EXPLORING THE FACTORS THAT INFLUENCE THE ROLE, BURNOUT AND

JOB SATISFACTION OF THE SCHOOL NURSE: A MIXED METHODS STUDY

by

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ABSTRACT OF THE DISSERTATION

Exploring the Factors That Influence the Role, Burnout and Job Satisfaction of the

School Nurse: A Mixed Methods Study

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The purpose of this study was to identify and explain the work organization factors

affecting the role enactment of the school nurse, levels of burnout, and job satisfaction.

This study used a convergent parallel mixed methods design in which qualitative and

quantitative data were collected in parallel, analyzed separately according to their

methodologies, and then integrated with equal weighting. Qualitative data was collected

using in-depth, individual interviews with 20 New Jersey school nurses. Quantitative data

was collected electronically using the Maslach Burnout Inventory-Human Services

Survey and the Areas of Worklife Survey from 100 members of the New Jersey State

School Nurses Association. An overarching theme of "caged leaders" emerged from the

qualitative data, suggesting a lack of control over the work environment contributes to

barriers to role enactment. School nurses exhibited a moderate level of burnout which

increased in poor working environments. Demographic characteristics, including

community poverty levels, geographic location, and workload contributed to burnout.

School nurses had a very high sense of personal accomplishment, and valued control over

practice, relationships and collaboration. Conclusions indicated a need to address

components of a healthy work environment, and to further understand why school nurses

stay in their role when poor work environment conditions are present. The knowledge

generated by exploring the school nurse work environment may serve to guide the actions

of the school organization as it works to create a healthy work environment.

been with a focus not only on school nurses themselves, but also for the children and school community who need and benefit from the services of school nursing.

I am grateful to Dr. Karen D'Alonzo who recognized the conceptual idea in creating this mixed methods study. Without her backing, this study would not have been developed as a mixed methods dissertation. Most likely, the survey data would have been published, leaving questions about the school nurse work environment unanswered, especially in relation to control over practice. Conversely, the interview data would have been analyzed, but without the survey data for support, findings regarding "my kids," and, why do school nurses stay in their role if there are so many barriers would not be better understood.

Dr. Stephanie Curenton helped me further explore the school nurse work environment from multiple angles and perspectives outside of school nursing. Schools are a function of their community. My understanding and appreciation of the policies and politics of the school organization came as a student in her class. The richness and depth of the issues tackled deepened my critical thinking of the role and impact of schools on the lives of students, their families and the school community. That lens of education framed my views on examining social inequities and disparities in educational achievement. We need educational reform to alleviate these disparities. I firmly believe that school nurses are a part of that reform in collaboration with school administration, school policy makers and school community partners to address these long-standing issues.

I also wish to acknowledge all the school nurses who participated in the interviews and the surveys. The dedication to the students, their families and the school

community were apparent from each school I visited. The survey data and responses to the open-ended questions helped me to understand and explore what is working and what presents challenges to role enactment. My goal is to see that this research supports the valuable work of the school nurse.

I must also thank and acknowledge the school nurse who described herself as a "caged bird." That particular quote framed this dissertation and became the major theme of "Caged Leaders."

Lastly, thank you to my family. My parents, Helen and Dick, were my first supporters as I began nursing school. My father, as a school administrator, was always a great resource to understanding schools from the educator's perspective. Thank you to my children, Colleen, Abigail, and Andrew, who were always supportive and enjoyed knowing that mom was a student at the same time with Colleen and Abigail at Rutgers. Most importantly, my journey to becoming a nurse scientist and nurse researcher ("…and that's what I want to be when I grow up") would never have been possible had my husband, James, not been behind me at every step. Thank you, Jay.

Dedication

This work is dedicated to all school nurses who support student success and revel in their students' achievements in health and education.

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Chapter 1
Introduction

Discussion of the Problem

Challenges in 21st century health care are significantly impacting school nursing. School nursing is a specialized practice of public health nursing that "protects and promotes student health, facilitates normal development and advances academic success" (National Association of School Nurses (NASN), 2016). School nurses practice autonomously, often as the only health care provider in the school. Their role is unique: school nurses are the leaders that provide the bridge that connects education and health services (NASN, 2016).

Educational institutions and health care organizations are complex entities that are constantly and rapidly changing. Since the enactment in 1975 of the Education of All Handicapped Children Act (Schwab, Gelfman, & Cohn, 2005), increasing numbers of students who are medically fragile and chronically ill has made the provision of health services more complex and challenging (Lineberry & Ickes, 2015; National Center for Education Statistics, 2014). Other challenges are seen in the changing diversity of the population and explosive technological changes.

Conceptually, the school nurse office is a healthcare facility (Lear, 2007). Yet, this healthcare facility is often a hidden system of care that is frequently neglected as an important contributor to chronic disease management, and community-based wellness and prevention programs (Mosca, 2005). Research demonstrates the link between student health and academic achievement. Students who are healthy have better attendance and improved graduation rates (Murray, Low, Hollis, Cross, & Davis, 2007). When comparing schools with nurses to schools without nurses, research indicated that school

nurses made a difference in student health outcomes through: increased surveillance and identification of chronic health conditions (Guttu, Engelke, & Swanson, 2004); assisting students with management of chronic conditions such as asthma and diabetes (Hill & Hollis, 2012) followed up on wellness screenings (e.g. failed vision screenings) and other health issues (Kruger, Toker, Radjenovic, Comeaux, & Macha, 2009); and counseled more students regarding physical and psychosocial health concerns (Guttu et al., 2004). Chronic disease management of asthma in urban children by school nurses contributed to decreased absenteeism (Moonie, Sterling, Figgs, & Castro, 2008). Medication errors are common in schools where unlicensed assistive personnel and care extenders routinely administer medications (Canham et al., 2007; Farris, McCarthy, Kelly, Clay, & Gross, 2003). Wang et al. (2014) in a joint study with the Centers for Disease Control (CDC) and the National Association of School Nurses (NASN), established in a cost-benefit analysis that school nurses prevented an estimated $20.0 million in medical care costs, $28.1 million in parents' productivity loss, and $129.1 million in teachers' productivity loss. School nurses generated a net benefit of $98.2 million to society. For every dollar invested in school health nursing, society would gain $2.20.

School health nursing is now positioned at the forefront of a new paradigm in healthcare delivery. The Affordable Care Act (ACA) included the provision for the creation of the National Prevention, Health Promotion, and Public Health Council to create a broad approach to population health promotion and disease prevention that looks to improve the health of our society (Rigby, 2011). The school nurse is an important link in the healthcare system to improving student, family, and community health outcomes.

Yet, school health services are currently not considered a central mission of U.S. schools (Basch, 2011). These changes in both healthcare and education directly impact school nursing, and must be reflected in school nursing in order to provide the quality of care that advances the health and academic success of students and the school community.

Little research exists regarding the work environment of the school nurse and the factors that support or constrain their role. Work environment research in acute care nursing settings has described specific factors that are significant contributors to nurse job satisfaction, improved patient outcomes, lower rates of mortality and higher levels of patient satisfaction (Aiken & Patrician, 2000; Clarke & Aiken, 2006; Lucero, Lake, & Aiken, 2010; Vahey, Aiken, Sloane, Clarke, & Delfino, 2004). However, the school nurse work environment is very different from acute care hospital settings. School nurses practice independently, often in isolation from other nurses. In the acute care setting, nurses typically report to another nurse administrator who understands the role and responsibilities of the nurse. In contrast, school nurses usually report to a school administrator who has limited understanding of the scope of nursing practice and professional nurse practice laws and regulations.

The National Association of School Nurses' (NASN, 2015) *Framework for School Nursing in the 21st Century* explicates the broad and complex role of school nurses. The framework demonstrates the relationship of school nurses within the school community as they improve learning and improve health through involvement in 10 aspects: community involvement; health education; physical education and physical activity; nutrition; environment and services; health services; counseling, psychological

and social services; social and emotional climate; physical environment; employee

wellness; and family engagement.

Despite this evidence, increasing pressure to decrease school costs often leads

school administrators to consider school health services as a budget item that can be

reduced or eliminated without fully considering the health implications to students and

their families (Galemore & Maughan, 2014; Lineberry & Ickes, 2015; Maughan, 2009;

Wang et al., 2014). Consequently, overwhelming roles, responsibilities and large

workloads may contribute to an unhealthy work environment that inhibits school nurses

from contributing to the holistic care of the student, disease surveillance and prevention,

and population health objectives.

Statement of the Problem

While nurse work environment research began in the early 1980s, the importance

of healthy work environments in health care professions came with the publication of two

reports: The Institute of Medicine (IOM) report *To Err Is Human: Building a Safer*

Health System (Kohn, Corrigan, & Donaldson, 2000), and *Crossing the Quality Chasm*

(Institute of Medicine, 2001). As a result of these reports, professional nursing

organizations developed initiatives and further defined the essential components of a

healthy work environment required for nurses to deliver quality, safe care (American

Association of Colleges of Nursing, 2016; American Association of Critical-Care Nurses,

2016; Cronenwett et al., 2007). In a review from the Agency for Healthcare Quality and

Research (AHRQ), the most common cause of errors was identified as the characteristics

of the work environment (Healthgrades, 2011; Shekelle et al., 2011).

There is a dearth of research regarding the work environment characteristics important to school nurses or levels of job satisfaction among school nurses. A review of the current U. S. school nurse published literature from 2010 to 2016 yielded seven studies: two qualitative studies and five quantitative studies. Approximately 2.6% of the total U.S. RN workforce are school nurses (Health Resources and Services Administration, 2010). With such a small percentage of RNs employed in this field, it is no wonder that school nurses believe their role to be hidden and marginalized (Lear, 2007; Smith, 2004).School nurse issues are not seen as a significant concern in the larger health care system. The fact that the services are provided to children who as minors are unable to advocate for themselves, and the lack of direct school nursing supervisors may also contribute to the invisibility of this nursing specialty (Smith, 2004; Smith & Firmin, 2009b). While major health care organizations support the role of the school nurse as an advocate who is responsible for providing a healthy work environment (American Association of Pediatrics, 2008; World Health Organization, 2008), the lack of attention to the significance of the school nurse role continues.

In reviewing work environment research in other nurse settings, organizational characteristics that promote favorable work environments and job satisfaction are the two main elements frequently cited as integral to supporting the job performance of nurses (Jones, Hamilton, & Murry, 2015; Lizano & Mor Barak, 2015; Shacklock, Brunetto, Teo, & Farr-Wharton, 2014; Van Bogaert, Clarke, Wouters, et al., 2013). The areas identified in the limited school nurse work environment and job satisfaction research suggest that school nurses' perceptions of their work environment, especially with regard to their

intense workloads, sense of efficacy and sense of accomplishment may indicate the presence of job-related burnout.

Cherniss (1980) was the first to describe job-related burnout among human service professionals. Cherniss posited that organizational characteristics contributed to job-related burnout. These factors included characteristics such as role overload, role ambiguity, lack of autonomy, lack of access to resources and role conflict. He believed that these factors were inherent in bureaucratic, hierarchical organizations, such as schools and hospitals. However, organizational support was advanced as a significant factor that could mitigate or decrease burnout. Consequences of burnout include a syndrome of emotional exhaustion, personal dysfunction, worker turnover and poor patient outcomes (Gregory & Menser, 2015; Lizano & Mor Barak, 2015; Maslach & Jackson, 1981). The few published studies that have explained the school nurse role only evaluated factors that influence the role or responsibilities in isolation, rather than integrating and considering how all may jointly influence the role of the school nurse.

Purpose Statement

The purpose of this mixed methods study was to explore school nurses' perceptions of the factors in the school work environment that impact their professional role enactment, and organization factors influencing burnout and job satisfaction. A convergent parallel mixed methods design was used, a type of mixed methods design in which qualitative and quantitative data are collected in parallel, analyzed separately, and then merged (Creswell, 2011). In this study, data from the Maslach Burnout Inventory – Human Services Survey and the Areas of Worklife Survey provided measurement of school nurse burnout, and areas of the work environment that influence perceptions of job

satisfaction. The interview data explored the factors school nurses described as influencing their professional role in New Jersey. A mixed methods approach was selected to minimize bias and systematic errors associated with the use of any one particular data source, enhance the validity of the results, and allow the researcher to construct superior explanations of the school nurse work environment (Creswell, 2014; Johnson, Onwuegbuzie, & Turner, 2007).

Over-arching Research Questions

The overarching mixed methods question (Plano Clark & Manijeh, 2010) was: How do school nurses' perceptions of their work environment illuminate understanding of the relationships between their work environment, burnout and job satisfaction? The sub questions were:

1. What factors of the school nurse work environment support or constrain professional role enactment?
2. Is school nurses' burnout and job satisfaction dependent upon organizational influences?
3. What is the relationship between school nurses' levels of burnout and their perceptions of barriers that prevent them from professional role enactment?
4. How do the narrative results extend, refute, or clarify the survey findings about areas of worklife and burnout?

<div align="center">Overview of the Research Method</div>

This study used concurrent triangulation, a mixed methods study design that included both qualitative and quantitative methods. The term triangulation originated from surveying, in the land sciences domain, using a method for determining a position of a point using observations from two additional points (Sharp, 1943). Triangulation is a methodological strategy that was originally suggested for use by quantitative researchers to look for "convergent validity" (Campbell & Fiske, 1959). The methodological approach supports the research goals through the ability to understand and explore data

generated from multiple perspectives through convergence, comparison and divergence. In turn, triangulation then contributes to the overall research goal by enhancing validity of the findings and interpretations of those data (Lincoln & Guba, 1985, Creswell, 2010). Multiple methods of data collection and across-method triangulation will benefit this research through "increasing confidence in research data, creating innovative ways of understanding a phenomenon, revealing unique findings, challenging or integrating theories and providing a clearer understanding of the problem" (Thurmond, 2001, p. 254).

The research questions for this mixed methods study came from a qualitative pilot study that began in December 2015. The pilot study included in-depth individual interviews with nine New Jersey school nurses employed full-time in various geographic regions of the state, caring for different age groups of students. The purpose was to explore the factors that school nurses described as supportive of their professional role and responsibilities, and their job satisfaction.

Emerging themes led the Principal Investigator (PI) to consider integrating the qualitative interviews with the findings from a second, quantitative survey study conducted in March 2016 with 100 New Jersey school nurses. The central aim of the quantitative study was to investigate school nurses' perceptions of factors that impact their professional role by examining the levels of burnout, and areas of worklife job satisfaction present in the school nurse practice environment using the Maslach Burnout Inventory, Areas of Worklife Survey, two optional open-ended questions and a demographic questionnaire. Themes found in the interviews indicated that school nurses were describing areas of job dissatisfaction: 1) dissatisfaction with their workload; 2)

low professional autonomy; 3) lack of understanding in the school system regarding the role of the school nurse;, 4) lack of respect, and 5) issues related to collaboration. The questions from the surveys used in the quantitative study addressed these areas of job dissatisfaction.. The PI wondered how integrating the data created from different research perspectives would create an opportunity to better understand the school nurses' perceptions. Therefore, this study built upon the data obtained from the original qualitative interview pilot study with nine New Jersey school nurses, and the quantitative survey study that examined burnout, and areas of worklife job satisfaction..

Explanation of Design Appropriateness

There were several factors considered in choosing a mixed methods design. First, there was a dearth of literature addressing the school nurse work environment. Qualitatively, the school nurse literature has explored the roles and responsibilities of the school nurse, the perceptions of school stakeholders such as principals and parents, and several areas of the work environment that school nurses value or consider barriers to the role (Knauer, Baker, Hebbeler, & Davis-Alldritt, 2015; Krause-Parello & Samms, 2009; Maughan, 2009; Maughan & Adams, 2011). However, these studies do not integrate in one research study an examination or exploration of the factors school nurses perceive to support or constrain their role. No quantitative published research in the past five years was found that studied the school nurse work environment. Thus, this investigation consolidates the evaluation of factors that influence the job performance of the school nurse into a single research agenda, allowing for evaluation from multiple perspectives.

Second, no theoretical framework or model of characteristics of the school nurse work environment was discovered in the published literature. The National Association

of School Nurses (NASN) uses a holistic model, the Whole School, Whole Community, Whole Child (WSCC). This investigation may inform future research in the school nurse work environment that may lead to the development or revision of existing work organization frameworks.

Lastly, the subscales from the quantitative study surveys measure themes observed a priori in the school nurse work environment literature: workload, control, reward, community, fairness, and values (Areas of Worklife Survey); and emotional exhaustion, depersonalization and personal accomplishment (Maslach Burnout Inventory–Human Services Survey).

