What are some facilitators (6 minutes)?
2. Which aspects of the onboarding process do you consider to impact your job performance the most?
 - a. What impacts your clinical performance the most? (6 minutes)
 - b. What impacts your professional performance the most? (6 minutes)
3. How would you describe the ideal onboarding experience to a new job assignment? (6 minutes)

Closing question

Are there any additional important aspects of the onboarding experience that we have not discussed? (5 minutes)

Appendix J

Pilot Focus Group Feedback Questions (HSRO Approved 11-08-2012)

The following questions will guide the moderator to verbally solicit feedback immediately following the focus group interview, regarding pilot participants' experiences.

Thank you for participating in the pilot study for this research. Your involvement is highly valued as a means by which the focus group interview process can be evaluated from a participant perspective prior to launching the study in its full capacity. For the next few moments, I will ask some questions to seek your feedback about this focus group interview experience.

1. During coordination of the interview,
 - a. How adequately was the process described?
 - b. Was the interview scheduled within a reasonable range of your availability?
2. How clear and understandable were the instructions about how to join the virtual focus group interview?
3. Was the amount of communication that you received from the research assistant prior to the interview sufficient?
How could it have been more helpful?

4. Please describe your degree of satisfaction with the experience of logging onto the web-based focus group interview.
5. How consistently and clearly were you able to see and hear the host and other participants for the duration of the web-based focus group interview?
6. In your opinion, did the moderator effectively guide the interview without influencing the responses of participants?
7. Did you have ample opportunity to contribute during the interview? Please describe / explain.
8. Did you feel inhibited or daunted by the virtual group setting for this interview? If yes, why? If no, why not?
9. Which do you feel is true about the focus group interview:
 - a) should be scheduled for a longer time period
 - b) should be shortened to finish within the hour
 - c) was just right in length
10. What additional suggestions would you like to offer to improve the focus group interview experience?

Appendix K

Job Performance Evaluation Scale (HSRO Approved 11-08-2012)

OFFICE USE ONLY



PERFORMANCE EVALUATION

This evaluation will become part of the employee's permanent record. Not valid unless signed by Evaluator.

Employee Name _____ Facility _____

Position _____ Shift _____ Assignment Dates _____

Name of Unit _____ Number of Beds In Unit _____ Average Patient Caseload _____

Would you recommend this healthcare professional for rehire? Yes No

Would you recommend this healthcare professional for future temporary employment at another facility? Yes No

Has this evaluation been shared with the healthcare professional? Yes No If yes, have healthcare professional sign below.

CLINICAL COMPETENCY AND PROFESSIONAL ATTRIBUTES

Competency and Attributes	Exceptional	Above Standard	Standard	Almost Standard	Below Standard
1. Demonstrates competency in caring for patients	<input type="checkbox"/>				
2. Provides a safe and therapeutic patient environment	<input type="checkbox"/>				
3. Implements a coordinated and organized plan of patient care	<input type="checkbox"/>				
4. Adheres to facility policies and procedures	<input type="checkbox"/>				
5. Communicates appropriately with patients and families	<input type="checkbox"/>				
6. Completes accurate documentation of patient care	<input type="checkbox"/>				
7. Flexibility and ability to float (if applicable)	<input type="checkbox"/>				
8. Adaptability to unit	<input type="checkbox"/>				
9. Interest and willingness to learn	<input type="checkbox"/>				
10. Ability to communicate with staff	<input type="checkbox"/>				
11. Attendance and punctuality	<input type="checkbox"/>				
12. Overall professionalism	<input type="checkbox"/>				

Comments: _____

This evaluation was designed to meet Joint Commission on Accreditation of Healthcare Organizations' standard. Its timely completion is important to Cross Country Staffing's continued ability to provide the highest quality healthcare professionals to our valued clients. Please note that a member of the Cross Country Staffing Quality Improvement team will follow-up with any incomplete and/or below standard evaluations. Thank you for your time and effort in completing this evaluation.

Evaluator's Signature _____ Date _____

Print Evaluator's Name _____ Telephone Number _____

Evaluator's Title _____ Written Evaluation Verbal Evaluation

Traveling Healthcare Professional's Signature _____ Date _____

Appendix L

Travel Nurse Invitation Letter Verbiage: General Study (HSRO Approved 01-16-2013)

Dear Cross Country Staffing Travel Nurse,

My name is Carol Tutas. Formerly the Director for Standards and Certification, I am currently affiliated with Cross Country Staffing as a nurse researcher, to carry out this study about travel nurses. As a nursing PhD Candidate at the University of Miami, I invite you to participate in a first of its kind study about travel nurses that I will be carrying out as my dissertation research. The study is titled “Travel Nurse Job Performance: Integration Factors as Predictors, and Travel Nurse Integration Experiences”. Your decision to participate or not to participate in this study will have no bearing or affiliation with your work eligibility status at Cross Country Staffing.

Despite the critical healthcare staffing needs satisfied by travel nurses across the nation every day, very little research exists concerning the travel nurse workforce. As an experienced travel nurse, you have acquired the unique skill sets and expertise necessary to contribute valuable input toward a study about the processes and experiences occurring during job assignments, which impact the way travel nurses perform their important work. The findings of this study will produce new knowledge useful for improving the integration processes, experiences and job outcomes of travel nurses as they repeatedly adapt to complex healthcare work settings.

Participation will require some of your time to share your perceptions about experiences that you have gained as a travel nurse. The study is being carried out in 2 parts, both of which you can complete using a computer from wherever you are. By electronically signing the University of Miami study consent you will agree to participate in a web-based survey, which will take approximately 30-40 minutes to complete. A specific question in the consent will ask you to respond if you also agree to participate in a 45-60 minute scheduled focus group interview. For this part of the study, a small group of 6-8 travel nurses will talk about specific aspects of their travel assignment experiences during a web-based group interview moderated by a research assistant.