Definition of Terms

- Job Burnout: Job burnout is an individual stress syndrome that develops in response to chronic exposure to stress in the work environment. Burnout consists of three domains: emotional exhaustion, depersonalization and reduced personal accomplishment. Burnout is characterized by feelings of alienation, cynicism, and depression (Khamisa, Peltzer, & Oldenburg, 2013; Laschinger, Shamian, & Thomson, 2001; Lizano & Mor Barak, 2015).

- Job satisfaction: Job satisfaction, according to Hayes et al. (2010), could be conceptualized and labeled as intrapersonal, interpersonal, or extrapersonal factors. Intrapersonal factors included age, education, and experience, while interpersonal factors included autonomy, coworker interactions, relationships with staff and patients, task requirements, and supervisory support. Extrapersonal factors included organizational structure, salary, workload, and promotion opportunities.

- Nurse Outcomes: Nurse outcomes in this study are those that relate to nurse job satisfaction and professional role enactment. Nurse outcomes are important to work organizations because nurse turnover is costly to the organization and has been demonstrated to contribute to patient safety and quality of care (Aiken et al., 2011).

- Organizational support: Organizational support is the degree to which an individual believes the organization values their contributions and cares about their well-being (Eisenberger, Stinglhamer, Vandenberghe, Sucharski, & Rhoades, 2002).

- Professional roles:

  The constituent element of the clinical role of the nurse is the inter-action between the nurse and a person, family or group, in view of the decision processes that conduct care experiences and the governance of the environment of interaction. It is characterized by evidence-based, patient-centered care, continuously seeking to improve care outcomes, and requires professional commitment, ethical awareness and zeal for accuracy and reliability. It is based on an effective interaction process with the health team, as well as on commitment to nursing preparation and lifelong learning. From nurses, it demands critical thinking and informed experience applied to the phenomena that patients experience, associated with clinical autonomy, professional accountability, role valuation and care foundations (Mendes, Cruz, & Angelo, 2015, p. 327).

- School nurse:

  School nursing is a specialized practice of public health nursing, protects and promotes student health, facilitates normal development, and advances academic success. School nurses, grounded in ethical and evidence-based practice, are the leaders that bridge health care and education, provide care coordination, advocate for quality student-centered care, and collaborate to design systems that allow individuals and communities to develop their full potentials (National Association of School Nurses, 2015).

- Work Environment: Shirey (2006) defines a healthy work environment as " a work setting in which policies, procedures, and systems are designed so that employees are able to meet organizational objectives and achieve personal satisfaction in their work" (p. 258).

Foundational Assumptions

A mixed methods research approach was selected for this study because there is a lack of research on the characteristics of the work environment of the New Jersey state school nurse, and school nurse levels of job satisfaction.

In all research, the researcher agrees to the underlying philosophical assumptions of the study, yet must be mindful that their own views may shape the direction of their research (Strauss & Corbin, 1998). In quantitative research, the researcher is considered to be theoretically non-existent, while in qualitative research, the researcher is considered "the instrument." The primary investigator self-identifies the roles of doctoral candidate, researcher, registered nurse, and former certified school nurse in New Jersey. These intertwined roles may influence thoughts and actions, personal ideas and perceptions of the research – an emic role (Agar, 2011; Denzin & Lincoln, 2011a).

Research assumptions may be ontological, epistemological, axiological or methodological (Creswell, 2013). The foundational assumptions of converting data from disparate qualitative and quantitative data sets in mixed methods constitutes a unidirectional process that is different from the conventional functions of qualitative analysis and quantitative measurement (Sandelowski, Voils, & Knafl, 2009). Judgments regarding the various components of each data set and how to integrate, measure, and balance narrative complexity with numerical data were made. The numerical transformation, translation or conversion of qualitative data was done to facilitate pattern recognition, document and verify interpretations, and allowed an ability to discern themes or patterns in ways that might not be discoverable otherwise (Sandelowski, 2001; Tashakkori & Teddlie, 2010). Qualitative results can be applied more generally than the

specific context in which they arose through associations between themes and variables (Morgan, 2015).

This study assumed that there job-related burnout was present in the school nurse population. The school nurse population in New Jersey was assumed to transcend location, and differences in experiences existed based upon location. It was assumed there were similarities in the experiences in New Jersey school nurses, due to New Jersey Department of Education administrative code and statutes, and New Jersey state laws governing Registered Nurse scope and standards of practice.

Delimitations of the Study

There were several limitations related to this research. First, few studies examined the work environment of the school nurse. No published literature was found that cohesively addressed the factors in the work environment, or linked the factors to nurse burnout or job satisfaction. This study incorporated research from studies conducted in the past 15 years in the United States. This may influence the amount of data concerning the school nurse work environment as other areas of the world were not included. Both studies were based on a convenience or purposive sample of members of the New Jersey State School Nurses Association. This limited the generalizability to the general population. However, it was also a strength, as in an effort to increase the homogeneity of the sample, only participants who self-identified as currently employed as a school nurse in New Jersey were included in the study. This limitation resulted in excluding individuals who have left the profession or retired. Lastly, the ability to establish causation is a threat in cross-sectional studies. There is no ability to establish antecedents, therefore the direction and the ability to establish causality cannot occur.

Significance of the Study

This study may be the first in the school nurse workforce literature to use a mixed methods approach to examine the factors that influence the work environment of the school nurse. A mixed methods approach best addresses the research objectives through the collection of data, from multiple sources, including in-depth interviews, cross-sectional survey, and extant documents. These data can then be integrated to make sense of and interpret the school nurse work environment, in terms of the meanings that school nurses ascribe to them, creating a complete and profound picture of the phenomenon of the school nurse work environment (Bazeley, 2012). Additionally, this research contains the initial published use of the Maslach Burnout Inventory and Areas of Worklife tool in an untested school nurse population.

School nurse managers, administrators, and school policy-makers need evidence-based information to support the professional practice of the school nurse, and to understand the work-related characteristics that attract and retain school nurses. The knowledge generated by exploring the school nurse work environment will serve to guide the actions of the school organization as it works to create an environment that is supportive of the role and responsibilities of the school nurse. This study may inform future research on the factors that influence the school nurse work environment and provide opportunities to understand levels of burnout and job satisfaction.

Chapter 2
Review of the Literature

Introduction

The school nurse work environment is significantly different from an acute care setting as the roots and underlying care processes are an outgrowth of public health nursing (Zaiger, 2013). The school nurse works within the constructs of the educational system, primarily in isolation from other nurse colleagues, typically reports directly to a non-nursing administrator, and has responsibilities that range from screening, disease surveillance, managing complex health needs, to first line emergency care responder (Mangena & Maughan, 2015). The organizational social structure of the work environment influences the nurses, their job satisfaction and the quality of care delivered. In other words, nurses are "social actors" within their work environment, making them excellent informants regarding the organization's ability to enhance or constrain their role and responsibilities (Allen, 2004). Given the impact the school nurse may have on quality student and public health outcomes, it is important to understand the supportive organizational attributes within the school nurse practice environment that influence professional role and responsibilities.

Therefore, this review examines the literature in the school nurse work environment related to the following areas: 1) review of the school nurse literature related to the role and characteristics of the school nurse work environment; 2) review of the general nursing literature related to the work environment; 3) review of the public school literature related to the work environment; 4) work environment and job-related burnout; 5) school nurse conceptual frameworks; and lastly, 6) a possible explanatory model: The Nursing Worklife Model. The chapter concludes with the overarching research questions

and a summary of the relevant findings and gaps in the literature related to the school nurse work environment.

Work Environment Literature in School Nursing Practice

Introduction

Few studies examine the work environment characteristics important to school nurses or levels of job satisfaction among school nurses. No job satisfaction benchmark was found in a literature search for the school nurse specialty in the United States. An expanded search of the research literature was conducted between 1937 and 2016. Computerized databases were searched: CINAHL, Educational Resource Information Center Database, EBSCO MEDLINE, and Academic Search Elite. Search terms included a combination of school nurse, school nursing, job satisfaction, nursing satisfaction, work environment, work, and nurses' attitudes. The search strategy also included hand-searching journals for references not found in the electronic search. Non-American schools were excluded due to the differences in international education and health care delivery models. Original research reporting quantitative or qualitative data was included from the perspectives of school nurses or school community stakeholders. See Figure 2.1 for the study identification process. Tables 2.1 and 2.2 list the school nurse research included in this review with a brief description, relevant findings, critique of the study and the gaps discovered.

Approximately 306 articles were retrieved, of which 21 were retained: nine qualitative studies (Broussard, 2007; Junious et al., 2004; Knauer et al., 2015; Krause-Parello & Samms, 2009; Maughan, 2009; Maughan & Adams, 2011; Simmons, 2002; Smith & Firmin, 2009a, 2009b) and 12 quantitative studies (Baisch, Lundeen, & Murphy,

2011; DeSisto & DeSisto, 2004; Foley, Lee, Wilson, Cureton, & Canham, 2004; Green & Reffel, 2009; Hill & Hollis, 2012; Kirchofer, Telljohann, Price, Dake, & Ritchie, 2007; Krause-Parello & Samms, 2011; Kruger et al., 2009; Maughan & Mangena, 2014; Parsons & Felton, 1992; Rodriguez, Austria, & Landau, 2011; Volkman & Hillemeier, 2008). Much of the discarded literature focused on opinion, position statements or discussion.

Only two qualitative research studies were discovered in the current published literature (e.g. published between 2011 through 2016) (Knauer et al., 2015; Maughan & Adams, 2011). The majority of authors used qualitative description to frame their research (Junious et al., 2004; Knauer et al., 2015; Maughan, 2009; Maughan & Adams, 2011). Other approaches included two phenomenological (Smith & Firmin, 2009a, 2009b), two grounded theory (Broussard, 2007; Simmons, 2002), and one un-named (Krause-Parello & Samms, 2009). The Primary Investigator (PI) used the appraisal method identified in Sandelowski and Barroso (2002) to critique the qualitative research.

The quantitative studies primarily used cross-sectional surveys, and chiefly adhered to descriptive statistical analysis using frequencies and percentages to report findings (DeSisto & DeSisto, 2004; Green & Reffel, 2009; Krause-Parello & Samms, 2011; Kruger et al., 2009; Maughan & Mangena, 2014). Five studies were found in the current literature (Baisch et al., 2011; Hill & Hollis, 2012; Krause-Parello & Samms, 2011; Maughan & Mangena, 2014; Rodriguez et al., 2011). None of the research articles retained were of sufficient rigor to constitute evidence that might inform practice or policy making. For example, lacking statistical analyses; difficulty with generalizability – all study participants were members of a professional organization; sample size and

sampling biases; and mono-method bias – all study instruments were self-report. Figure

2.1. Flow Diagram Showing the Study Identification Process
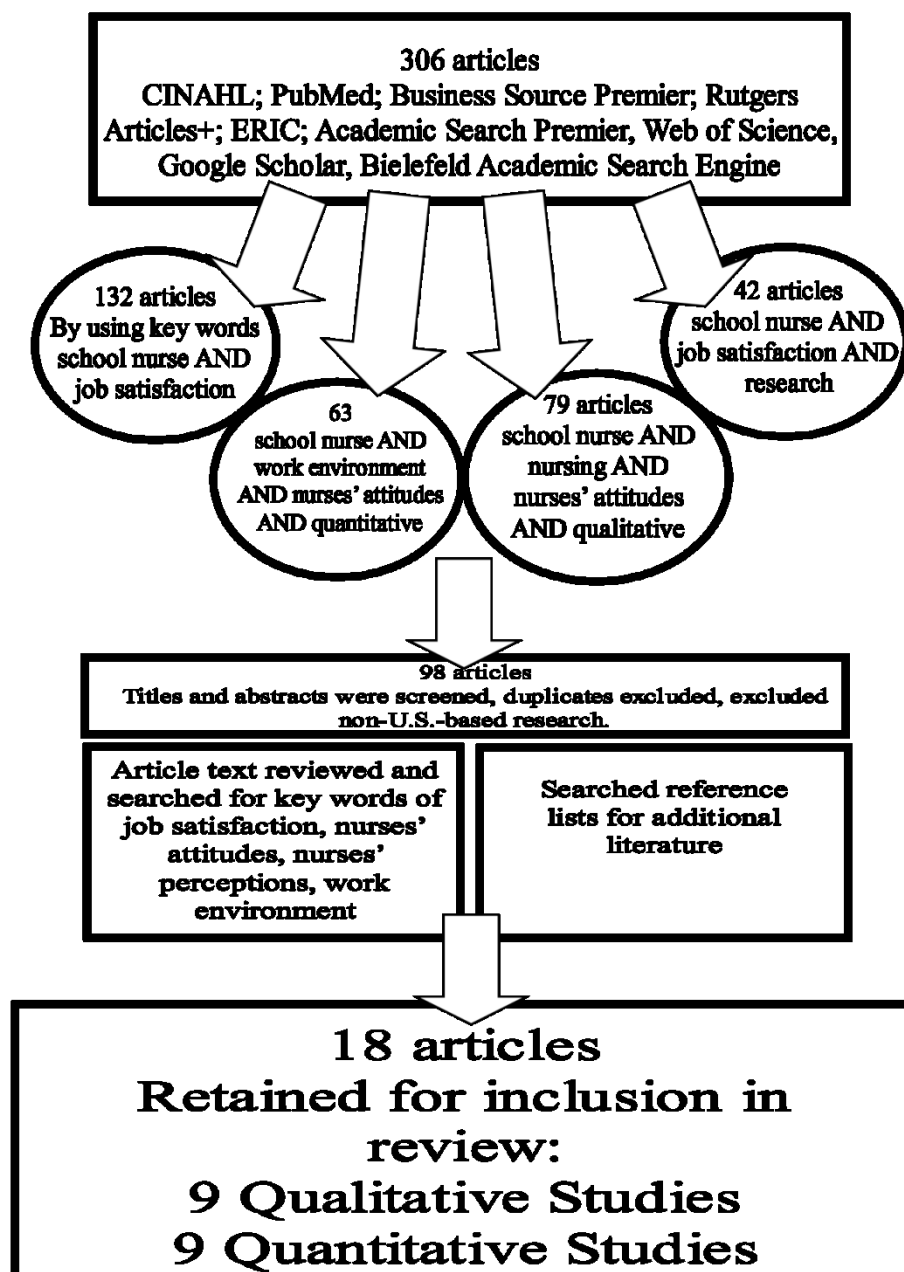
Qualitative Research: School Nurse Perspective

Six qualitative studies explored the perspectives of school nurses. Broussard

(2007) and Simmons (2002) used grounded theory to study empowerment and autonomy

respectively. Both studies found that school nurses believed school administrators and other academic colleagues had little understanding and a lack of value or respect for the school nurse role. School nurses struggled with role confusion, autonomy and control over their practice. Additionally, the school nurses perceived isolation and powerlessness in an education-focused work environment as the only health provider in the building. Similarly, two phenomenological studies found that school nurses enjoyed the autonomy in school nurse practice, but experienced stress and job dissatisfaction related to perceptions of lack of respect from colleagues in the school building, and inability to have control over their practice environment (Smith & Firmin, 2009a, 2009b).

Focus groups of 71 school nurses found that 17% (n=12) were not satisfied with their job, and most of the nurses indicated a dissatisfaction with trust and support from their school organization (Junious et al., 2004). Differences in perceptions regarding school nursing before and after hiring contributed to job stress and the unscheduled nature of the school nurse's day further contributed to stress and job dissatisfaction. Other areas that school nurses believed contributed to job dissatisfaction were access to resources, dealing with families, adjusting to low salaries, dealing with administrative structure, and a lack of support from the school community (Broussard, 2007; Krause-Parello & Samms, 2009).

School nurses identified a number of factors that influenced their decision to enter school nursing. These included a preference for pediatric nursing in a community setting, the school nurse work schedule, the positive nurse-student interaction, and opportunities for collaboration and communication. Interestingly, while the school nurses reported that

they valued these items, those items were also cited as areas that created some feelings of dissatisfaction (Smith & Firmin, 2009b).

Qualitative Research: School Community Stakeholders' Perceptions

In a novel approach not seen in the school nurse research, Knauer et al. (2015) interviewed 17 key state informants in California from health departments, current and former state legislators, education superintendents and administrators and pediatricians. The authors established five themes: 1) in schools without a school nurse, children not receiving special education may not have their health needs recognized, thus, no individualized education plan (IEP); 2) financial allocation affects provision of school health services leading to underfunding and less likelihood of having a school nurse; 3) lack of a school nurse also impedes communication, collaboration, coordination of health and education services; 4) data collection and monitoring are limited; and 5) policy changes are needed to fully support the needs of all children through increasing the provision of school health services.