This study is dissertation research being conducted by me, Carol Tuttas, a nurse researcher affiliated with Cross Country Staffing, and also a PhD candidate at the University of Miami in Coral Gables, Florida. Cross Country Staffing will not have access to any survey questionnaire data or focus group interview data. The following additional measures will be implemented to protect your rights as a study participant:

- a) Participants may choose to withdraw from the study at any time during the survey or focus group interview.
- b) Once the consent, survey data, and performance evaluation data are linked, only de-identified data will be used for the statistical analysis.
- c) Study results will be communicated in aggregate form; no individual participant responses or outcome data will be reported in the results.
- d) A research assistant to Carol Tuttas will moderate the focus group interviews. The research assistant is a travel nurse who works contracted assignments via the agency of Cross Country Staffing, and is fulfilling a research practicum for an academic nursing degree.
- e) In accordance with the requirements of the University of Miami (UM) Human Subject Research Office, participant study data will be stored electronically at UM with password protection; data back up drives and any necessary hard copy data will be stored in a designated locked cabinet at UM.

- f) Participants may choose to abstain from responding to any survey or focus group questions that they do not feel comfortable answering.

As a token of recognition for your participation in this study you will receive a \$5.00 gift card for completing the survey questionnaire, and a \$5.00 gift card if you participate in a focus group interview. Additionally, all study participants will be entered to a drawing to win one of 2 gift baskets valued at \$50.00 each. Please click on the link below to access the consent for more details, and to begin the survey. Your voluntary participation is greatly appreciated.

Respectfully,

Carol Tuttas, PhD(c), MSN, RN

Instructions:

- Not sharing this logon with others is important because it is unique to you.
- To read the consent and begin the survey, please click only once on the *click here* hyperlink below. Double-clicking will initiate a 60 second delay before you may re-attempt to access the consent and survey.
- If you are unable to click on the *click here* hyperlink below, please copy the entire URL below and paste it into your browser address field.

<https://umsurveys.miami.edu/mrIWeb/mrIWeb.dll?I.Project=EMAILTEST&form=98348>

To read the consent and begin the survey, please click here

Appendix M

General Study Consent (HSRO Approved 01/16/2013)

Study Consent

University of Miami

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Travel Nurse Job Performance: Integration Factors as Predictors, and Travel Nurse Integration Experiences

Carol Tuttas PhD(c), MSN, RN

The following information is about the research study for which you are being asked to voluntarily participate. This study is dissertation research being conducted by Carol Tuttas, who is affiliated with Cross Country Staffing as a nurse researcher to carry out this study about travel nurses and who is also a PhD candidate at the University of Miami in Coral Gables, Florida. Please read the following information carefully. At the conclusion, you will be asked to sign if you agree to participate in a one-time web-based survey questionnaire. You will also be asked if you agree to be contacted to participate in a brief, small-group interview of travel nurses called a focus group interview.

The purpose of this study is a) to explore the association between job assignment integration factors and job performance of travel nurses, and b) to understand the orientation and socialization experiences of US travel nurses as they integrate to new job assignments.

Travel Nurse Survey

You will be asked to respond to a web-based survey questionnaire about your most recently completed travel assignment, which takes approximately 30-40 minutes to complete. The questionnaire items address factors that influence travel nurses' integration to new job settings.

Record Review

For the statistical analysis, your questionnaire survey response data and your corresponding performance evaluation data for that assignment will be linked. These linked data will be de-identified by the use of numeric coding that excludes your name to maintain your privacy.

Travel Nurse Focus Group Interview

Focus group interviews will be hosted online. To participate in a focus group interview you need a computer with a web-cam, microphone, and Internet access. If you agree, and are systematically selected to

participate in a 45-60 minute audio-visually recorded group interview along with 6 to 8 other travel nurses, you will be provided instructions and support on how and when to join your interview. The purpose of the interview is to explore the orientation and integration experiences of travel nurses as they adjusted to recent job assignments.

Confidentiality

Your identity will be kept confidential. No link between your identity and your individual survey responses, focus group interview responses, or performance evaluation data will be exposed or reported in the study results. The aims of the study are met through travel nurse aggregate results, not individual cases. Any study data linked to you individually will be de-identified and used for analytical purposes only. Access to study related data is restricted to the study researchers. Cross Country Staffing will not have access to any survey questionnaire data or focus group interview data. The following additional measures will be implemented to protect your rights as a study participant:

1. Participants may choose to withdraw from the study at any time during the survey or focus group interview.
2. Once the consent, survey data, and performance evaluation data are linked, only de-identified data will be used for the statistical analysis.
3. Study results will be communicated in aggregate form; no individual participant responses or outcome data will be reported in the results.
4. A research assistant to Carol Tuttas will moderate the focus group interviews. The research assistant is a travel nurse who works contracted assignments via the agency of Cross Country Staffing, and is fulfilling a research practicum for an academic nursing degree.
5. In accordance with the requirements of the University of Miami (UM) Human Subject Research Office, participant study data will be stored electronically at UM with password protection; data back up drives and any necessary hard copy data will be stored in a designated locked cabinet at UM for three years.
6. Participants may choose to abstain from responding to any survey or focus group questions that they do not feel comfortable answering.

Benefits, Costs, Risk

Although the study cannot offer certainty of direct benefit to you individually, you will contribute to a study to address an important gap in knowledge about the work arrangement of travel nurses. This knowledge will open avenues of further study to learn how travel nurses may integrate more effectively with healthcare teams, improving their utility and job performance. There is a nominal risk for you to experience emotional uneasiness when responding to survey or focus group questions that may activate memories of an unpleasant work experience. You may choose not to respond to such question(s). If you find that a question has triggered disturbing thoughts about the assignment and you would like to talk with someone about it in confidence, you are encouraged to alert the researcher, who will ask an RN Clinical Liaison from Cross Country Staffing to contact you within 24 hours for supportive follow up.

To recognize and appreciate you as a consenting participant, you will receive a \$5 gift card for survey participation and a \$5 gift card if you participate in a focus group interview. The gift card(s) will be delivered by email once the data collection phase of the study concludes. Additionally, you will be entered to a draw to win one of 2 gift baskets once data collection is completed. No purchase necessary. Your chances of winning the gift baskets are approximately 2 out of 250 (but it may vary depending on the number of people who participate). Funding for gift certificates and gift baskets will be furnished by the researcher. The approximate date for the drawing will be in February 2013.