Lastly, two studies examined the perceptions of school educators, parents and school nurses regarding their understanding of the school nurse role and responsibilities (Maughan, 2009; Maughan & Adams, 2011). Maughan and Adams (2011) examined perceptions to determine if school nurse to student ratios influenced the perceptions of parents and educators. There was no difference between groups, however, the study found that the parents and administrators valued quality of communication and interaction over the quantity of communication with the school nurse. Examples of quality communication included clear and direct communication, and active listening skills. The role of the school nurse was viewed as task oriented and related to provision

of first aid, such as Band-Aids and medication administration. Interestingly, parents indicated health teaching as a role, while the educators did not. Nurses in schools with higher student to nurse ratios reported less job satisfaction. Maughan (2009) found that funding for school nurses was a barrier and were not seen as cost-saving: "the fear that something bad had to happen before school nurses would be hired prevailed" (Maughan, 2009b, p.295). While parents and educators were supportive of school nursing, the role of the nurse was misunderstood by both groups. Appendix N provides a summary of the qualitative studies.

Quantitative Literature: School Nurse Perspective

In a study of a convenience sample of 299 school nurses in California, researchers used a cross-sectional survey design to determine the level of job satisfaction as measured by the Index of Work Satisfaction (IWS) (Foley et al., 2004). School nurses ranked autonomy and interaction as the factors that were associated with the highest perceived value and perceived job satisfaction. Items ranked lowest for job satisfaction were professional status, pay, and task requirements. Similarly, in a study of 82 Massachusetts school nurses using the Conditions of Work Effectiveness scale and Control Over Nursing Practice (CONPS), DeSisto and DeSisto (2004) reported perceived control over practice is empowering and increases job satisfaction. School nurses rated the areas that were most challenging as access to resources related to a high workload, time to do paperwork, complete tasks, and ability to obtain temporary help when needed.

Interaction, communication and collaboration were also highly valued in a study of 615 school nurses in Pennsylvania by Volkman and Hillemeier (2008). School nurses

were 75% more likely to be satisfied with care delivery to students when reporting effective communication with physicians.

Workload was the focus in a study by Kruger et al. (2009). School nurses reported challenges with access to resources, non-medical personnel performing medical services such as blood glucose monitoring and nasogastric tube feedings, high workload, lack of collaboration in Individualized Education Plans (IEP), or 504 plans, and feeling generally undervalued and isolated. In schools where there was a lower school nurse-to-student ratio, school nurses had the ability to spend more time on direct care procedures, collaborative activities such as participating in IEP plan development, and reported more frequent contact with physicians and other school community stakeholders.

Descriptive statistics were used by Krause-Parello and Samms (2011) in a non-experimental design of 384 school nurses across 35 states using a questionnaire developed by the author. Items ranked lowest by school nurses were: 1) Do not receive full support from teachers and administrators (28.1 %); 2) Do not believe documentation adequately reflects their roles and responsibilities (66.5%); 3) Stated the top misconception of a school nurse is that the profession entails little activity (64.2%); and 4) Do not perceive their position is respected in the school setting (35.3%).

Similarly, descriptive statistics from the 2013 and 2015 NASN School Nurse Surveys found that top activities for school nurses were treating illness, medication administration, indirect care (e.g. paperwork, phone calls, writing care plans), immunization tracking, compliance and injury care. In contrast, the surveys reported that school nurses would like to spend more time on research, community projects (e.g. health fairs), classroom teaching, obesity concerns, in-service trainings and professional

development. Forty-eight percent reported that they met or exceeded ratio recommendations of one school nurse to 750 students. These surveys demonstrate the role school nurses would prefer to play in school health promotion and wellness activities, but may be prevented from doing so by workload constraints (Mangena & Maughan, 2015; Maughan & Mangena, 2014).

Lastly, in an intervention study, Parsons and Felton (1992) evaluated the influence of an educational intervention on role performance and job satisfaction of school nurses. The authors used Bullough's Job Satisfaction Scale and an author developed Role Performance Scale. Subscales included creativity, skill, interest, importance and respect, promotion, salary, routinization, program management, and job satisfaction. Job satisfaction was correlated with intrinsic subscales of skill, interest, importance and respect. Findings suggest that school nurses were motivated to perform their role despite low salary and lack of promotion opportunities.

Empirical Literature: School Community Stakeholders' Perceptions

In cross-sectional survey (N = 369) of parents' perceptions of school nurses, respondents were asked to rank importance of allied health services and professionals in schools. Parents ranked school nurses as most important (85.1%), followed by social workers (75.9%) and school counselors (57.9%) (Kirchofer et al., 2007). In a study among teachers, support staff, and school administrators, study findings suggested that the presence of a school nurse resulted in a statistically significant difference in amount of the teacher's classroom time spent on student health needs, versus when a school nurse was not present in the building. Both studies demonstrated that school nurses were cost effective, cost efficient and exposed dangers of critical health information accuracy.

Lastly, in a cross-sectional survey distributed to nine school nurses and 25 school administrators in an inner-city school district, the authors found that school administrators did not understand the role and responsibilities of the school nurse. The administrators also believed the primary role of school nurses to be clinical, and that they perceived that less students with chronic health conditions existed in the district (Green & Reffel, 2009). Appendix O provides a summary of the quantitative studies.

Summary of School Nurse Literature Review: Critique and Gaps

The lack of current research in the school nurse work environment is evident: seven studies were published in the past five years. As stated earlier, a critical evaluation of the studies indicated the findings were lacking in rigor. There was insufficient evidence of reflexivity noted in the qualitative studies. No evidence of introspection, collaboration or discursive components was included in the text. Saturation was not adequately described or not addressed. There were many procedural and interpretive errors, making it difficult to consider the findings valuable and credible for utilization in school nursing practice. The limitations in the methodology and data analysis do not allow for the reader to fully understand that this body of research is trustworthy and contributes to nursing practice.

The statistical conclusion validity of quantitative research is evaluated primarily from two sources: the evidence of measurement reliability and the power to detect the size of an effect. Instrument validity is the ability of the instrument to measure the variables of the study. Reliability of an instrument is the ability to measure an attribute consistently. Instrument validity is important to establish because the study variables may have associated or closely related concepts (DeVon et al., 2007). Each of the studies

examined in this paper contained threats in the statistical methods related to measurement reliability and power that lead this writer to believe that the conclusions and discussions as reported are not supported by the methods. In addition, threats found in participant recruitment indicate that the results may be flawed. Further information from the authors is necessary to improve the ability to generalize and best understand the results of these studies. See Tables 2.1 and 2.2 for further discussion of critique and gaps by individual study.

Themes evident across the qualitative studies include autonomy, support for school nursing role, workload, collaboration, access to resources, benefits and personal characteristics. Factors that promoted job satisfaction were job autonomy, helping others and children, giving back to the community, and job flexibility related to vacation and holiday time. Items that could increase satisfaction were desire for more professional development, compensation, access to resources, such as clinic secretarial assistance, and desire to be supervised by a nurse rather than a non-nurse. Detrimental issues included lack of trust and support from school administrators.

Seven of the nine qualitative articles were published in *The Journal of School Nursing.* While school nursing is a specialized nursing profession, the discussions and implications for school nursing practice often suggested areas that can only be addressed administratively either through the immediate supervisor (usually the school principal), or school superintendents and school boards. For example, access to professional development, need for evaluating staffing and workload, and budget constraints. This presents a different challenge in school nursing practice not seen in the workforce literature done on acute care nursing; 64% of school nurses are supervised by a non-

nursing individual (Maughan & Mangena, 2014) who is reading education related journals, not school nursing journals. Acute care nurses are usually supervised by another nurse manager who as a nurse leader would be familiar with the nurse manager and nurse workforce literature. School nurse workforce literature should consider publishing in other journals such as school administrative or education journals.

Inconsistencies among states with regard to school nursing's scope of practice and educational preparation have led many researchers to conduct studies in a single state, to control for this potential confounding factor. This has generated issues related to generalizability to the larger population. There is also little data on school nurse employment. Many states do not include school nurses in their education "fact sheets". For example, no are no data reports on the numbers of school nurses employed, or nurse-to-student ratios in New Jersey at the New Jersey Department of Education (State of New Jersey Department of Education, 2015).

The nurse practice environment is a complex construct with theoretical foundations from multiple fields in social science (Lake, 2002). The rich, thick descriptions obtained through qualitative research were not adequately represented in the empirical, quantitative research. For example, the insight obtained in the qualitative studies provided information not found in the empirical studies. This was particularly true with regard to the variety of tasks performed, types of collaboration and support from different groups, perceptions regarding contributions to student health and academic outcomes, documentation of student health, and the described complexity of the school nurse role. Findings from the quantitative studies summarized aspects noted in the perceived view such as autonomy, empowerment and job satisfaction, providing

justification and one truth in the descriptive statistics. However, the reductionism in empirical research discounts the rich information and the contextual aspect of the data found in qualitative research. Thus, important aspects of the school nurse practice environment may not be uncovered. This is especially true in nurse practice environments where instruments created for use in acute care may be used. The constructs may not be the same. For example, researchers who wish to empirically measure the school nurse environment without understanding the importance of autonomy may miss an opportunity to comprehensively understand that practice environment.

Gaps identified support future research recommendations that require further exploration of the school nurse practice environment. Answers to empirical questions provide firm scientific knowledge that provide measurements and reasoned support for analysis and conclusions (Giuliano, 2003). It is also equally clear that empirical research approaches using reductionist and deductive perspectives fall short in their ability to understand the school nurse practice environment. Interpretive methods of the perceived view recognize the multiple meanings and truths that can only be derived from context-dependent data. Both views provide important components of knowledge that address the knowledge deficits in this phenomenon.

An integration of quantitative and qualitative in mixed methods research to provide a more comprehensive and deeper understanding of the phenomenon is advised (Bazeley, 2012; Creswell, 2014; Siddiqui & Fitzgerald, 2014). Using a triangulation strategy, methodologic triangulation (Thurmond, 2001), integration of mixed methods allows the components of each to become interdependent, creating a "complete and profound picture of the research phenomenon" (Siddiqui & Fitzgerald, 2014). The final

goal is to inform nursing science and create impetus to understand the professional practice environment of school nurses and the associated variables that impact patient outcomes and nurse outcomes. "It is not about qualitative or quantitative data, but whether the evidence was produced using procedures that promote certainty about the relationships and confidence that the knowledge will apply to groups whose care we wish to improve" (Blegen, 2009, p. 381).

Work Environment Literature in General Nursing Practice and Other Settings

Acute Care Nursing

Nurse work environment researchers have studied the organizational context in relation to nurse job satisfaction extensively in acute care settings (Breau & Reaume, 2014; Elliott, Young, Brice, Aguiar, & Kolm, 2014; Huddleston, 2014; Kramer & Son, 2016; Lake, 2007; Ma & Park, 2015; McClure, Poulin, Sovie, & Wandelt, 1983). The American Association of Critical Care Nurses (AACN) lists six essential standards aligned with the National Academy of Medicine (NAM) for establishing and sustaining healthy nurse work environments: skilled communication; true collaboration; effective decision making; appropriate staffing; meaningful recognition; and, authentic leadership (American Association of Critical-Care Nurses, 2016). The AACN report states that this list is not exhaustive, but provides evidence-based support regarding critical elements within an organization's work environment that impact "nurse retention, team effectiveness, patient safety, nurse and patient outcomes, and burnout among health care professionals" (AACN, p. 1). Researchers Schmalenberg and Kramer (2008) through their research on Magnet-inspired hospitals, report that supportive, positive work environments have attributes that increase nurse job satisfaction and decrease nurse

turnover. Positive organizational characteristics such as supportive leadership, collaboration, communication, access to resources, career opportunities, autonomy, participation in decision making, workload and value congruence, are important elements in understanding how employees are motivated, obtain socioemotional benefits such as respect and approval, and overall job satisfaction (Bai, Hsu, & Zhang, 2015; Brewer, Kovner, Greene, Tukov-Shuser, & Djukic, 2012; Huddleston, 2014; Kramer et al., 2014; Kramer, Maguire, & Brewer, 2011; Ma & Park, 2015).

Other health care settings.

Work environment research has also been done in nursing homes, outpatient departments, psychiatric hospitals, home health agencies, Veterans' Administration (VA) hospitals, and individual hospital units ICUs (Aiken, Clarke, Sloane, Lake, & Cheney, 2009; Friese, Lake, Aiken, Silber, & Sochalski, 2008; Hanrahan, Aiken, McClaine, & Hanlon, 2010; Harwood et al., 2007; Jarrín, Flynn, Lake, & Aiken, 2014; Kelly, Kutney-Lee, Lake, & Aiken, 2013; Kutney-Lee, Lake, & Aiken, 2009; Lake, 2014; Lake & Cheung, 2006; Li et al., 2007; Patrician, Shang, & Lake, 2010; Thomas-Hawkins, Denno, Currier, & Wick, 2003; Wade et al., 2008). The findings suggest that congruent with work environments in acute care nursing, nurses in other work environments value organizational commitment and support. In addition, the research demonstrates that quality outcomes such as patient satisfaction, adverse patient events and nurse job satisfaction are important indicators of the characteristics that support nurses in their role and responsibilities.

Public school education settings. Work environment research in the United States public school setting have examined teachers', administrators', school

superintendents', speech therapists', physical therapists', and school counselors'

perceptions regarding the factors that influence their work environment (Allodi &

Fischbein, 2012; Bardhoshi, Schweinle, & Duncan, 2014; Catalino, Chiarello, Long, &

Weaver, 2015; Cirrin, 2007; Dulaney, Hallam, & Wall, 2013; Grissom, Nicholson-

Crotty, & Harrington, 2014; Katz, Maag, Fallon, Blenkarn, & Smith, 2010; Miller,

Goddard, & Laschinger, 2001; Vos, van der Westhuizen, Mentz, & Ellis, 2012). This

body of research reflected similar characteristics in the nursing literature that supportive

characteristics such as communication, valued role, managerial support, workload, and

autonomy in decision making were important factors. The research also demonstrated

that work environment influences overall job satisfaction which may result in employee

exhaustion, burnout and turnover.

Characteristics of the Work Environment and Job-Related Burnout

The term burnout was first used in the 1960's to describe the effects of chronic

drug abuse "burnouts". Later, Freudenberger (1975) used the term burnout to describe

staff members working in alternative or crisis intervention institutions who exhibit

psychological symptoms related to chronic exposure to negative work experiences. The

symptoms were described as physical and emotional exhaustion, cynicism and

detachment, and feelings of ineffectiveness and lack of accomplishment. Individuals

affected by burnout demonstrated an increased level of exhaustion, depersonalization,

and depression (Freudenberger, 1975). Subsequent work and analyses of burnout led

Freudenberger to conceptualize burnout as an individual state of physical and emotional

exhaustion as a result of the work environment characteristics or conditions.

Cherniss (1980) was the first to describe job-related burnout among human service professionals. Cherniss posited that organizational characteristics contributed to job-related burnout. These factors included characteristics such as role overload, role ambiguity, lack of autonomy, lack of access to resources and role conflict. He believed that these factors were inherent in bureaucratic, hierarchical organizations. However, organizational support was advanced as a significant factor that could mitigate or decrease burnout.

Job burnout theory posits that burnout is the result of chronic stress in the work environment (Maslach, 2001; Maslach & Jackson, 1981). Human services workers, such as police officers, nurses, firefighters, teachers, physicians and social workers are at an increased risk for job-related burnout (Maslach, Jackson, & Leiter, 1996). Researchers believe that human service providers manifest burnout through internalizing client stressors, and respond to feelings of inadequacy or an inability to meet client needs. In addition, human service providers may exacerbate their stressors by devoting time and energy to client relationships with little return to themselves (Maslach & Leiter, 1997).

The causes of burnout are theorized to be related to two factors: situational factors and individual factors (Bakker, Demerouti, & Sanz-Vergel, 2014). Situational factors include job demands and access to job resources. Job demands include aspects such as tasks that require sustained effort, workload, role ambiguity, role conflict, supervisor support and job control (Demerouti, Nachreiner, Bakker, & Schaufeli, 2001). Research has demonstrated that when employees experience high job demands and low access to resources, burnout is likely to occur (Bakker, Demerouti, & Verbeke, 2004; Geuens, Braspenning, Van Bogaert, & Franck, 2015).

Human service providers when presented with overwhelming client needs internalize client stressors are posited to be factors that contribute to burnout. In addition, unrealistic expectations or an incongruence with expectations and outcomes can cause human service providers to devote inordinate time and energy to a situation that yields very little to them in return (Maslach & Leiter, 1997; Vahey et al., 2004).

Individual factors are related to an incongruence between personality and job demands (Bamford, Wong, & Laschinger, 2013; Leiter & Maslach, 2004; Timms, Graham, & Cottrell, 2007). Schaufeli, Leiter, and Maslach (2009) suggest in their review of 35 years of burnout literature that burnout is present when there is an imbalance between job demands and resources, and conflict between personal values and the values of the organization.