Study Affiliation

Your choice to volunteer to participate or not to participate in this University of Miami study is unrelated to your work status with Cross Country Staffing. You may withdraw from the study at any time during the survey or focus group interview. Participating in or withdrawing from the study will have no effect on your work status with Cross Country Staffing.

Contact Information

You may contact the researcher Carol Tuttas by calling 561-951-7523 or by email at c.tuttas@umiami.edu. Carol Tuttas will gladly address any questions that you may have pertaining to the purpose, procedures and outcomes of this study.

The research assistant, Helena Johnson, can be reached at sapodilla3@gmail.com.

If you have questions relating to your rights as a research subject, please contact the University of Miami HUMAN SUBJECTS RESEARCH OFFICE (HRSO), at 305-243-3195 or eproost@med.miami.edu.

[CHANGES TO THE CONSENT FORMATTING BEGIN HERE]:

Participant Agreement

I have read the information in this consent form.

I have been provided the opportunity to ask questions about this study. I agree to voluntarily participate in the survey with the understanding that participating in the survey includes the retrieval by the researcher of my performance evaluation data corresponding with that assignment, which will be de-identified and used for statistical analysis. I am entitled to a copy of this consent form after I read and sign it, which I may

obtain by contacting the researcher or research assistant named above or by accessing it using a hyperlink to be presented on the next page.

Please sign the consent electronically by typing in your first and last name.

(If preferred, you may choose to electronically sign this consent by typing the email address to which the invitation for this study was sent, instead of your name).

(Participant types in name or email address here)

Date:

(Date is auto-populated by uSurvey)

By signing above, selecting the "I consent" response below and clicking on the "Begin Survey" button below to enter the survey, you will verify that you have read this page in its entirety and that you consent to participate in this University of Miami study.

I consent to participate in this University of Miami study

If "I consent..." is clicked, the participant proceeds to click "NEXT"

I **DO NOT** consent to participate in this University of Miami study

If "I DO NOT consent..." is clicked, a fresh screen opens that states:

We are sorry that you have decided not to participate in our survey and appreciate your time.

NEXT

You may use the following hyperlink or URL to access the consent form for this University of Miami study.

https://umshare.miami.edu/team/it/itpublic/IT_ILS/pdf_Form/TSR.pdf

[THE LINK BELOW OPENS A PDF OF THE CONSENT FORM]

[Click to view consent form](#)

Would you be willing to participate in a focus group interview? Please respond by clicking on the appropriate button below to indicate YES or NO:

By selecting the "YES" response below and then clicking on the "Next-->" button, I also agree to be contacted for participation in a focus group interview if systematically selected::