The job-person fit model considers the individual's balance with their actual work and the expectations of their actual work experience. These variables are referred to as areas of worklife (Leiter & Maslach, 2004). The six areas or domains of the work environment are workload, control, reward, community, fairness and values. The researchers propose that the process of burnout occurs as a result of the individual finding an imbalance in the areas of worklife. The greater the incongruence between these six variables and the individual, the greater the likelihood of burnout. The term "mismatch" is used to indicate the lack of congruence between the areas of worklife and the individual.

In a study by Cioe, Crawford, and Stein (2014), the researchers report that 90% of nurses leave the profession due to job burnout from tension related to lack of appreciation, work overload and role confusion. Nurses are often emotionally overloaded

and may suffer from compassion fatigue as they struggle to give individualized attention despite increased workloads (Barker & Nussbaum, 2011). Common factors that contribute to job-related burnout are: workload, decreasing staff levels, demanding workload acuity, inability to accomplish job tasks, and inability to replenish him or herself both emotionally and physically (Gray-Stanley & Muramatsu, 2011; Lang, Pfister, & Siemens, 2010; Rochefort & Clarke, 2010; Van Bogaert, Clarke, Willems, & Mondelaers, 2013b). Studies have illustrated that burned-out nurses are more likely to provide unsafe patient care, have increased intentions to leave their job, increased depersonalization, and report low job satisfaction (Bakker & Costa, 2014; Chana, Kennedy, & Chessell, 2015; Geuens et al., 2015; Laschinger, Wong, Cummings, & Grau, 2014; Van Bogaert, Clarke, Willems, & Mondelaers, 2013a). Thus, when work organizations are staffed with individuals who are emotionally exhausted, experience depersonalization and fail to feel a sense of accomplishment or personal achievement, the quality of care provided and the nurses' perceptions of their work environment suffer.

Conceptual Framework

No predominant conceptual framework for the school nurse work environment emerged from the literature. The CDC and the Association for Supervision and Curriculum Development developed a holistic model, the Whole School, Whole Community, Whole Child (WSCC). See Figure 2.2. The WSCC model places the student at the center, providing a collaborative framework that supports the critical role of health in education and the importance of the context of the school community in supporting a shared framework that is systematic, integrated and collaborative (ASCD & CDC, 2014; Lewallen, Hunt, Pott-Datema, Zaza, & Giles, 2015). The National Association of School

Nurses (NASN) *Framework for 21st Century School Nursing Practice(™)* applies this unified approach for evidence-based, clinically competent, school nursing care that is supported and connected through health and education (NASN, 2015). Students can be emotionally and physically healthy and ready for adulthood in an environment that is physically and emotionally safe and where their health needs are addressed (Lewallen et al, 2015; NASN, 2015).

While this model of school nurse practice explains the inter-related components of the role, it does not assist researchers in understanding the organizational factors that influence that role, or provide pathways or links to nurse, organization or student outcomes.

Figure 2.2. Whole Child, Whole School, Whole Community Model

Summary and Research Questions

The attributes of the school nurse work environment may have some similarities to those in other nursing environments. The acute care nurse work environment research in particular may generate a knowledge base that could serve to guide the actions of the school organization as it works to create an environment that is supportive of school nursing. However, further research examining the supportive attributes of the school nurse practice environment is needed and empirical referents specific to the specialty of school nursing practice are needed. The application of experimental research methods that address raising awareness of the value and complexity of school nursing, improving working conditions, addressing professional development and evaluation processes appear needed to improve the work satisfaction of school nurses.

The research on the school nurse work environment and roles and responsibilities indicate that school nurses do not believe they are practicing to the full scope of their professional practice. While limited, the research suggests that school nurses desire to contribute to the well-being and academic success of their students and school community (Maughan & Mangena, 2014), but may not be advocating for their role outside of the "traditional" tasks associated with school nursing: Band-Aids, medication administration, and first aid care. Only one study, Knauer et al. (2015), found an understanding of the specialized role and the benefits to school and community health from other policy makers and community stakeholders. The authors suggest that advocacy for the role may need to come from health department members, state legislators and pediatricians.

Leiter and Maslach (2009) have proposed a theoretical framework that links job-person fit factors that contribute to burnout. Themes of barriers and challenges related to workload, leadership, autonomy, empowerment, communication, role confusion and low job satisfaction, indicate that school nurses are at risk for increased turnover, job-related burnout, which may affect the ability to provide quality, safe nursing care. No current empirical studies were found that examined the characteristics school nurses consider important to their role and burnout. Understanding these relationships can provide direction for developing interventions that positively impact the school nurse role and responsibilities.

Over-arching Research Question and Sub questions

The overarching mixed methods question was:

How do school nurses' perceptions of their work environment illuminate understanding of the relationships between their work environment, burnout and job satisfaction?

Sub questions:
1) What factors of the school nurse work environment support or constrain professional role enactment?
2) Is school nurses' burnout and job satisfaction dependent upon organizational influences?
3) What is the relationship between school nurses' levels of burnout and their perceptions of barriers that prevent them from professional role enactment?
4) How do the narrative results extend, refute, or clarify the survey findings about areas of worklife and burnout?

Chapter 3
Methodology

Introduction

The stimulus to frame this research using mixed methods occurred while

examining the themes that emerged from a pilot study conducted by the PI, interviewing

school nurses regarding their work environment. Analyzing and mixing qualitative and

quantitative approaches provided an opportunity for comparison and an opportunity to

blend both paradigms in research that would "represent the best of both worldviews"

(Denzin & Lincoln, 2011, p. 267). It should be noted that the studies in this study were

not conducted with the idea of combining both in a mixed methods study.

This mixed methods study investigated school nurses' perceptions of factors that

impacted their professional role by examining the levels of burnout, and areas of worklife

job satisfaction present in the school nurse practice environment. A convergent parallel

mixed methods design was used, a type of mixed methods design in which qualitative

and quantitative data are collected in parallel, analyzed separately, and then merged

(Creswell, 2011). In this study, the qualitative interview data explored characteristics

New Jersey school nurses described as influencing their professional role enactment. The

reason for collecting both quantitative and qualitative data was because a mixed methods

approach best answered the research questions, minimized bias and systematic errors

associated with the use of any one particular data source, enhanced the validity of the

results, and allowed the researcher to construct superior explanations of the school nurse

work environment (Johnson et al., 2007).

The two studies used in this research were: (a) a qualitative description study

using in-depth interviews to explore New Jersey school nurses' perceptions of the role

and work environment of the school nurse that began in December 2015 (Sandelowski, 2000, 2010); and (b) a quantitative, cross-sectional survey study investigating burnout and areas of the worklife that was conducted in March 2016. Both data sets were analyzed separately, and then integrated, with equal weighting of each study, to answer the research questions. Institutional Review Board (IRB) approval for both studies was obtained.

Areas addressed in this chapter include the study design, data source, sampling method, instruments, data collection procedures, measures, and preparation of data for analysis. The variables associated with the research questions are described in detail.

Research Design

Given the limited research on the role and work environment of the school nurse, a mixed methods convergent parallel design using qualitative and quantitative data triangulation was used. Mixed methods is appropriate for use when qualitative or quantitative research is insufficient to understand the problem. Understanding the factors that influence the school nurse work environment can be enhanced with mixed methods research through: exploring if the quantitative and qualitative results match; and, using statements from interviews to explain statistical results and vice versa (Creswell, 2014). See Figure 3.1.

The concept of mixed methods research has been defined with multiple terms such as integration, multimethod, mixed methodology and integrative research (Johnson et al., 2007), but recent writings tend to use the term mixed methods (Tashakkori & Teddlie, 2010). Mixed methods research was seen as a new methodology originating around the late 1980s. The philosophical discussions regarding the mixing of qualitative

and quantitative methods took place much earlier, with researchers arguing for the inclusion of qualitative data within quantitative studies (Denzin, 2010). It has since been used in research from multiple disciplines such as education, sociology, management and health sciences (Bardhoshi et al., 2014; Desborough et al., 2016; Molina-Azorín & López-Gamero, 2016; Sogunro, 2015); and has become an established approach to research.

Creswell (2011) states, "Researchers situate numbers in the contexts and words of participants, and they frame the words of participants with numbers, trends and statistical results. Both forms of data are necessary today" (p. 271). The philosophical assumptions of scientific research can be organized into four worldviews: post-positivism, constructivism, advocacy and participatory and pragmatism (Creswell, 2011). The research utilized the Pragmatism worldview that there are singular and multiple realities oriented toward practicality. Pragmatism allows that the researcher may collect data by multiple methods, by "what works" to address the research problems. Qualitative research emphasizes the process – the relationship between the researcher and participant, the relationship between the researcher and the data, what is being studied and analyzed. Quantitative research emphasizes measurement and is interested in associations between variables. Qualitative is seen as value-laden, quantitative is seen as value-free. Mixed methods researchers argue that this approach allows for multiple perspectives and leads to a more objective and less biased research (Johnson & Gray, 2010; Johnson et al., 2007). Onwuegbuzie and Leech (2004) concluded that, "the use of mixed methods data-analytic techniques should be seen as the real gold standard for achieving verstehen [understanding]" (p. 786).

Thus, a mixed methods study enriches the exploration of the school nurse work environment factors to obtain a more comprehensive understanding. Figure 3.1 presents the steps of the mixed methods convergent parallel design (Creswell, 2014).

Figure 3.1   Convergent Parallel Design

Procedures:
- 100 participants who self-identify as NJ school nurses.
- Survey measures: Demographics, Ratings of burnout status, areas of work environment.

QUAN data collection

Products:
- Numerical item scores

Procedures:
- Select participants.
- Conduct semi-structured interviews

QUAL data collection

Products:
- Transcripts

Products:
- Classification of whether burnout ratings and work environment ratings converge
- Means, SDs,
- Significance

Procedures:
- Descriptive statistics
- Group comparisons
- Group associations

QUAN data analysis

Procedures:
- Constant comparative thematic analysis

QUAL data analysis

Products:
- Major themes
- Typology of school nurse perceptions

Procedures:
- Cross analyze qualitative derived groups with quantitative variables

Merge the results

Products:
- Matrix relating qualitative themes to quantitative variables

Procedures:
- Consider how merged results produce enhanced understanding.

Interpretation

Products:
- Discussion of findings

Qualitative Study

Introduction

This qualitative description study (Sandelowski, 2000, 2009) began as a pilot study using individual interviews conducted with nine New Jersey school nurses from December 2015 through March 2016. The purpose was to explore the school nurse work environment context and describe how it impacts school nurse professional practice and job satisfaction. The pilot study was expanded to reach saturation, eleven additional school nurses were interviewed.

In Support of Method

This qualitative description study (Sandelowski, 2000, 2009) identified and described environmental and personal factors which are important to the role and job satisfaction of the school nurse. No research exists in the school nurse environment that collectively describes, explores or interprets this phenomenon. Sandelowski (2009) explains that qualitative description studies are a typology of qualitative research studies that are best described as an "eclectic combination of sampling, data collection and data analysis techniques" (p. 78).

Qualitative description signifies a boundary or classification that differentiates it from other methods such as grounded theory or ethnography. The researcher may begin with a theory or framework, but that does not mean one must commit to the theory or framework. One must be open-minded, yet mindful of remaining open to what is found in the interpretation of the data (Sandelowski, 2009).Qualitative description is particularly suited for use in mixed methods as the aim is to obtain a rich, description of experiences or events; not theory development (e.g. grounded theory) or thick description (e.g. ethnography). The researcher stays closer to the data, producing findings that are closer to the data as given, or "data-near" (Sandelowski, 2009, p. 78). Use of this inductive method fosters creativity and original findings as the research does not start with testing an existing hypothesis, theoretical framework or a priori assumptions. The analysis of the interviews uses an iterative process of across, between and over lines of transcripts to generate concepts and themes that emerge from interpretations of the data (Montgomery & Bailey, 2007; Sandelowski & Barroso, 2002; Walker & Myrick, 2006). A systematic approach to data collection and data interpretation allows the investigator to simultaneous

analyze and develop themes as they emerge from the data. Coding, memo writing and emergence of categories provides the researcher with the ability to understand and interpret the social actions and processes found in the data.

Description of the Setting(s)

Participants were interviewed at a time and location in New Jersey, at a convenient location for the participant, in a location that was in a public area, and not at the participant's residence. Locations varied and were chosen by the participant.

Characteristics of the Participants

Participants were recruited using a purposive sampling strategy that had a goal of maximum variation in the geographic regions of New Jersey and the age group served by the school nurse. The principal investigator (PI) recruited potential school nurse participants by posting a flyer (Appendix F) with the information about the study and contact information for the PI on two social media electronic websites: the New Jersey State School Nurses Association Facebook page and the New Jersey State School Nurses listserv.

School nurses interested in participating contacted the PI. Those who met the inclusion criteria were then reviewed to see what district they worked in, and what age group they served. To provide variation in the geographic (urban, rural and suburban) and age-group demographic characteristics of the school in which the nurse is employed (elementary school, middle school, high school) only one school nurse from any one school district was selected for interview. The sampling goal was to select nurses who served each of the three age groups from different geographic locations in the state. If the potential participant's school district's characteristics did not add to the desired variation

for the pilot study, interested individuals were asked if the PI could contact the

participant at a later date for a follow-up study using their email address.

Representativeness in qualitative research is achieved through saturation. Without

acknowledging saturation, the transferability and applicability to populations beyond the

study sample are limited; and the threats to rigor in its truth value are high (Morse,

Barrett, Mayan, Olson, & Spiers, 2002; Schwandt, Lincoln, & Guba, 2007). Originally

developed as a technique to define rigor in qualitative research, saturation means the

focus is less on sample size and more on sample adequacy. While there is some debate

about how and when a researcher obtains saturation, for the purposes of this research

saturation indicates that "the categories are fully accounted for, the variability between

them are explained and the relationships between them are tested and validated . . ."

(O'Reilly & Parker, 2013) p. 191.

Twenty New Jersey school nurses were interviewed who met the following

criteria: 1) currently work as a school nurse full-time or part-time in a school in New

Jersey; 2) speaks and reads English. The exclusion criteria: 1) do not work as a school

nurse; 2) work as a perdiem or substitute school nurse; 3) do not work in the New Jersey

school system; 4) do not speak or write English.

Data Source and Collection

Demographic data form. A demographic data form (Appendix G) was used to

collect data that describes the demographic characteristics of the sample population, such

as age, gender and education. The demographic form contained no names or identifying

information, but was linked to the interview through a subject number.

Interview guide. The interview guide (Appendix H) consisted of a series of questions and probes used by the PI to guide the interview process. The aim was to keep the discussion as broad as possible but within the parameters of asking participants to describe their role, professional responsibilities and to relate experiences from their school nurse job. Examples of questions were "tell me about your job", "tell me about your preparation for the school nurse role", "what keeps you in this role", and, "what would push you away". It should be noted that while the interviews were organized around the two overarching research questions, the interviewer remained flexible in order to allow for richness and depth to the responses.

Procedure for data collection. Upon meeting the participant at a time and location that is convenient for the participant, prior to the beginning of the interview, the PI reviewed the informed consent (Appendix I), which included audio-recording of the interview, with the participant. If the participant agreed to participate, they signed the consent and engaged in a one-time in-person interview with the PI that lasted between 30-90 minutes. Pilot study interviews with nine school nurses were conducted over approximately a 12 week period from December 2015 to March 2016. Further interviews will be conducted should an analysis to identify what in the data is needed to achieve saturation within variation, a form of theoretical saturation (Strauss & Corbin, 1998).

Data Analysis

Demographic data form. Sample characteristics will be analyzed using descriptive statistics (e.g. means, standard deviations, frequencies).

Interviews. The interviews were recorded using a digital audio-recorder and transcribed into a Word document by the PI. Transcripts were then uploaded into NVivo

software to be thematically analyzed. Analysis of the interviews used an iterative process to develop themes, categories and codes. This iterative process included reading and re-reading the interview transcripts. Open coding was used to examine each line of each interview. As each interview was coded, it was compared with the other interviews to look for similarities and differences. The codes that emerged from the data were then grouped into categories, clustered and merged into final core categories (Creswell, 2013; Sandelowski, 2010; Sandelowski & Barroso, 2002). Diagramming was used to illustrate patterns, concepts, sequences and similar phrases. Coding and analysis of the data was done by the PI in consultation with Dr. Teri Lindgren, an expert in qualitative research study design and practices. Credibility (validity) was established through member checking by three participants and one school nurse expert administrator.

Trustworthiness

Assessing trustworthiness in qualitative inquiries has been a subject of debate for many years. Trustworthiness in qualitative studies indicates that the reader can discern from the methodological explanations and data interpretation whether the interpretation of the data is credible and truthful (Schwandt et al., 2007). The central principles of an interpretive, inductive study contrast sharply with an epistemological stance that demands objectivity and truthfulness in research.

Schou, Høstrup, Lyngsø, Larsen, and Poulsen (2012) report in their study of qualitative research critique techniques that over 100 sets of proposals were found with no consensus about how to evaluate qualitative research. Evidence in the literature does suggest that focusing on strategies to establish trustworthiness should occur during the study rather than post hoc, when it is too late to correct threats to the study (Morse et al.,

2002). In addition, confusion of the terms used to determine validity, reliability, rigor, trustworthiness have become muddled and have introduced an inability to understand the "truth value" of qualitative research leading to the default notion that qualitative research may be unreliable, lacking in rigor and unscientific (Creswell, 2011; Morse et al., 2002; Sandelowski & Barroso, 2002; Whittemore, Chase, & Mandle, 2001).

Guba (1981) in his seminal work suggests four criteria for assessing the trustworthiness of qualitative inquiries. Researchers have built upon the four criteria: credibility, transferability, dependability and neutrality, such that researchers and readers alike may have criteria for judging trustworthiness in qualitative inquiry (Sandelowski & Barroso, 2002; Schou et al., 2012). The PI used the assessment developed by Guba (1981) and further explicated in (Denzin & Lincoln, 2011b). The criteria and techniques are found in Table 3.1.

Table 3.1
Criteria for Assessing Trustworthiness from (Denzin & Lincoln, 2011b)

Criteria	Techniques	Demonstrated in Study
Credibility	Prolonged engagement – lengthy and intensive contact with the participants in the field to assess possible sources of distortion and especially to identify saliences in the situation.	Interviews 60 – 90 minutes in length.
	Triangulation (cross-checking) of data – by use of different sources, methods and at times, different investigators.	Multiple perspectives through purposive sampling of participants, Different methods of analysis through use mixed methods, Use of research team.
	Peer debriefing – exposing oneself to a disinterested professional peer to "keep the inquirer honest", assist in	Use of professional colleagues to "bounce ideas and thoughts" off.

	developing working hypotheses, develop and test the emerging design, obtain emotional catharsis.	
	Negative case analysis – the active search for negative instances relating to developing insights and adjusting the latter continuously until no further negative instances are found.	Constant iterative process, read, re-read the data. Consider additional interviews if necessary.
	Member checks – the process of continuous, informal testing of information by soliciting reactions of respondents to the investigator's reconstruction of what he or she has been told or otherwise found out and to the construction offered by other respondents or sources, and a terminal formal testing of the final case report with a representative sample of stakeholders.	Plan to solicit reactions of participants, and to formally test the final report with a representative sample of stakeholders who were not participants.
Transferability	Thick descriptive data – narrative developed about the context so that judgments about the degree of fit or similarity may be made by others who may wish to apply all or part of the findings elsewhere.	Representative quotes will be analyzed for context to develop codes and themes so researchers and readers may understand and apply the findings.
Dependability and Confirmability	An external audit requiring both the establishment of an audit trail and the carrying out of an audit by a competent external, disinterested auditor.	Audit trail will be utilized; disinterested auditor will be obtained through professional colleagues.

Description of the Audit Trail

The Primary Investigator (PI) reviewed and proofread the transcripts for

comparison to the audio, and checked them for accuracy. The transcribed interviews were

then transferred into NVivo software and coded. The data was read and re-read by the PI in order to make sense of it, look for patterns in the data and decide on categories. The categories were expanded, changed, and consolidated; then the data was organized into categories and subcategories. Categories with similar meanings were consolidated into themes.

The PI wrote analytical memos about the process of the coding, code choices and operational definitions, decisions about developing patterns, and subsequent categories and themes. Memos were also written to reflect upon: possible networks and processes among the codes and patterns; field notes related to the participants' interviews; personal reflexive thoughts; and tentative answers to the research questions. In addition, visual concept mapping and diagrams were created to further understand the emerging patterns and categorizing of themes. Quotations were used to illustrate the meanings of the identified theme and categories. Coding, memos, and visual artifacts were reviewed with other committee members and faculty who had expertise in areas of qualitative methods, school nursing, and education.

Validity and reliability checks for the accuracy and consistency of the findings employed three approaches. First, validity (member check) was evaluated by three current school nurses and one school nurse research expert who reviewed a four page overview outlining the findings, derived themes and associated sub-themes. These individuals confirmed the findings and themes, and believed the discoveries and results were accurate representations of the school nurse work environment. Second, different data sources of information were used to establish and justify the emerging themes. The different data sources included reading and re-reading interviews of participants from

different types of schools and locations to understand where the participants' perspectives supported or disagreed with the categories and themes. In addition, three open-ended questions from the quantitative surveys were examined to determine if there was convergence of the data from both sources. Lastly, peer debriefing was used to enhance the accuracy of the research. An individual outside of health related sciences reviewed and asked questions about the study so that the findings would be understandable and resonate with individuals outside of school nursing.

The PI looked for the positives within the negatives, examined contradictions, and sought to find a balance when delivering the findings. The end result of this dissertation was to write rich, thick descriptions that convey the nature and consequences of the factors of the school nurse work environment, and draw attention to how these influences can affect the school nurses' role. The readers will vicariously experience the challenges school nurses encounter and will be afforded a lens upon which readers can view the participants' world.

It is important to note that the quotations and stories were the perceptions and experiences of only the school nurses. This study did not explore the perceptions of school administrators or other stakeholders in the school community who may have different perceptions.

Comparison of Participant Demographics to State and National Workforce Data

Comparison of the study demographics to available nursing workforce demographics from state and national samples is shown in Table 3.2. Few differences between the study sample and national and state sample are seen in terms of age or gender. There were differences seen in the level of education and racial/ethnic minority

nurses between the state and national level. The study sample's percent of racial/ethnic minority more closely mirrors the NASN survey than the New Jersey school nurses demographics. While highest degree attained information was not available for school nurses by state in New Jersey, there is a large difference between the quantitative school nurses (41%) and the qualitative school nurses degree (60%). The information shown represents highest degree attained. In New Jersey the minimum degree required for a school nurse is a baccalaureate degree. Therefore, 100% of school nurses in New Jersey, and this sample have a baccalaureate degree or higher. Looking at the data in another manner, 59% of the quantitative school nurses, and 40% of the qualitative school nurses had an advanced graduate degree. It is important to note that the national registered nurse statistics from 2008 were the most recent statistics available. The data from the other sources were more recent, 2014 and 2015 respectively.

Table 3.2
Comparison of Total Study Sample to State, and National Nursing Workforce Demographics

	Age in Years	Female	White, non-Hispanic	Baccalaureate Degree as Highest Nursing Degree
NJ School Nurses QUANT (n=100)	51-60	100%	96.0%	41.0%
NJ School Nurses QUAL (n=20)	51-60	100%	90.0%	60.0%
National School Nurse[1]	47-55	98.0%	95.0%	45.3%
National RN[2]	48	93.4%	83.2%	34.9%
New Jersey State School Nurse[3]	57	99.9%	80.9%	N/A
New Jersey State RN[3]	51	91.8%	69.1%	34.5%

[1] Mangena, A. S., & Maughan, E. (2015). The 2015 NASN School Nurse Survey. Percentages are based on 2015 survey of 8,006 school nurses from national survey of National Association of School Nurses.
[2] Health Resources and Services Administration. (2010). The registered nurse population: Findings from the 2008 National Sample Survey of Registered Nurses. Percentages are based on 2008 national survey of 33,179 registered nurses in the U.S.
[3] New Jersey Collaborating Center for Nursing. (2015). Nurses in New Jersey: New Jersey nurse workforce report 2014-2015. Percentages are based on 2014-2015 survey at license renewal of 101,182 Registered Nurses in New Jersey. School Nurse percentages are reported from 2,121 registered nurses who indicated job title as "school nurse."

Quantitative Study

Introduction

Themes that emerged from a qualitative pilot study of nine school nurses indicated that school nurses may exhibit job-related burnout related to factors within the school work environment. This study was undertaken in March 2016 to quantitatively measure job-related burnout and areas of the worklife that influence job satisfaction in school nurses. A review of the job-related burnout literature revealed the use of the Nursing Worklife Model (Leiter & Laschinger, 2006; Manojlovich & Laschinger, 2007) that was tested using the Maslach Burnout Inventory for Human Services Survey (MBI-HSS) and the Areas of Worklife Survey as companion surveys developed by research experts in job-related burnout and factors influencing job satisfaction (Leiter & Laschinger, 2006; Leiter & Maslach, 2004; Maslach et al., 1996). These two surveys and their associated subscales best fit with the objectives of the original study: 1) investigate New Jersey school nurses' perceptions of factors that impact their professional role by examining six areas of work life (workload, control, rewards, sense of community, fairness, value congruence), levels of burnout, and job satisfaction; 2) explore the relationships between the six areas of work life and dimensions of burnout.

Research setting

New Jersey state school nurses were recruited electronically through an email invitation extended to members of the New Jersey State School Nurses Association (NJSSNA) in March 2016. The New Jersey State School Nurses Association letter of agreement to participate in this research study is attached. See Appendix A. Emails were obtained from the NJSSNA and uploaded into a password protected and encrypted survey

distribution system, Mind Garden Transform Survey Hosting. Introductory letters and informed consent were sent electronically to all 1,226 registered members of the NJSSNA. Prior to sending out the letters, approval was obtained by Rutgers University's Institutional Review Board. Subjects who consented were provided with a URL link containing a unique user name and password. Because this survey was a pilot study with limited funds, subject recruitment was created to electronically close participation at 100 subjects who completed all items on the MIB-HSS and AWS.

The consent and research activities took place at a time and location convenient and self-selected by the participant to self-administer the electronic survey. The questionnaire was completed by 112 participants. After eliminating those participants with incomplete responses, the subject recruitment ended when 100 completed surveys were electronically submitted.

Sample

The sample consisted of 100 New Jersey State School Nurses Association registered nurse members who were 18 years or older. It was expected that the participants would be varied by gender and ethnicity. The majority of the subjects were likely to be women as most nurses are women. A sample of registered nurses in New Jersey who work as school nurses was necessary as the role, responsibilities and working environment of the school nurse in the United States varies tremendously by state (Maughan & Mangena, 2014). Inclusion criteria: 1) member of the New Jersey State School Nurses Association (NJSSNA); 2) currently employed full-time or part-time as a school nurse in New Jersey; 3) speaks, reads, and writes English. Exclusion criteria: 1)

Not a member of NJSSNA; 2) not currently employed as a school nurse; 3) unable to speak, read, or write English.

Power calculation

Analysis of sample size of 100 was calculated using *GPower* software (Mayr, Erdfelder, Buchner, & Faul, 2007). Effect size for the MBI-HSS subscales ranged from 0.23 to 1.125. AWS subscales ranged from 0.0 to 1.5. See Figure 3.2.

Instruments

The questionnaire consisted of two instruments: a job-related burnout scale (MBI-HSS) and a scale to measure areas of the work life that impact job satisfaction (AWS). These instruments were supplemented with demographic questions and two open-ended, optional responses.

Maslach Burnout Inventory-Human Services Survey. Burnout was evaluated using the Maslach Burnout Inventory- Human Services Survey (MBI-HSS). See Appendix B. This version of the Maslach Burnout Inventory can be utilized specifically with nurses. Job burnout is conceptually defined as a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can be attributed to the work setting (Maslach & Jackson, 1981). The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) is a 22-item self-administered questionnaire developed to measure burnout as an occupational issue for individuals providing human services (Maslach et al., 1996). Three subscales measure the three dimensions of burnout: emotional exhaustion (nine items), depersonalization (five items), and personal accomplishment (eight items). Item responses are on a 6-point Likert scale (0 = never; 6 = everyday) with higher scores representing higher levels of perceived

burnout. Total scores are categorized to determine the level as burnout as follows: 0-16 indicates low level of burnout; 17-26 indicates moderate level of burnout; ≥ 27 indicates high level of burnout. Items in the personal accomplishment subscale are reverse scored. Coefficient alpha reliabilities range from 0.64 to 0.91 (Lang et al., 2010; Lizano & Mor Barak, 2015; Maslach & Jackson, 1981). The instrument has demonstrated adequate validity and reliability and has been used nationally and internationally. It has been used in studies of burnout with human-services related professions from various work settings, including acute care nursing (Allodi & Fischbein, 2012; Laschinger, Purdy, Cho, & Almost, 2006; Leiter & Maslach, 2004; Rothmann, Barkhuizen, & Tytherleigh, 2008; Vahey et al., 2004; Van Bogaert, Timmermans, et al., 2013). Lower reliability in the subscale of personal accomplishment has been cited as a concern leading some researchers to use a one or two-domain subscale based upon emotional exhaustion and depersonalization (Lang et al., 2010; Lizano & Mor Barak, 2015; Vahey et al., 2004). In this study, the classic three-domain MBI-HSS was maintained to establish a baseline for school nursing.

Areas of Worklife Survey. The Areas of Worklife Survey (AWS) was created to assess employees' perceptions of work place qualities that play a role in whether they experience work engagement or burnout. See Appendix C. It is a companion piece to the Maslach Burnout Inventory (MBI) (Laschinger & Leiter, 2006; Leiter & Maslach, 2004). The AWS is a 28-item self-administered instrument measured on a five-point Likert scale (1=strongly disagree; 5=strongly agree). There are six subscales: workload; control; reward; community; fairness; and values. Each subscale is scored individually; it is not possible to combine the scores for one overall score. Items are scored on a scale of 1 to 5.

Higher scores represent a strong match between the person and the associated subscale item. A score ≥ 3 indicates a person-job match or congruence between oneself and the work environment. Negatively worded items are reverse coded. Coefficient alpha reliabilities range from 0.70 to 0.85 (Laschinger & Leiter, 2006; Leiter & Maslach, 2009). Validity is supported by the correlation between the MBI-HSS and the AWS (Laschinger & Leiter, 2006). The instrument has been used in nursing and human services related professions from various settings nationally and internationally (Bamford et al., 2013; Greco, Laschinger, & Wong, 2006; Leiter & Maslach, 2009; Timms et al., 2007).

Table 3.3
Survey Variables with Definitions and Scoring

Dependent Variables	Definition	Mismatch	Scoring
Maslach Burnout Inventory-Human Services Survey*			
Emotional Exhaustion (EE)	Depletion of emotional energy, distinct from physical or mental fatigue. Feelings of being over extended and exhausted by one's work.	Signal of distress in emotionally demanding work.	0-6 (0=low, 6=high EE) High EE=27 or over Moderate=17-26 Low = 0-16
Depersonalization (DEP)	Unfeeling and impersonal response toward recipients of one's service, care treatment, or instruction.	Presents problem in careers that value and mandate personal sensitivity to service recipients.	0-6 (0=low, 6=high DEP) High DEP = 13 or over Moderate = 7-12 Low = 0-6
Personal Accomplishment (PA)	Measures feelings of competence, effectiveness, and successful achievement in one's work.	Lack of beneficial impact on service recipients.	0-6 (0=low, 6=high PA) High PA = 39 or over Moderate = 32-38 Low = 0-31

Areas of Worklife Survey**			
Workload	Amount of work to be done in a given time. Captures extent to which work demands spill into personal life, social pressures and the physical and intellectual burden of job demands.	Workload is not a matter of simply stretching to meet a challenge, but going beyond human limits.	Score 1-5 Greater than 3.00 indicates higher degree of congruence between workplace and the participant. Less than 3.00 indicating more incongruence with workplace and the worker.
Control	Opportunity to make choices and decisions, participation in important decisions, has professional autonomy.	Mismatch occurs when the individual feels there is lack of sufficient control to fulfill the responsibilities for which they are accountable.	Score 1-5 Greater than 3.00 indicate higher degree of congruence between workplace and the participant. Less than 3.00 indicating more incongruence with workplace and the worker.
Reward	Recognition – both financial and social for your contribution on the job. Reward system acknowledges contributions to work and clear indications of organization values.	Lack of recognition indicates perceived as devaluing of their work and themselves.	Score 1-5 Greater than 3.00 indicate higher degree of congruence between workplace and the participant. Less than 3.00 indicating more incongruence with workplace and the worker.
Community	Quality of the social context in which you	No sense of positive connection	Score 1-5 Greater than 3.00

	work including relationships with managers, colleagues, subordinates and service recipients.	with others at work.	indicate higher degree of congruence between workplace and the participant. Less than 3.00 indicating more incongruence with workplace and the worker.
Fairness	Extent to which organization has consistent and equitable rules for everyone. Also related to quality of justice and respect at work. Resource allocation is understood and consistent.	Lack of fairness indicates confusion in an organization's values and in its relationships with people.	Score 1-5 Greater than 3.00 indicate higher degree of congruence between workplace and the participant. Less than 3.00 indicating more incongruence with workplace and the worker.
Values	What matters to you in your work and the consistency between personal values you bring to your profession and the values inherent in the organization. Shared successes.	Mismatches occur when differences exist between the organization's values and the values of its staff, or if the organization does not practice its stated values.	Score 1-5 Greater than 3.00 indicate higher degree of congruence between workplace and the participant. Less than 3.00 indicating more incongruence with workplace and the worker.