YES

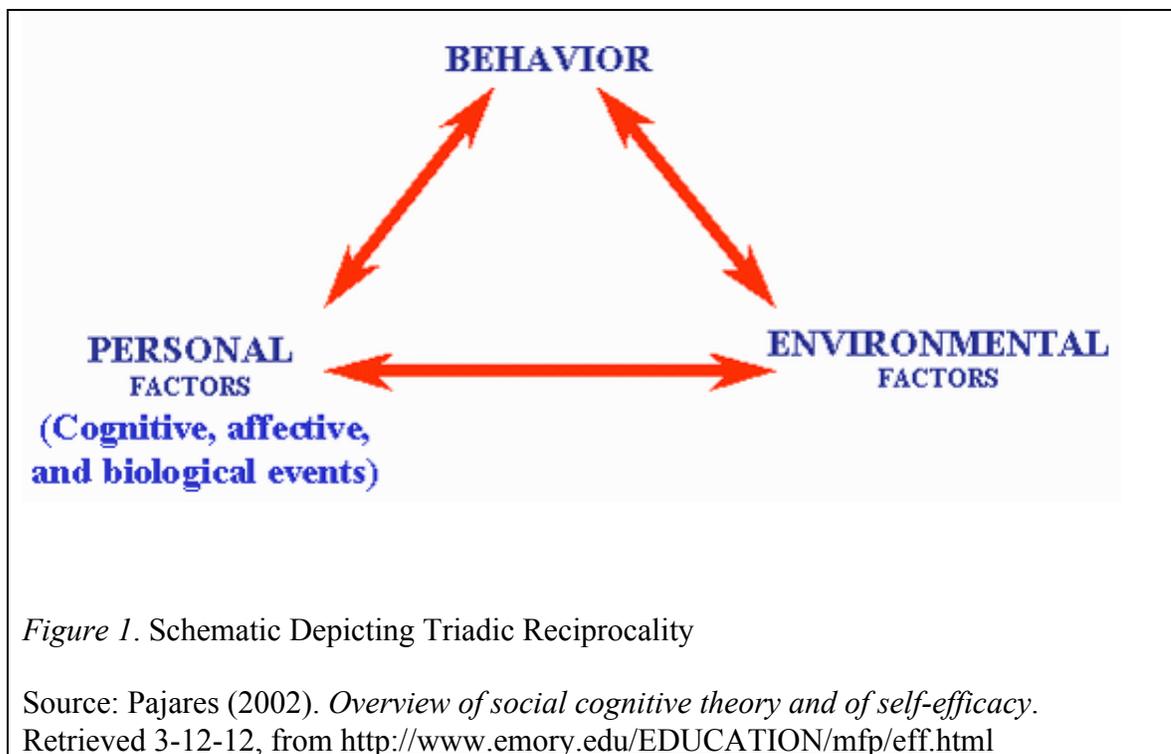
NO

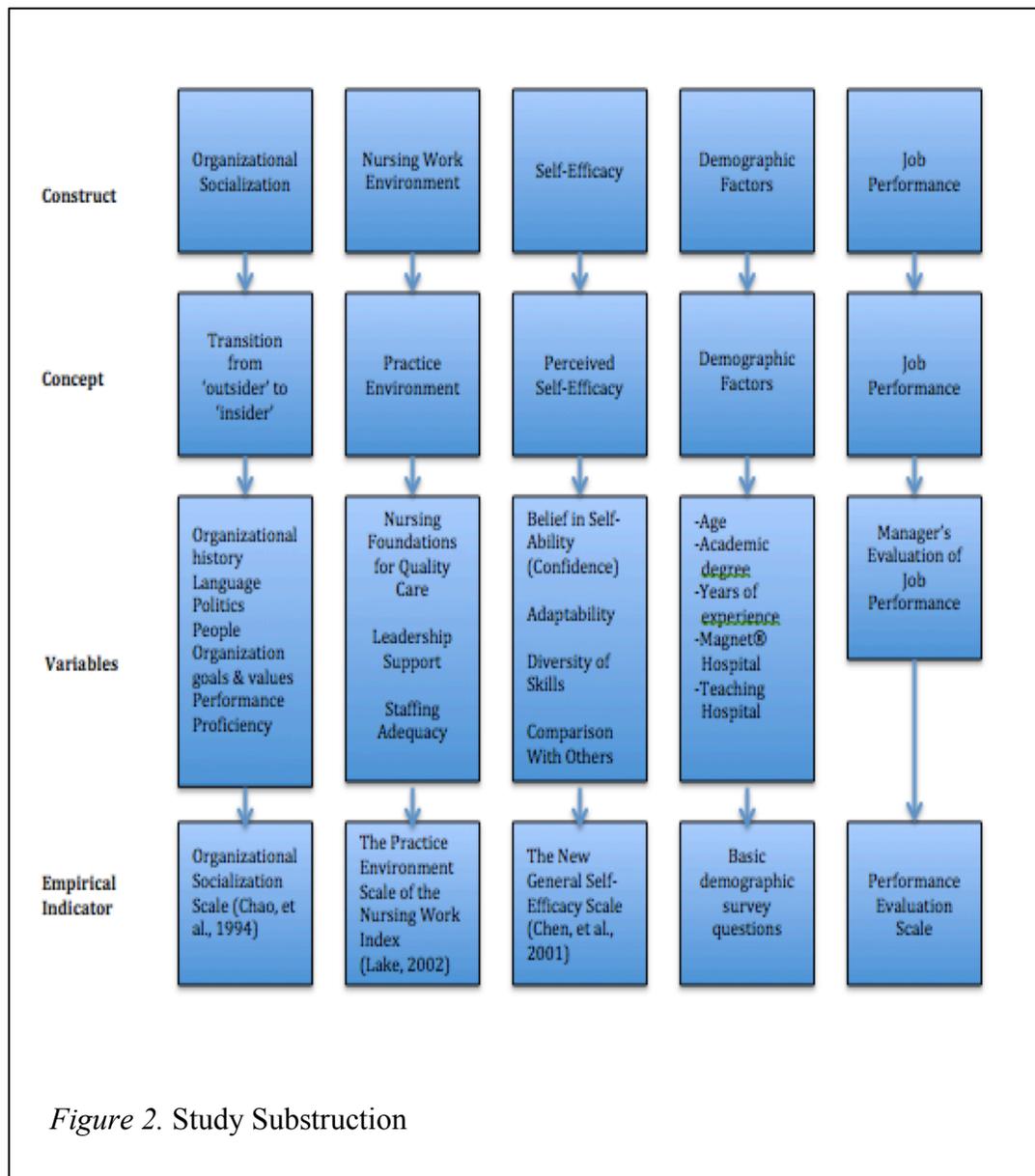
I agree to be contacted at the following Telephone Number for a focus group interview to be scheduled
Please enter phone number in the format: (nnn)nnn-nnnn

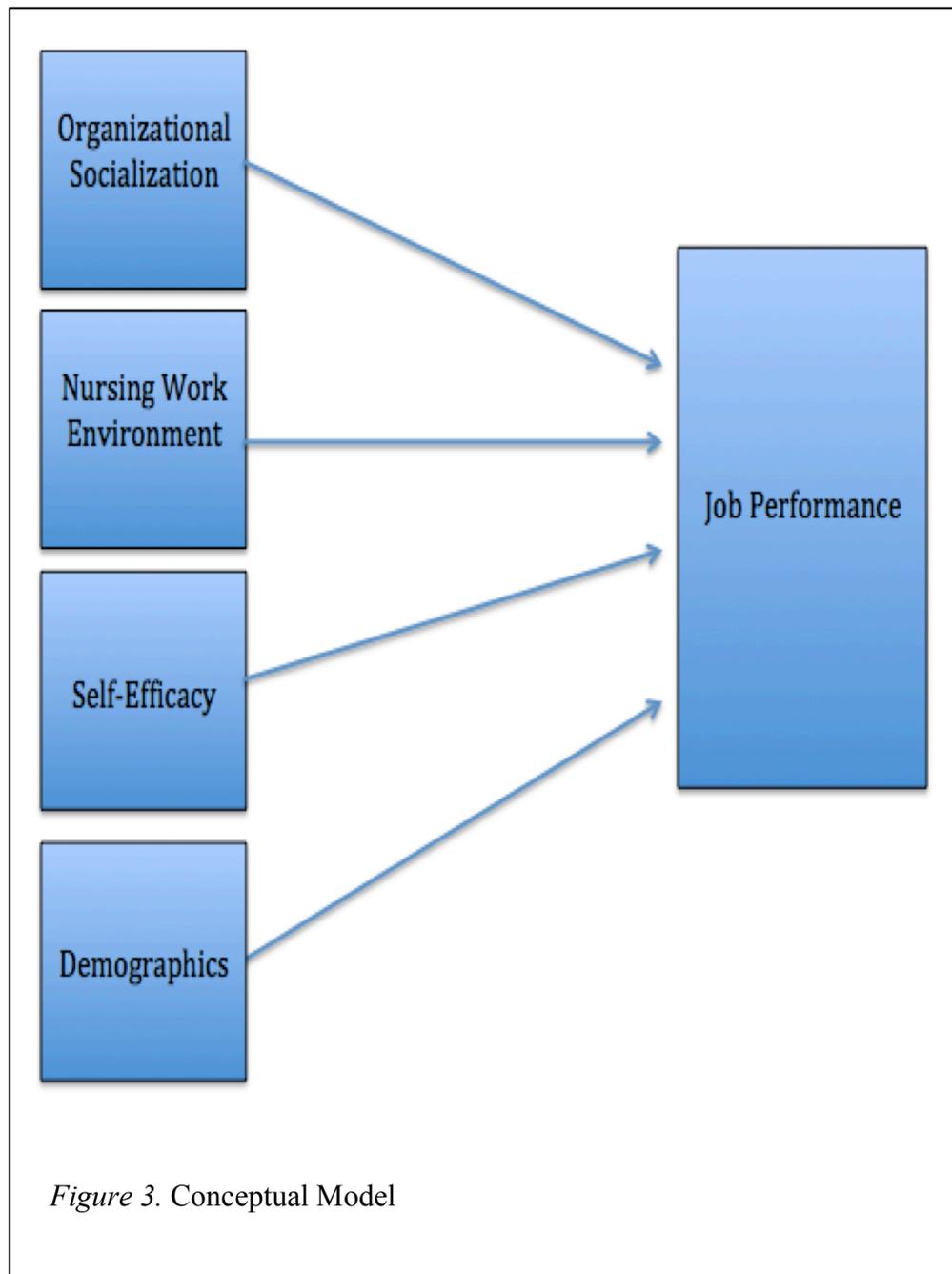
(Participant types in phone number)