∗   From Maslach et al. (1996)
∗∗ From Leiter and Maslach (2004)

Open-Ended Questions. Two optional open-ended questions at the end of the

survey were available for participant responses: 1) what would you change in your work

environment to give you greater satisfaction; and, 2) what would you like us to know that we haven't discussed? See Appendix D for ????.

Procedure for Data Collection

School nurses interested in participating clicked on a link to review the consent form. Commencement of the study implied consent to participate. The online survey was hosted by Mind Garden Transform Survey Hosting. The Mind Garden Company owns the copyright to the Maslach Burnout Inventory and the Areas of Worklife Survey. Through Mind Garden, researchers are provided with a secure survey hosting platform. When a participant clicked on the link, they were taken to a secure website, Transform Survey Hosting, to complete the Consent Form, Demographics Data Form, Maslach Burnout Inventory, and Areas of Worklife questionnaires. The participant completed the questionnaires electronically. The responses were collected by Transform Survey Hosting and then provided to the researcher in SPSS format. No names or IP addresses were collected at the Transform Survey Hosting site or by the researcher. The primary investigator created a user account for the research team with a username and password. Access to the data was only available through the username and password protected account. The account created was encrypted such that Mind Garden could not know or determine the account holders username or password. The account holder could change the password at any time. The data was encrypted using off-site secure servers using industry standard SSL (Secure Sockets Layer) encryption, a protocol developed by Netscape for transmitting secure documents over the internet (Comodo CA Limited). See Appendix E for Mind Garden Privacy and Security Policy for survey hosting. When the

full number of participants for the pilot study was achieved, the Mind Garden Transform Survey Hosting ended all active links in any emails to end the survey collection.

Data Handling. Data entry occurred electronically as the participant completed the survey on-line through electronic survey hosting with Mind Garden Transform Survey Hosting. There were no names or identifying information on the demographic data form or on the questionnaires. Study participants were assigned a number; the number was used to identify the questionnaires. The data was encrypted using off-site secure servers using industry standard SSL (Secure Sockets Layer) encryption, a protocol developed by Netscape for transmitting secure documents over the internet (Comodo CA Limited). An SPSS file containing the data was transferred to the primary investigator through secure internet transmission into a password protected computer. Members of the research team were the only parties that were allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. Standard practice for study data states it will be kept for at least six years from the date the study began and then destroyed.

Data Analysis

The final sample included 100 New Jersey school nurses who were members of the New Jersey State School Nurses Association in March 2016. Data was analyzed using SPSS 24.0 software. The level of significance (alpha) was set at 0.05. Descriptive statistics, scatter plots, percentiles, means and standard deviations or frequencies as appropriate, summarized the distributions of all outcome variables. Levels of burnout were calculated and displayed to exhibit how it varied across different nursing and school

characteristics. Outliers and potential influential points were identified and investigated further to see whether they stem from data entry or other problems. Generalized linear models were utilized to study the potential relationships and correlations between variables. Using SPSS PROCESS syntax, regression model building was performed to analyze nurse outcomes to assess the impact of a number of factors on the likelihood that a respondent would exhibit burnout.

Independent and dependent variables. The data analysis explored associations between selected demographic variables and work environment variables (AWS subscale scores) and burnout (MBI-HSS subscale scores) among New Jersey school nurses. Demographic characteristics were used as independent variables and control for potential confounders. Table 3.2 describes the survey variables.

The sample size was small and consists of a convenience sample. The information obtained is subject to bias and is not generalizable. However the data will provide the researcher with an understanding of whether use of the Maslach Burnout Inventory and Areas of Worklife Survey is a useful instrument to explore the dimensions of the school nurse work environment in a larger, national survey. A report of the statistical analysis of the results will be provided to the New Jersey State School Nurses Association when the analysis has been completed and verified.

Table 3.4
Study Variables, Measurement, and Source

Variable	Measurement
Nurse Characteristics (derived from demographic survey data)	
Age	Ordinal categorical binned by range of 10 years equal to nurses' report of age in years
Sex	Binary dummy variable: male or female
Race	Categorical variable
Years of Experience as School Nurse	Ordinal: 1 if 1-5, 2 if 6-10, 3 if 11-15, 4 if 16-20, 5 if 21-25, 6 if 26-30, 7 if 31 or greater.
Years of Experience as a Nurse	Ordinal: 1 if 1-5, 2 if 6-10, 3 if 11-15, 4 if 16-20, 5 if 21-25, 6 if 26-30, 7 if 31 or greater.
Years Worked in Current School	Ordinal: 1 if 1-5, 2 if 6-10, 3 if 11-15, 4 if 16-20, 5 if 21-25, 6 if 26-30, 7 if 31 or greater.
Nurse Organizational Characteristics	
Nurse Work Environment	Areas of Worklife subscales. Continuous variable ranging from 1-5. Mean of all subscale scores categorized into 3 groups: lowest 25% had "poor" work environments, middle 50% had "mixed work environments", and top 25% had the "best" work environments.
Number of Students Served/Nurse Staffing	Ordinal: number of students served; 1 if 125 or fewer, 2 if 126-250, 3 if 251-500, 4 if 501-750, 5 if 751 or greater.
School District Location	Binary dummy variable: 1 if "Urban", otherwise 0 for "Non-urban".
Percent free or reduced lunch	Ordinal: 1) less than 10%, 2) 10-19%, 3) 20-29%, 4) 30-30%, 5) 40%+ as reported by nurses.
Nurse Outcomes	
Burnout	Continuous variable based on sum of scores from MBI in the portion regarding emotional exhaustion. Low burnout = 0-16.9 , moderate burnout = 17-26.9, high burnout = greater than or equal to 27. Binary dummy variable: No burnout 0 = 0-16.9; Burnout = 1= scores greater than 17.

Protection of Human Rights

The informed consent included an explanation about the purpose of the study; an explanation that there were no direct benefits and minimal risks to participation; no cost to participant; an assurance of confidentiality, and the participant's right to participate or withdraw without penalty at any time, or choose to terminate participation at any time during the interview. In addition, contact information for the PI and the Rutgers

University IRB were provided. The interview transcripts did not contain any participant's names. There was no more than minimal risk to subjects participating in this study.

There were no names or identifying information on the demographic data form or in the transcribed interviews. The completed demographic data forms are kept in a locked file cabinet at: Rutgers University, School of Nursing, 180 University Avenue, Newark, NJ 07013. Audio-recorded files will be destroyed as soon as the transcription is complete and the information has been verified as correct. Members of the research team are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. All study data will be kept for at least six years (Rutgers University requirement) and then destroyed.

Personal identifiers that were collected through the interested participant's response to the flyer were collected via email and archived onto a flash drive that is stored in a locked file cabinet separate from the consent forms and demographic surveys. The emails and telephone numbers of the participants will be destroyed after the study data analysis and results are completed.

There was no cost to the participant to participate in the study. As a thank you for participating in the interview, participants who complete the interview will receive their choice of a $20.00 gift card from Amazon, Dunkin' Donuts or Starbucks. Participants who participated in the quantitative survey research received a $10.00 gift card to Dunkin' Donuts.

Mixed Methods Convergent Parallel Design – Integrated Data Analysis

Qualitative and quantitative data were integrated in the final analysis phase. See Figure 3.1. The integrated analysis will help answer the following over-arching research question: How do school nurses' perceptions of their work environment illuminate understanding of the relationships between their work environment, burnout and job satisfaction?

The qualitative (semi-structured interviews) and quantitative data (survey questionnaires) were analyzed separately before the integrated analysis. The findings were synthesized through application of analysis techniques appropriate to the research methodologies (e.g. correlation, regression analysis and thematic coding). The interview data, in keeping with the inductive approach of qualitative research is synthesized and through an iterative process of thematic analysis, analyzed for comparison of commonalities and divergences from the nurses' perspectives.

Integration included examining quantitative variable data during the analysis of the qualitative data; and the use of numbers to help clarify comparisons or reporting, assessing the benefit of quantifying qualitative codes. Quantitative analysis included: studying data to see if there are ways in which the data may tell a story, even if they are unable to be tested using inferential statistics; determining if the data follow a common pattern; and exploring qualitative data that would help to explain the patterns revealed in the statistical analyses (Bazeley, 2010). Additionally, illustrative quotes from the open-ended or interview data were used to complement or supplement the analyzed reports (Bazeley, 2012). Ultimately, the researcher must employ flexibility, openness to the data,

creativity, and use of the full range of the potential that mixed methods offers to understand the meanings the school nurses ascribe to their role enactment.

Criterion strategies and techniques identified in Combs and Onwuegbuzie (2010) were used as a reporting template to inform the mixed data analysis techniques. The two data sets were analyzed separately and then brought together. The timing of the data collection was concurrent. Two separate analyses of the qualitative and quantitative data occurred. A side-by-side comparison approach was used for integration analysis. In this research study the qualitative findings were compared with the quantitative findings first. Findings that confirm or disconfirm the findings are discussed. Next the quantitative statistical findings were compared with the qualitative findings. An equal emphasis on both databases was placed.

As discussed in the methodology chapter the reasons for choosing mixed methods for this research was to compare different perspectives from qualitative and quantitative data. Greene, Caracelli, and Graham (1989) identified five typologies for mixed methods purposes: triangulation, complementarity, development, initiation, and expansion. In this study, four of the five typologies were employed. Triangulation approach allowed the ability to show how the data converge or diverge; complementarity then was used to seek a more in-depth clarification and understanding of the results. Development was identified as a purpose to use the results from the qualitative data to inform the quantitative data and vice versa. Lastly, initiation was used as the investigator looked to paradoxes, contradictions, convergence and divergence that emerged.

Decisions regarding the mixed analyses were made iteratively, meaning that some analytic decisions were made a priori, with the remaining decisions emergent from the

integrated data. The analysis orientation was variable-oriented as the process sought to identify relationships and constructs among the variables, and was oriented toward external generalization. Lastly, the integrated (mixed) analysis strategies employed included data reduction, integrated data display, data comparison, and reviewing all qualitative and quantitative data to yield meta-inferences.

Chapter 4
Qualitative Study Findings

Overall Introduction to Study Findings and Integrated Analysis

Chapters four through six present the findings and data analysis results from the convergent, parallel mixed method study exploring how the school nurse work environment influences perceptions of role enactment, burnout and job satisfaction. The study aim to be answered in the qualitative findings section, Chapter 4, was: what factors of the school nurse work environment support or constrain professional role enactment. Research aim 2 and 3 are explored in Chapter 5, quantitative findings. Lastly, Chapter 6, uses integrated data analysis that combined the qualitative interview data with the quantitative questionnaire data to answer: how do the narrative results extend, refute, or clarify the survey findings about areas of worklife and burnout?

Qualitative Findings

This section of the study describes the qualitative findings of twenty school nurses who participated from twenty different school districts across different geographic locations within the state of New Jersey. In semi-structured, one-to-one interviews, averaging approximately one hour, the nurses shared their perceptions of the reality of the school nurse practice environment. The interviews took place primarily in the offices of the school nurses, offering the researcher the opportunity to observe the participant in their contextual setting.

The study aim to be answered in this section is: what factors of the school nurse work environment support or constrain professional role enactment. The chapter begins with the historical and political context of school nursing, followed by the demographic characteristics of the qualitative study participants. Next, the major theme, "Caged

Leaders" is discussed, followed by the related themes of: school nurse work environment, control over practice, barriers to role enactment, and nurse and student outcomes.

Historical Context of School Nursing

The historical context of school nursing is important to an understanding of the work environment of the school nurse. History provides perspective on the evolution of school nursing in the United States and the challenges that school nurses experience when navigating the organizational divide between health and education.

School health nursing began in New York City in 1902 with the introduction of Lina Rogers, a public health nurse from one the most notorious slums on the lower East Side, to pilot a month-long project in four schools that had the greatest number of medical exclusions and absenteeism. New York City medical examiners discovered that despite their efforts to control and contain contagious diseases, exclusions from school did nothing to stem the spread of infectious disease due to tenement living conditions and the lack of access to effective health care. The New York City Board of Education and the City's Health Commissioner sought help from social reformer Ms. Lillian Wald, inventor of public health nursing and founder of the Henry Street Settlement (Struthers, 1917; Vessey & McGowan, 2006). Wald envisioned a new role for public health nursing in that of the "school nurse." Ms. Rogers drafted protocols for specific illnesses, inspected all sick children and began to not only provide care at school but to extend her efforts into the home. She recognized that many of the students' problems were related to the home environment and convinced her colleagues at the Henry Street Settlement to assist by making home visits to educate families on hygiene and disease prevention and to help address other student needs such as lack of food, clothing and child care from

other charitable organizations (Vessey & McGowan, 2006; Zaiger, 2013). Rogers'

insistence upon careful documentation and a systematic organized approach to student

health substantially reduced absenteeism and improved community health within the first

month of the pilot.

Within one year, the student absenteeism numbers had been reduced by 90%.

Collaboration with the Board of Education continued as the success of the program was

obvious. The experiment was so successful that Rogers' role was replicated across the

country. She continued to advocate for the inclusion of health education, hygiene

programs, nutrition programs and dental and hearing screening and documented the

precepts of her practice in the first school nursing text (Struthers, 1917).

Today the school nurse continues to support and provide care to students, their

families and the larger health care community. For many students and school

communities, school nurses provide a "safety net" in access to health services (DeSocio

& Hootman, 2004; Dock, 1902). School nurses recognize that their most valuable

contribution and impact is in supporting the health and educational success of students

(Zaiger, 2013).

Political Context of School Nursing

Federal Laws

Federal laws and state policies influence the role of the school nurse. Federal laws

affecting school nurse care are categorized as related to education, civil rights or health

(Schwab et al., 2005). The Individuals with Disabilities Education Act (IDEA) was an

updating of the 1975 Education of All Handicapped Children Act (EHA). In 1999, the

U.S. Department of Education published revised IDEA regulations. Under the Act, a free

and appropriate education includes the provision of special education and related services without charge, and must be in conformity with the Individualized Education Program (IEP). Special education and related services must be documented in an IEP or an individualized family service plan (IFSP) (Cedar Rapids Community School District v. Garret F., 1999; Wolfe & Selekman, 2002)

Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act (ADA) of 1990 affirm the civil rights of individuals with disabilities. School districts that receive financial aid must not discriminate on the basis of disability and they must provide services at no extra cost to the family. Therefore, school districts cannot discriminate against students with health conditions that interfere with a major life function.

The Every Student Succeeds Act (ESSA) of 2015 is the newly re-authorized law originally signed in 1965 by President Lyndon Johnson as the Elementary and Secondary Education Act. The previous version of this law was the No Child Left Behind Act of 2002. This law is designed to ensure the academic rights of every student, and defines the federal role of K-12 education as one that improves the academic achievement of all U.S. students. The mandates include standards and assessment, data collection and report by population demographics, accountability for all students, and improved teacher quality (U.S. Department of Education (DOE), 2015).

Federal health laws are regulated through the Occupational Safety and Health Administration (OSHA). Under OSHA, school districts are required to educate their personnel related to occupational exposure to blood borne pathogens, document the training, offer Hepatitis B vaccine to employees with potential risk of contact with blood

borne pathogens, and to provide protective clothing and equipment when employees are providing care with potential risk of contact with blood borne pathogens.

State Laws

State laws cover a range of topics related to education including age range for mandatory school attendance, eligibility for teacher certification, continuing education requirements for teachers, student immunization requirements, mandated school health screenings, and curriculum standards (Schwab et al., 2005). State mandates related to student records and confidentiality usually follow the federal requirements of the Family Educational Rights and Privacy Act (FERPA).

State health laws are related to state code and are relevant to schools in those areas that relate to licensure of health professionals, minors' rights to seek treatment for certain health conditions and public health laws. Public health laws may affect schools regarding immunization requirements, communicable disease reporting, exclusion of students from school and inspections of school facilities and grounds (Schwab et al., 2005).

Lastly, under a federal requirement that each state address the issue of child abuse (Child Abuse Prevention and Treatment Act), states must establish procedures for reporting, investigating and prosecuting child abusers. The laws designate certain professionals and paraprofessionals who are mandatory reporters. School teachers, school administrators and school nurses are considered mandatory reporters. Failure to report a reasonable suspicion of child abuse is often punishable by a fine or other punitive legal actions (State of New Jersey Department of Children and Families, 2016; U.S. Department of Health and Human Services, 2010).