NEXT

Survey opens when participant clicks on NEXT button







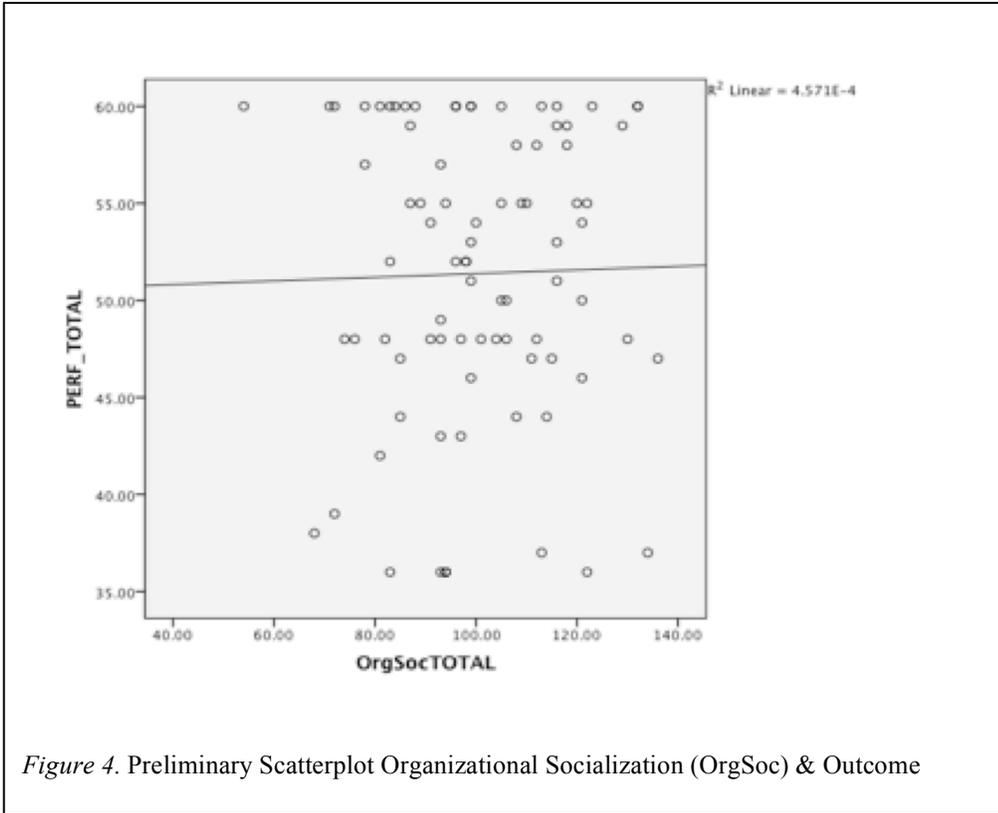


Figure 4. Preliminary Scatterplot Organizational Socialization (OrgSoc) & Outcome