School Nursing Scope of Practice Laws

There are no uniform standards for educational preparation and certification for school nurses in the United States (Mangena & Maughan, 2015; Maughan, 2009). Each state has different requirements for the provision of school health services. In New Jersey, the state requires an Educational Services Certificate. To be eligible one must have a bachelor's degree, hold a current NJ state license, have cardiopulmonary resuscitation (CPR) and automatic external defibrillator (AED) certification, and, complete 30 hours of graduate coursework culminating in a practicum/internship with a certified school nurse (State of New Jersey Department of Education, 2014). Lack of consistency in school nursing services nationally, and even within states, has created a challenge for program development and promotion of understanding the role of the school nurse.

Policy and Legislation Impact on School Nursing Practice

State and federal laws requiring school systems to provide care to students with disabilities in the least restrictive environment impact school nursing by increasing the number of school-age children with disabilities and chronic medical conditions requiring care (Allen, Cristofalo, & Kim, 2011; Searing & Guenette, 2016; Wolfe & Selekman, 2002). Advanced technology has also contributed to the number of medically fragile and chronically ill children who require complex health services over the past 20 years (Lineberry & Ickes, 2015; Searing & Guenette, 2016; Wang et al., 2014). Children, who would have died in infancy or in early childhood, now live and attend school. Children with mental health disorders, drug and substance abuse and conduct disorders also have increased in the last decade (Smith, Hadler, Stanbury, Rolfs, & Hopkins, 2013). This

increases the challenges in the classroom and also increases the nursing workload through administering medications, providing mental health care and counseling.

The Every Student Succeeds Act (ESSA) places the school nurse responsible for the detection of health-related learning barriers, acute and chronic medical care management, counseling, administration of medications, coordination of programs to promote wellness and healthy lifestyles, collaboration with interdisciplinary school-based teams to strategize accommodations, and the promotion of a safe school environment.

The complexity of the health care environment and the increasing socio-economic needs of students has further added to the need for school nurses to provide the required care and coordinated services that facilitate positive student health outcomes. Research now indicates that more than 50% of the United States public school students live in poverty (Baisch et al., 2011; Cheng & Jenkins, 2009; Southern Education Foundation, 2015). Emerging research is also demonstrating the role that social determinants of health play in the developing brains of infants, with long-term consequences related to learning and health (Buckner, 2012; Sellström & Bremberg, 2006; World Health Organization, 2008). Therefore, if increasing numbers of students are living in environments with low socio-economic status, the numbers of students in school with long-term chronic health issues will increase.

Introduction to the Participants

Table 4.1 displays the demographic characteristics of the school nurses, including the school organizational characteristics of the school in which they worked. All 20 school nurse participants were female, 90% (n=18) identified as white, and 60% (n=12) participants ranged between 51-60 years. The majority of the school nurses were

employed in a public school district (90%) located in a suburban area (65%), and worked

in an elementary school or junior high school (55%).

Table 4.1
Selected Demographic Characteristics of Qualitative Interview Participants

Characteristic	Frequency	n (%)
Age (years)	≤ 30-40	2 (10)
	41-50	4 (20)
	51-60	12 (60)
	≥61	2 (10)
Race/Ethnicity	White	18 (90)
	Non-white	2 (10)
Highest Level of Education	Bachelor's degree	12 (60)
	Master's degree	8 (40)
Location of School	Urban	5 (25)
	Non-urban	15 (75)
Type of School	Public	18 (90)
	Non-public	2 (10)
Immediate Supervisor	RN supervisor	3 (15)
	Non-nurse supervisor	17 (85)
Years as School Nurse	1-10	7 (35)
	11-20	12(60)
	21-25	1 (5)
Student Population Served	Head start/Pre-K/nursery	10 (50)
(more than one may apply)	Elementary	10 (50)
	Middle/Jr. high	7 (35)
	High School	9 (45)
	Special education	6 (30)
	Alternative	3 (15)
Number of Students Served	250 or fewer	8 (40)
	251-500	2 (10)
	501-750	3 (15)
	751-1000	1 (5)
	1001 or greater	6 (30)

Over-arching Theme: "Caged Leaders"

The major theme that emerged from this study was "Caged Leaders", school

nurses viewed themselves as health care leaders with no authority or formal power,

working as the sole health care individual in a setting focused primarily on educational

outcomes. As one nurse explained, "The challenges personally, professionally I have, I

think for me I feel like I'm a bit of a caged bird and I don't like that feeling." The thorough data analysis revealed that school nurses were constrained, felt "caged" by the school nurse work environment. See the illustration of the "Caged Leaders" work environment in Figure 1. This over-arching theme set the stage for the subthemes and categories.

The work environment defines the cage and creates the bars of the cage through complex dynamics of politics, laws, statutes and policies at the federal, state and local levels, social structures and processes, scope and standards of practice, and school community characteristics. "You have nursing standards, Board of Ed standards, state, and all these-- you're standing underneath all these umbrellas for school nursing. And you're the only one that knows all the umbrellas that you're under." Policies are developed without input from school nurses in the field. Several nurses talked about local district and state health policies that were changed without school nursing input, "Whatever, that change was made and it was never like, 'We're doing this,' or, 'We need your input.' There was never a mention to us nurses. We had no idea." A second nurse also spoke about a lack of input regarding policies, "We do not have input into policies and procedures. . . they're looking to have our attorneys create those policies, which is - - I don't think I like that."

These dynamics then influence the conflicts that arise from the school organizational structures and school social structures. A lack of administrative support at the state level sets up the situation. In turn, the organizational and social structures impact the role and responsibilities of the school nurse.

The work environment places the school nurses in the position of "Caged Leaders." A power structure within the school organization where the focus is education, not health, places school nursing "far down on the food chain." State mandates regarding supervision and administrative roles has positioned school nurses under the supervision of superintendents, principals and other school personnel who do not understand the role and standards of practice of a school nurse. The union also contributes to the bars of the cage as the school nurses felt the union ignored their needs, while advocating for teachers. Budgetary and economic constraints place a tension on schools between what takes precedent – health and safety or education? One school nurse spoke about working as the sole health professional in a school environment, "I also think that as school nurses we have to, we know the challenges, but we have to work within the parameters of where we are." These social, socio-economic, political and organizational realities underpin school nurses discussion about control over their practice and the barriers they face in enacting the role and the outcomes they achieve.

The work environment of the "Caged Leaders" with the associated subthemes is shown in Figure 1. This depiction illustrates the school nurse work environment as described by the participants. Attempting to delineate themes and categories by formal organizational structures, for example political structures or social structures, did not sufficiently represent the meanings and interpretations of the experiences the school nurses articulated. Four subthemes emerged from a comprehensive analysis of the data: the school nurse work environment, control over practice, barriers to school nurse role enactment, and school nurse and student outcomes. Five areas emerged from the data that school nurses perceived as barriers to role enactment: lack of understanding,

relationships, workload, safety, and professional development. The subthemes clarify the

ways the cage constrains their role enactment, causing them to feel like "Caged Leaders."

Figure 4.1. Representation of Overarching Theme of Caged Leaders
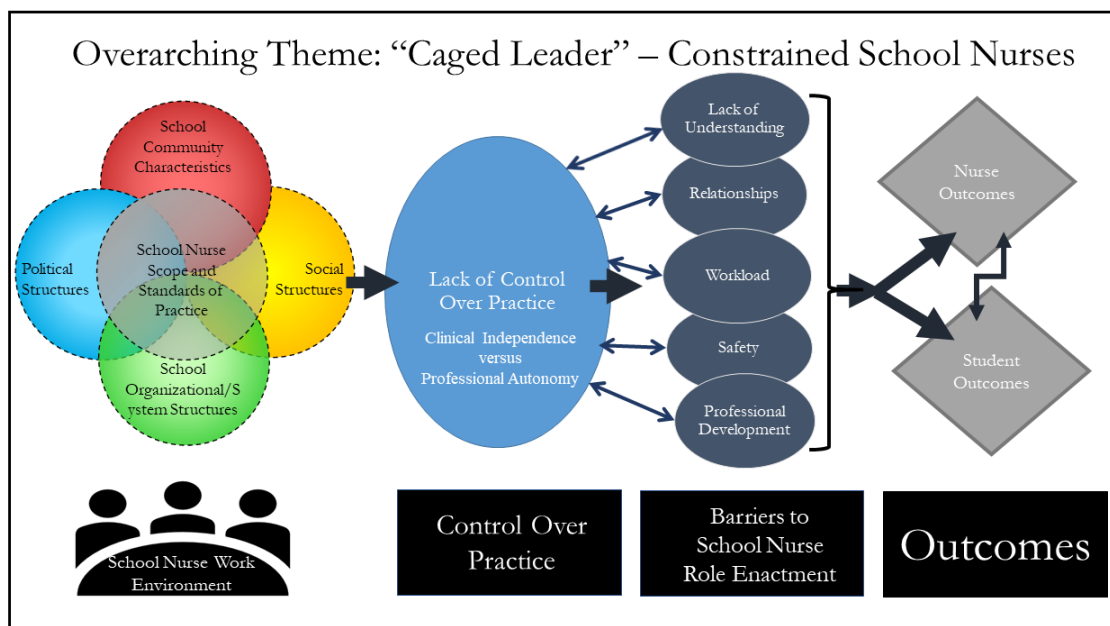
Subthemes

The following paragraphs detail the four subthemes: school nurse work

environment factors, control over practice, barriers to role enactment, and nurse and

student outcomes. Presented here are the most significant categories for each subtheme as

identified by the study participants.

Subtheme 1: School Nurse Work Environment

Structures. The school nurse work environment subtheme sets the stage for the

subtheme discussions that follow. The school nurses described four structures: political

structures, school organizational/system structures, social structures and school

community structures. The role of the school nurse is dictated by these structures. One

nurse verbalized that school health, or even an understanding of the role health plays in

academic success is not the primary focus, "At the end of the day, they're [the students] here for the academics. It just isn't as important as their academic piece."

Every aspect of the school nurse work environment is bound in political structures and social structures. Political structures include: national laws, state laws, policies, administrative code, and mandates, district policies and procedures, and individual state boards of nursing. The school nurse is guided in their practice through authoritative statements in, *The Scope and Standards of School Nursing Practice* (2011), which describes expected competencies and levels of professional performance. These factors are influenced through governmental reform, policy development, and political elections, not through the individual actions of the school nurse.

These laws mandate certain things the school nurse needs to do. One school nurse reported frustration with using the state department of education website for information regarding recent changes to policies and procedures that were not well articulated, and no one to help explain, "I find the New Jersey Department of Education website to be incredibly confusing. . . When they make a new rule it's so confusing as to what it is, how to even find out that it's happening, kind of thing." Another nurse spoke about the state Department of Education, "The key is we really should have a school health, school nurse consultant in the state, but for whatever reason, we don't have it."

School nurse work environment social structures factors are influenced by the stakeholders within the school and school community, teachers, school administrators, parents, and physicians. Within the school organizational/system structures the school nurses related narratives about school bureaucracy and hierarchy structure, supervision, performance appraisals, reporting structures, communication and information flow, and

how power and responsibilities are controlled. One school nurse described a conversation

with the school administrator who exhibited a lack of understanding regarding the role

and responsibilities of the school nurse and state mandated screening regulations:

> She also likes to tell me that all my screenings need to be done by the first week of September. That was the newest thing this year. "Oh, well, I think they need to get done quicker. Can't we get them done by the end of September?" I said, "No." I said, "Maybe I can try to get there by the end of October," I said, "but it's tight." I said, "It's really tight." It's a lot of coordinating with the classrooms and where I'm going to be. She's looking at, "Well, do they all need to have their blood pressure? Do they all need to have their vision?" I'm like, "Well, I go by the state guidelines and I do the grade levels that are supposed to be getting that," which I know, and I review every single year the guidelines to see what's changed. I said, "Well, I know the PE teacher can do their heights and weights, but I need to do the vision," and she goes, "Oh, okay."

Social structures influenced interactions between different individuals and groups.

Social structures, school organization structures and political structures were an issue as

this school nurse spoke about the lack of power and authority between herself and other

school nurses in the district, "I'm not the head nurse, but when I say, 'The law has

changed, you need to do it this way,' some of the nurses will respect me, and some will

not. It becomes an issue." Lacking administrative power herself, and without a supervisor

who understands health care, this nurse was frustrated that there was nowhere to go

within their own ranks of school nursing to act as an administrator and enforce new

policies or regulations.

Staying on top of changes in state policies, mandates and regulations that affect

school nurses is difficult. Most districts do not have a designated school nurse

administrator or an administrator who monitors changes that affect school nurse care

delivery. The school nurses report that they believe that school administration receives

the information, but does not share it with school nurses; or believes that the information

is not important to school nurses due to a lack of understanding of their role. In addition, the school nurses were, ". . . very frustrated. They're extremely frustrated that there's not somebody that they can contact to get answers from that really can then send them something like rubber stamped 'This came from the State.'" This leaves the school nurses feeling scared for the safety of their students and staff because they often believe that school administrators do not accept their judgement or interpretation of a health policy, and in some instances, override the school nurse. The school nurses believe that having a higher healthcare authority at the state level would assist in an understanding of the policies and support their role as the health authority in the building.

The administrative structure indicated that school nurses needed to rely on administrative support in order to obtain funding or equipment that they needed. For example, one nurse stated that she requested state-mandated emergency medical supplies and was told by a school administrator, "We're not getting you a second set of EpiPens. We can't afford it." I said, "Wait a minute. Last year, they were free. What's your excuse now?" Another nurse talked about arguing with a school administrator to purchase ink for a printer that came with a piece of medical equipment:

> That's the other thing - the Spot vision tester does have the capability because a printer came with it. Our district won't buy the ink for it. They're not going to buy ink for any more printers. I said, "I have two brand new printers here. You're going to make me purchase a network printer for 300 dollars apiece when I already have two brand new printers and you could go to staples for 20 bucks to buy ink? That doesn't sound like budgetary sense. This is specific to the vision machine. It's not like they're going to use 700 dollars in ink a year. She was like, "Alright let me talk with technology and see if we can get them to approve it."

The school nurses talked about accepted norms and shared values, communication and collaboration, a lack of understanding of the role of the school nurse, and the

provision of safe, quality care. One nurse provided an example of lack of understanding

as she described what she perceived others believed to be the role of the school nurse:

> I find myself saying, "I'm just the nurse." I wish that the parents and the staff understood more of our role. Even if they saw our job description, they would be like, "Really? Because I think it's the catch all."

Another school nurse expressed annoyance that:

> I am not treated like everybody else in this building. I am a bit of a prisoner in my room, but because nurses are so flexible – they are. They look to have the best thing done in whatever job that they're doing.

School community characteristics such as geography, population density,

ethnicity, and socio-economic status, community/population health status, were also

components of the social structures of the school work environment discussed in the

interviews. One nurse spoke of the difficulties of an urban school, because:

> We have many students, over the years that have had somebody in their family has been shot and died. Somebody they know has been shot and died. That does come up way more than we would ever wish on anybody.

Keeping up with changing cultures, and societal norms in the context of health care was

at times difficult. One nurse discussed an area of awareness of the diversity and diverse

needs of the school community:

> We have a lot of families who have foster children now and a lot of families moving into our community. We are becoming more and more diverse so that's a good thing, a good thing for the kids and for the teachers and I think most people are happy about it. I have to broaden my way of teaching so I want to maybe attend a class ... I have been trying to do that. In fact, that was one of the things that attracted me to the October conference. It was a speaker on transgender, bisexual, all the different genders... I thought it would be more helpful to me. It really wasn't. It was nothing that would help me in my teaching and that's what I need to look for for next year maybe.

Another nurse stated:

> Doing it by myself, it's a lot. Especially because at the elementary school I had 220 kids, which coming from a hospital I thought, "Whoo!" . . . I came from

NICU which was four at the most. From four patients to 200 I kind of thought, "Wow I have a big responsibility here." Now I have 600 kids. It's definitely exhausting to say the least.

The findings revealed an overlapping relationship between the school nurse work environment structures, and school nurse role enactment. Each of the components of the school nurse work environment subtheme were intertwined and acted as one entity, rather than acting individually upon the role of the school nurse. For example, one nurse described how legal documents, in this case a Section 504 (political structures and school organizational/system structures), which necessitates a student with a disability receives accommodations to ensure academic success, can be a cause for legal concern and concern about the safety of the student. The school nurse talked about feeling uncomfortable with a parent's desire for a student with diabetes to not "check in" with the school nurse while at school, but must abide with the wishes of the parent and the 504 document:

> The parent says this is what I want. The student has responsibility, the parent has responsibility, and in a court of law, if I got sued because that kid ended up in some sort of diabetic coma, I have to defer back to the fact ... "Here's the 504. You [the parent] signed it. You [the parent] own the responsibility. If I don't see the student, I don't own it." I have to constantly think in legal terms.