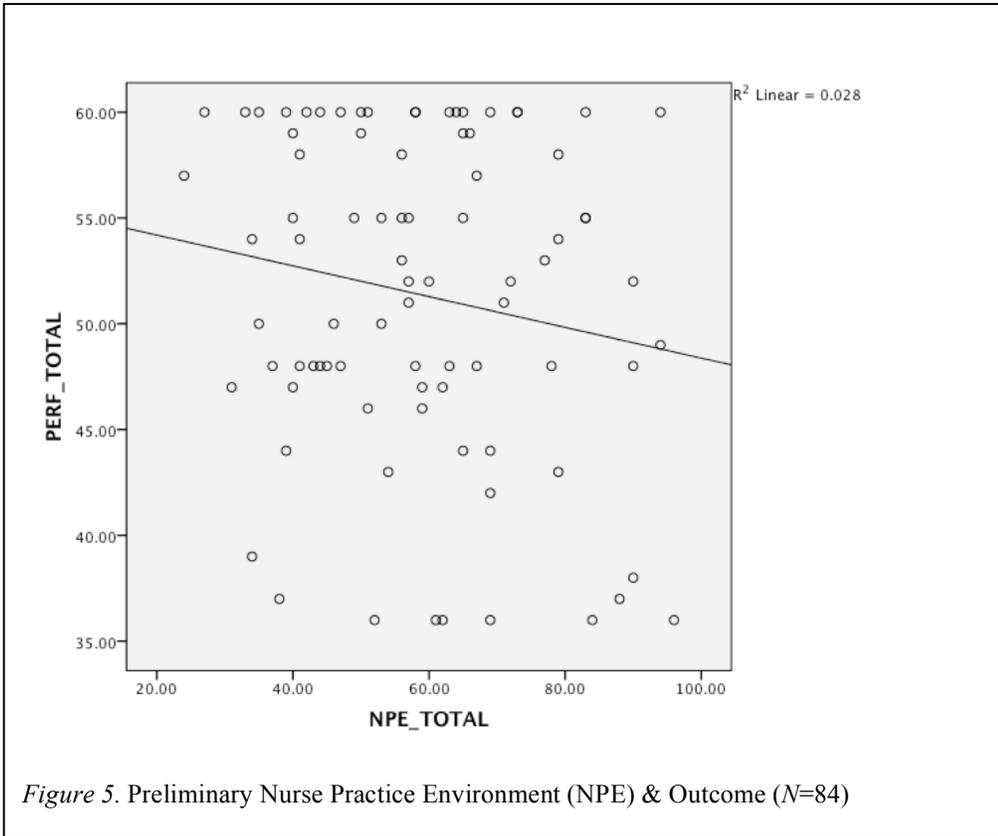
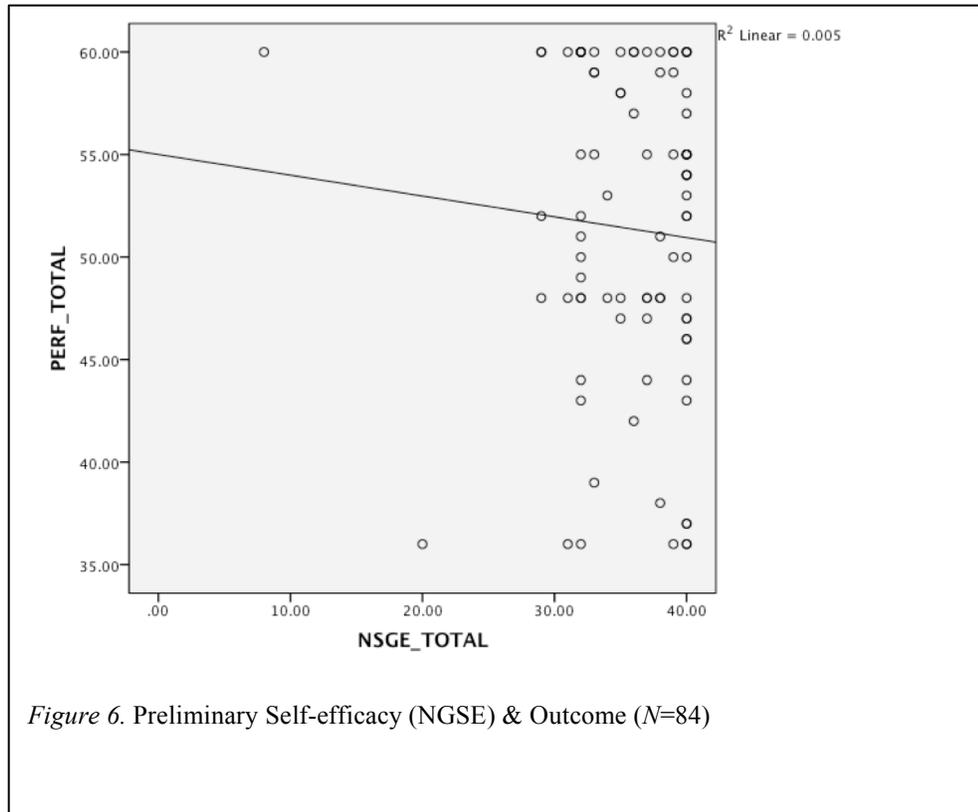


Figure 5. Preliminary Nurse Practice Environment (NPE) & Outcome (N=84)



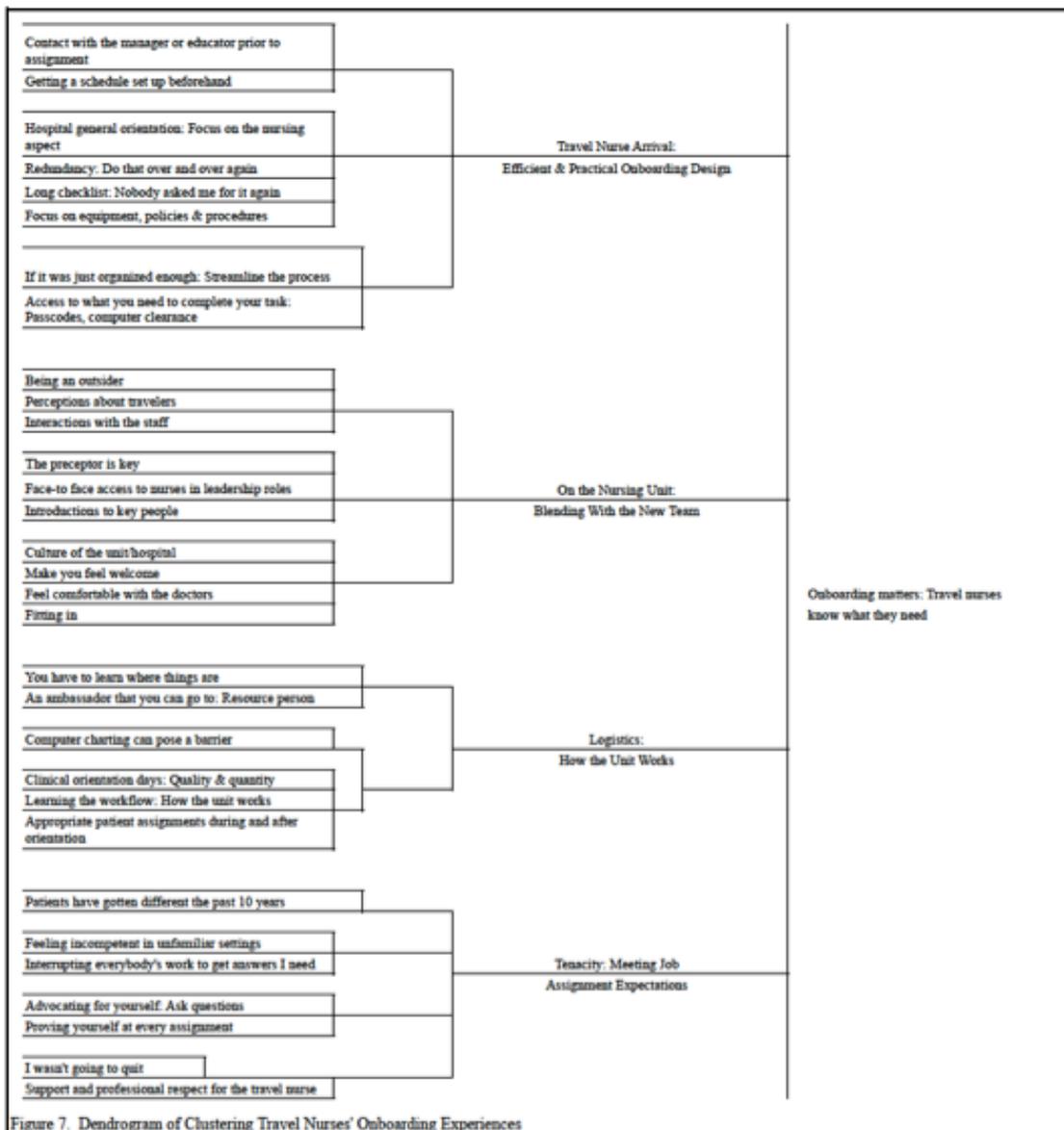


Table 1.
General Study Invitation Distribution Schedule

Invitee Group #1 (N=742)	Distribution Date	Invitee Group #2 (N=249)	Distribution Date
Initial Invitation	1/24/13	Initial Invitation	2/21/13
Reminder #1	1/31/13	Reminder #1	2/27/13
Reminder #2	2/7/13	Reminder #2	3/6/13
Reminder #3	2/14/13	Reminder #3	3/12/13
Reminder #4	2/22/13		
Reminder #5	2/27/13		

Table 2.
Focus Group Interview (FGI) Schedule

FGI Number	Date	# Confirmed	# Attended
FGI #1	1/24/13	9	5
FGI #2	1/31/13	13	5
FGI #3	2/7/13	6	2
FGI #4	2/14/13	7	3

Table 3.
Preliminary Correlations: Predictor and Outcome Variables

Correlation Matrix (N=84)	OrgSoc	NPE	NGSE	Perf Eval
OrgSoc	1	-.357*	.420*	.021
NPE		1	-.162	-.167
NGSE			1	-.067
Perf Eval				1

*Correlations significant to .001 level (2-tailed)

Dependent Variable: Performance Evaluation (Perf Eval)

Predictors: Organizational Socialization (OrgSoc); Nurse Practice Environment (NPE); Self-Efficacy (NGSE)

Table 4.
Preliminary Multiple Linear Regression: Demographics & Outcome (N =84)

	R^2	p	β	SE
Model 1	.144	.469		8.23
Age		.491	-1.469	2.11
Current highest formal nursing degree?		.587	1.431	2.61
Years practiced as a licensed RN?		.872	.034	0.21
Was hospital Magnet® designated?		.768	1.031	3.47
Was hospital teaching?		.279	-3.660	3.33
Number of licensed beds in hospital.		.770	.003	.01

Dependent Variable: Performance Evaluation

Predictors: Age; Currently, what is your highest formal degree in nursing?; How many years have you practiced as a licensed RN?; Was this travel assignment worked at a Magnet-designated hospital?; Was this a teaching hospital (residents and physicians in training), or a non-teaching hospital?; Approximately how many licensed beds were in the hospital?

Table 5.
Preliminary Multiple Linear Regression: Predictors & Outcome (N =84)

	R^2	p	β	SE
Model 1	.037	.386		7.60
OrgSoc		.972	-.002	.06
NPE		.121	-.080	.05
NGSE		.434	-.144	.18

Dependent Variable: Performance Evaluation

Predictors: Organizational Socialization (OrgSoc); Nurse Practice Environment (NPE); Self-Efficacy (NGSE)

Table 6.
 Characteristics of Focus Group Participants

Participant Characteristics (<i>N</i> =15)	Frequency	%
Gender		
Male	2	13
Female	13	87
Age in Years		
25-34	6	40
35-44	1	7
45-54	2	13
55-64	6	40
Years RN Experience in Years		
5-10	6	40
11-20	4	27
21-30	2	13
>30	3	20
Nursing Specialty		
Emergency Department	2	13
Adult ICU	4	27
Step-Down / Telemetry	3	20
Neonatal / Pediatric Settings	4	27
Medical- Surgical	1	7
Obstetrics	1	7
State Where Residing (at time of interview)		
FL	3	20
CA	3	20
HI	2	13
Other States (KY, ME, NH, PA, TN, VA, WA)	7	47
Current Nursing Degree		
BSN	11	73
Associate Nursing	3	20
Masters	1	7

Table 7.
Implications for Organizing Travel Nurse Onboarding Agendas

Prior to Arrival	Upon Initial Arrival	On the Designated Unit
<p>Job Interview: Be candid when answering questions (i.e. nurse: patient ratios). Ensure clarity and consistency of information.</p> <p>Clear, accurate guidance: Convey exactly where to be on day #1, what time, name of contact person to look for, where to park, what to wear, what to bring.</p> <p>One week prior to start date: Brief phone call from charge nurse, manager or preceptor prior to arrival breaks the ice and offers the travel nurse an opportunity to ask questions or seek clarification.</p> <p>Provide a schedule and/or orientation agenda, enabling the nurse to plan ahead.</p>	<p>Have essential tools such as system passwords issued and tested on day #1.</p> <p>Handle ID badge, locker, parking tag on day #1 to avoid absorbing clinical orientation time.</p> <p>Consider computer-based modules for general information; reduce classroom lectures. Compensate travel nurses when expected to complete modules prior to arrival.</p> <p>Avoid imposing requirements that have already been met: basic annual mandatory training (OSHA, HIPAA, TJC), or skills checklists.</p> <p>Provide information about key department-specific protocols, salient policies and procedures.</p>	<p>Select an appropriate preceptor. Reduce patient load for part of a shift for tour of unit, review location of supplies & equipment, locate major hospital departments, hands-on review of equipment, documentation, how to reach doctors.</p> <p>Face-to-face introductions to key people: Charge nurses, preceptor, nurse manager, educator, supervisor, and scheduler.</p> <p>Consider creating an electronic reference folder accessible to travel nurses on a computer in the nursing unit, as a ready resource to answer questions.</p> <ul style="list-style-type: none"> A unit-specific FAQ page How to contact the doctors Key unit-specific policies Equipment information How to access unit scheduler Physician directory

Table 8.
Survey Participant Characteristics (N=107)

Characteristics	Participants <i>n</i> (%)
Gender	
Male	16 (15)
Female	91 (85)
Race	
White	96 (90)
Non-White	11 (10)
Age in Years	
18 to 24	2 (1)
25 to 34	48 (45)
35 to 44	17 (16)
45 to 54	17 (16)
55 to 64	17 (16)
≥65	6 (6)
RN Experience in Years	
1 to 3	14 (13)
4 to 6	35 (33)
7 to 9	11 (10)
10 or more	47 (44)
Nursing Specialty	
Adult Medical Surgical	21 (20)
Pediatric/NICU Settings	20 (19)
Emergency Department	18 (17)
Adult ICU	15 (14)
Operating Room	9 (8)
Obstetrics	8 (7)
Other settings	16 (15)
Current Nursing Degree	
Diploma	5 (5)
Associate Nursing	37 (35)
BSN	57 (53)
Graduate degree	8 (7)

Table 9.
General Study: Simple Linear Regressions (N=107)

	R^2	p	β	SE
Org Soc	.001	.752	.085	8.21
NPE	.021	.142	.074	8.18
NGSE	.000	.846	.034	8.33

Dependent Variable: Performance Evaluation
 Predictors:
 OrgSoc = Organizational Socialization
 NPE = Nurse Practice Environment
 NGSE = Self-Efficacy

Table 10.
General Study: Multiple Linear Regression (N=107)

	R^2	p	β	SE
Model 1	.028	.435		8.307
Org Soc		.785	-.096	.351
NPE		.125	.092	.060
NGSE		.990	-.002	.187

Dependent Variable: Performance Evaluation Score
 Predictors:
 OrgSoc = Organizational Socialization
 NPE = Nurse Practice Environment
 NGSE = Self-Efficacy

Table 11.
Technology Selection Process

Technology	Strengths	Limitations
Skype (Microsoft)	A voice over Internet protocol (VoIP) service that is widely subscribed to for personal use. Supports voice, video via webcam, messaging and web conference service. Requires only low-level technical skills. All participants must subscribe to a Skype 5.0 account (no fee) or more advanced. Only the host/researcher is required to subscribe to a paid Skype account.	Up to 10 participants can join a Skype group video call, but Skype recommends limiting to 5, presumably for quality-related reasons. The researcher was aiming to include 6 to 8 FGI participants in each interview. Skype was not selected for use in this study.
ooVoo (ooVoo LLC)	Audio and video instant messaging system. Offers video chat and messaging. Can support up to 12 persons via video chat. Participants are not required to subscribe to ooVoo in order to join a FGI hosted on ooVoo.	Recordings can be accessed by all participants, downloaded, and then uploaded to YouTube with a click of a mouse. This poses a serious threat to human subjects protection. ooVoo was not selected.
GoToMeeting (Citrix)	A web conference service to host online meetings. All of the full motion webcam images are displayed on all participants' screens during the meeting.	Webcam images do not display when the recording is played back, thereby defeating the intended purpose for FGI analysis. GoToMeeting was not selected.
WebEx (Cisco)	This web conference service was initially selected, having met most criteria, and offering excellent customer support. Easy for participants to join the meeting. Excellent audio and video quality. Researcher must subscribe to a paid premier account to host a conference to accommodate the volume of attendees aimed for per FGI in this study. Participants do not need a WebEx account to join a FGI. Requires low to medium technological competence.	Webcam images are displayed during the FGI, but only the webcam image of the individual who is speaking at any given time is displayed when recording is played back, posing a limitation for analytical purposes. This service was initially selected, but then de-selected following the pilot study for this research, due to a discovery by the researcher of a system issue posing a potential for breach of privacy.
Connect (Adobe)	A secure web conference environment with capacity to support a full FGI complement of participants. Webcam images of all participants appear simultaneously during the FGI and during playback of the recording. Recordings are accessible only to the research team. Researcher must have access to a paid Adobe Connect account but participants do not require a subscription to join the web conference. Participants who have not joined an Adobe Connect web conference in the past are instructed by a system cue to download a free plugin when they login, which takes 30 seconds or less to accomplish. A real time chat window is visible on the conference screen and available for use by all during the interview, providing an additional means to communicate if needed, which also saves and displays with the recording. This system was used in the study.	System requires host to enable participants' microphones and webcams when they join so that they may activate these functions on their computers. Participants must then activate their microphones and webcams by clicking on icons on the web conference screen. Requires more technical competence on the participant side than the other systems that were considered.

Table 12.
Comparative Demographics: a) Current study, b) Staffing firm, & c) Faller et al. (2011)

Characteristics	Study Participants (N=107)	Staffing Firm (N=289)	Faller et al., (2011) (N=976)
Gender			
Male	15%	9%	10%
Female	85%	91%	90%
Race			
White	90%	No data	82%
Non-White	10%	No data	18%
Age in Years			
18 to 24	1%	No data	No data
25 to 34	45%	36%	No data
35 to 44	16%	20%	No data
45 to 54	16%	24%	No data
55 to 64	16%	18%	No data
≥65	6%	1%	No data
RN Experience in Years			
1 to 3	13%	12%	No data
4 to 6	33%	29%	No data
7 to 9	10%	8%	No data
10 or more	44%	51%	No data
Nursing Specialty			
Adult Medical Surgical	20%	No data	19%
Pediatric/NICU Settings	19%	No data	12%
Emergency Department	17%	No data	No data
Adult ICU	14%	No data	40%
Operating Room	8%	No data	11%
Obstetrics	7%	No data	10%
Other settings	15%	No data	8%
Current Nursing Degree			
Diploma	5%	9%	8%
Associate Nursing	35%	31%	37%
BSN	53%	54%	52%
Graduate degree	7%	6%	3%