The role of the school nurse. Theoretically, school nurses are the health leaders – the health officers of their building and are the administrators of their health office. Very few of the nurses' narratives specifically described themselves as being a leader, or having an administrative or management role. However, each of the school nurses in this study did discuss areas of their professional practice where they were performing a leadership role. School nurses talked within their roles and responsibilities about their role as a health care leader in continuous quality improvement, health education,

delegation, case management, student-centered care, and student advocacy. One nurse

explains her leadership role:

> And so I'm kind of the lead person right now in doing that right now because I've been there the longest, so it's just going over what we do for children, and the state requires to make sure we are doing what the state asks us to do. And so it's making sure we have documents.

Another nurse indicated the need to take a lead role when student safety and care quality

was at risk, "Had I not spoken up and brought it to their attention, they wouldn't have

understood all of the ramifications of it."

The school nurses described areas of their clinical practice and professional

practice that were impacted by a lack of control over their work environment processes

and structures. For example, one school nurse described an experience when confronted

with a lack of support from school administration to create a state mandated emergency

team:

> Technically I should have had a committee or at least another person to work on the whole emergency plan with me, which I asked for. I said, "I really want other people to work on this with me. It shouldn't be just me." I had no cooperation with that.

The school nurse in the school organizational work environment has unique role

and responsibilities unlike any other employee in the school organization. School nurses

are working from a culture of health within an organization with a culture of education.

School nurses carry a great weight of responsibility as they are often the only health

responder in the building, and as such, the first responder who is always ready to attend

to any emergency or disaster:

> Well, it's funny because you go from school nurse mode to ICU nurse mode really quick. He [student] came in, he developed these hives, and I gave him Benadryl, and it just was not-- it wasn't going away. And then he started with, "I can't swallow. I can't breathe right." I didn't have an EpiPen for him. Called his mom up. She came in and I

said, "We really need to call the ambulance." At the time, we didn't have any protocol for ambulance procedures here.

Additionally, their responsibilities may encompass the health and safety of the entire school, including staff and students. School nurses also recognized their role as the health provider who is the safety net for vulnerable students and families in their districts. They provide screening, disease surveillance, and straddle the divide between the school and school community. In essence, school nurses are health leaders and managers without the formal title. This experienced school nurse summed up the role of the school nurse:

> I think there's a ton of things that are important for a school nurse because you're not just the nurse. You're the nurse, you're the counselor, you're the friend, you're the resource, you're the helper, and you're the educator. There's so many different pieces that fall under your umbrella. I really think in a school the nurse is the person who pulls all of those pieces together to get that holistic approach to make sure that that child is completely cared for physically, socially, emotionally, so that they can be the best student that they can be. That's what I think.

Subtheme 2: Control Over Practice

This position of "Caged Leader" then influences how the school nurses talk about control over their practice and role enactment. Despite sharing the same goal of academic success, the school nurses see themselves as contributing to the health and academic success, but are feeling valued for their contribution. In discussing the issues within the work environment and the role of the school nurse in an educational setting, the issue of control over practice emerged. The participants demonstrated a varied perspective about autonomy in their practice where they had control over or decision making authority regarding individual clinical actions and day-to-day practice. One nurse described control over practice in clinical decision making, "Let me assess and decide if an icepack is warranted or medication is warranted or whatever it is. You know? It wasn't for the teacher to decide this. It was for me to decide this." Another nurse stated, "I just think it's

just a great working environment. I can make it my own. I feel like I can work independently well, and I'm respected." This was an area that many participants described as an important characteristic of their job and indicated it was present in their current position.

However, the school nurses described needing something more than autonomy regarding individual clinical actions in their health office. The school nurses talked about wanting to have a say, to contribute to school health issues in the school, and to have control over broader issues affecting their school nurse professional autonomy. For example, influence through decision making at a larger level, such as school or district decision making, state and federal policy-making, and inclusion in local, state and federal committees. One school nurse explains that decisions are made by non-nurse administrators and policy makers, without school nursing input, "There are so many specific things that are health related that a regular building administrator just doesn't understand." Yet, the opportunity to participate in decision making processes, and internal governance policy decisions at the school level seemed to be inadequate, as expressed by one nurse, "We [school nurses] should be part of the superintendent's administrative team." When asked about the opportunity to evaluate, plan and coordinate policies and procedures, one nurse stated, "There are no written guidelines, policies, or procedures for the preschool nurses. Rules change, depending on the day or the person involved." Another nurse described frustration that there was no school nurse representation at the administrative level within the state Department of Education, ". . . there is no state school nurse consultant. I think that's a crime . . . We're so disjointed in this state." Lastly, one nurse stated, "I wish I was more in a position of decision-making

and authority but I'm not." Another nurse talked about wanting to enhance student health,

but felt that the school principal did not utilize the role and skills of the school nurse to

the best advantage:

> I think she could use me a little more. I think she could, I could be involved in a
> little bit more. I'll put out feelers, like if I have someone offering to do dental
> program. Can they come in, its board approved. Can they come in and speak to
> the kids? Like she won't respond, and I kind of assume if I don't hear back she's
> not interested.

> The school nurses saw their job as one with great responsibilities, and themselves

as the only one who must manage it all in an attempt to achieve optimal student

outcomes:

> I'm always afraid I'm going to miss something and I'm going to send a child back
> that should really be going home or maybe should be followed up with their
> primary doctor for further diagnostics, et cetera. You always have to be on your
> game.

They described events and circumstances where they were frustrated, and at times scared

about student safety and legal liabilities, troubled by situations where nursing ethics were

violated, and unable to function or contribute to the health of an individual student, staff

member or the school community due to a lack of control over their work environment.

One nurse stated feeling, "I've never felt so vulnerable as I have here. Not in intensive

care, not home care. I've just never felt that ... it's almost like they're out to get you." A

second nurse described an event where a school teacher witnessed and treated a student

injury, but the school nurse was asked to do the accident report, leaving her feeling

ethically uncomfortable and placing her license at risk, with the required documentation

when she was not the care provider at the time of the incident:

> I've got them [school principals] going to this legal implications of delegating in
> the school setting tonight. When I covered at [School Name] that day there were a
> couple of things that went on that were not really kosher. One student was leaving

the building and they said he was injured. They asked me to do the accident report, which I did, but what happened I guess is they had somebody [non-nursing school personnel] covering, the kid came in, person covering gave ice, and he went back to class but it wound up being fractured.

One nurse shared an experience of lack of control and spoke to the stress of the work environment overall, "I'm mixed about it, like I love my job and I love the kids here and I love the work, but it's very stressful." Another nurse spoke about safety concerns and extra workload when school administration dictated to the school nurses work responsibilities in addition to the regular workload:

> We've just been told, we just got the word last week that we have to cover, and they have a program for fourth graders that is going to last a month and its being done right across the street from us. . . So there's like 50 fourth graders that we have to now go across the street and cover that from 9:30 - 2:30.

The school nurse struggles with the challenges and barriers created from these structures to have control over their practice and manage their practice environment. The struggle between school nursing duties and school nursing standards to achieve optimal student outcomes, to manage it all, creates significant pressure on the school nurse. The pressure comes with consequences in student safety, and school nurse outcomes of physical and emotional stress and job satisfaction:

> I do like what I do. I'm also the type that if I do something I want to do it well. So if New Jersey state guidelines say I have 570 kids and 570 kids need to be screened and every kid with a health issue should have an individualized health care plan and emergency plan. Staff should be trained for Janet's law, EpiPen, this that and the other thing. I feel like I have to have that done, and I don't. And it's not going to be done and I don't like that feeling. That's where some discontent comes from. . .

What control over practice meant to many school nurses in this study was found among all the participant narratives: school nurses described a great deal of motivation to advocate for their students and school community in a variety of ways and worked hard

to support the academic and health success of every student. Yet, they lack the support and resources to truly advocate for their students. What they can control is their own personal interactions with the students. A further discussion of this is found in the integrated section of "My Kids."

Subtheme 3: Barriers to School Nurse Role Enactment

In discussing control over practice the school nurses described areas where they believe they can contribute to student and community health, but experience a lack of control over their work environment. Five barriers to school nurse role enactment emerged: (a) lack of understanding, (b) relationships, (c) workload, (d) safety, and (e) professional development. It made more sense to discuss the factors that school nurses described as facilitators or barriers to school nurse role enactment in its own subtheme, rather than attempting to ascribe a barrier to role enactment solely to one structure of the work environment. School nurses did report some positive experiences in their role enactment. Those experiences are included within this subtheme to provide a balance. However, most of the school nurses spoke about poor experiences.

Lack of Understanding. Two areas emerged from the qualitative data related to this construct: (a) valued status of the school nurse, and (b) fairness.

Valued status of the school nurse. The school nurses described scenarios that depicted feeling valued. They expressed the feeling of being valued in terms such as appreciation and respect. School nurses talked about feeling valued from multiple school and community members: teachers, administration, parents, and school nurse peers. The perception of value appeared linked to a feeling of belonging and being part of a school team. For example, one nurse spoke of how understanding of the role of the school nurse

contributed to trust in the care provided, and shared values in promoting optimal student outcomes, "The principal understands my background, he trusts me, and he knows I'm doing the best benefit for the child." Another nurse added that understanding is, "A slow process and they're coming to understand why it affects nursing and why I need to be involved and why they need our input. I think we're moving in the right direction." Lastly, schools with an understanding of the role of the school nurse show, " . . . more respect. I think it's been a very big eye-opener for other administrators in the district that they never realized how much health services radiate into different things within a school district."

The school nurses described many scenarios and events that depicted what they described broadly as "no one gets it," a lack of understanding. Every school nurse described a pervasive feeling that they are at times undervalued, unappreciated, and not respected. As this school nurse described, "If I was on the floor, they would step over me." Another school nurse stated:

> I'm not just sitting waiting for a child to walk in with an injury, because a lot of people think that's what I do. You know some teachers just think you're there waiting for a kid to walk in sick and throwing up and you're supposed to clean dog poop off of shoes, too, you know?

One nurse explained that a lack of understanding, value and respect for the school nurse role was best represented in this occurrence:

> The security guard brought me this kid's lunch, and he said, "It's your responsibility," because the kid forgot his lunch, "to take it to the classroom." I said, "Do you see me? I've got five kids in this office, they're all ... I've got a diabetic testing, scraped knees, it's recess. I cannot be bringing this kid, 10:30 in the morning, when I'm testing a diabetic, his lunch in his classroom." I said, "That's your responsibility." "No, I'm the security guard. We don't deliver lunch."

Fairness. Fairness was expressed by the participants in terms of equality (equal opportunity) and equity (right or just). A lack of understanding was connected with their perceptions of fairness. None of the participants described scenarios that were indicative of feeling that they were treated the same as teachers in terms of the ability to advance in their career, and feel valued and recognized the same as other school employees.

The school nurses expressed feeling that the ability to grow and move up within the school organization structure was not fair. They described feeling limited in advancement opportunities and feelings of being trapped in their job, "I am stuck in a life where I am capable of many more things, and I can't move on, because I'm stuck in my position." Another nurse stated, "It's not that I don't have fulfillment in my work as a school nurse, but its stifled fulfillment." Not being treated "like everybody else" was commonly stated by the participants as exhibited by this quote, "I think we fall to the bottom of the priority pile when it comes to state law. I think we really have to fight ten times harder for anything than, for example, a teacher."

School nurses in the public school districts are part of the teachers' union with the same contract as the teachers. However, school nurses reported that salary pay grades, stipends or pay for work that extends beyond regular school hours, and taking a "duty-free" lunch were issues brought to the attention of the union, but were not addressed to their satisfaction. Explained one nurse, "I would like to have lunch. Sorry. I think that's the one place where I am not treated like everybody else in this building." Another nurse talked about workload, relationships and lack of understanding when discussing fairness in the work environment:

> Now, lunch has always been a big issue for me here, because there's eight periods. I'm on the same contract as the teachers, but I don't get a lunch or a prep. I've

decided what I ended up doing was telling the teachers, "I'm closed eighth period, so from 1:21 to 2:07, I'm only here for emergencies," but there's always an emergency. Gym is still eighth period, I still have staff members here, I have parents walking in. It's 1,500 plus 100 staff, you know and then I have maintenance guys outside, God knows how many, so that's always a touchy spot for me.

Another area of inequity was obtaining time off for illness, professional development or personal days. School nurses reported that attending a workshop or conference during school weekdays was frowned upon and often not granted. However, a teacher in the same building would be able to arrange for a substitute and attend a conference or workshop:

> There is a nurse who technically will sub for me, but she also works full time in the hospital. She does 12 hour shifts, so she's not always available, so there have been times when there hasn't been any nurse in the office.

Some nurses talked about the hardship it creates on co-workers because there were no substitute nurses; therefore they would come to work ill, or pass up opportunities for professional development, rather than force colleagues to cover their building, "I know especially if I don't have a sub, I know the middle school nurse is pulling her hair out, because she has to cover me. I hate that feeling." Another nurse shared a recent need for substitute nurse coverage, even feeling the need to state "I'm not making this up:"

> But when I took one day off to attend a diabetes conference in October, my co-worker had a sub nurse, and the sub nurse was pulled out to medicate elementary students at lunch time. It's like a nightmare. 1,800 [students] are left with one nurse, and the other sub had to cover the elementary school at lunch time for medications. So, this is our reality. I'm not making this up.

One nurse described feeling, "Far down on the food chain" as she talked about needing to attend a required professional development workshop, but unable to get the time off approved to obtain a substitute:

> Do you want your school to be like an asthma friendly school? There are certain things you have to do. I have to go to like an air quality training thing, things like that. I photocopied it and put it in his pile of stuff, it's like sitting there. Do you know what I mean?

Relationships. Relationships and lack of understanding are social processes. A lack of understanding of the role of the school nurse may come from relationships and relationship building. The school nurses described the ability to establish relationships as sometimes difficult: they are often isolated in the school building and cannot leave their office. One nurse explained that there are opportunities to get together with other colleagues in the building, but cannot attend:

> I can tell you one thing, I don't ... we have some group breakfasts, not breakfasts so much but lunches once a month. They [the teachers] have the lunch and different people will sponsor it, you know to keep things social. . . . I never showed up because I had kids here the whole time with emergencies? So that's one time where I feel, "does anyone care?"

All of the 20 participants talked about the relationships with others in the context of communication, collaboration, trust and relationship building. School nurses described team and collaboration most often about relationships with two data clusters: (a) school staff, school administrators, and (b) parents/guardians.

School staff and administrators. Being a valued member of the school team, supportive and collegial relationships and trust were indicated as facilitators to school nurse role enactment. One nurse talked about the need to collaborate to promote the best care for the student:

> I will then work with them, work with the parent, and the teachers to figure out how we're going to handle whatever it is medically or that kind of thing. The, obviously, give a heads up on some of the other stuff going on. That might be of the household or whatever, too. I don't know. I collaborate.

Another nurse talked about moving to a new school where developing trust and

collaboration enhanced relationship building that helped forge a positive working

relationship in her school:

> They're [school staff and administrators] more approachable now. It's not like the previous relationships I had that I built up for ten years in one elementary school, so for here, I think it takes time but I think the more that they see me interact with students, there's an emergency and they see how I am, I think they'll feel more comfortable with me, . . . and just try to pull connections together with other staff members.

Positive relationships formed through building respect and rapport were also important

contributors to obtaining need resources, "I feel like I've been here long enough and I've

developed a respect and rapport with central office that when I come to them with

something, they know it's because it's a need, not a want." Collaboration, communication

and a positive working relationship were necessary when this school nurse described a

life-threatening injury on school grounds a great distance from the school building:

> I'm running to the student, the principal's running to get his car to drive out to the tennis courts. I go to the secretary as I am running, "911, get the mother." A classroom teacher came, she was right next to me, kept her cool, and kept the child calm, knew what to do, knew what to say. I covered the wound as best I could. Mother pulled in with the ambulance. The timing was superb. Got the kid out of there.

A school nurse, with over 20 years of experience, summed up her perspective on how

professionalism and respect emanates from collegial communication and positive inter-

personal relations:

> So you have to be educated in your practice and you have to be able to express yourself with professionalism. You can't let your emotions, you could be as pissed off and aggravated as you want but you can't let your emotions interfere with your delivery with what you're trying to say. You need to be able to validate what it is that you're trying to say based on administrative code or state law so that you get the respect from those individuals.

Several nurses talked about using their years of nursing experience as one approach to managing relationships. Experience was named integral in developing trust, and as a strategy to demonstrate self-confidence, diplomacy and tenacity, "I had already been a nurse for many years. I do think that's important for a school nurse to already have experience in other facets. I don't think you can come out of nursing school and jump right in." Yet, several school nurses reported that despite their years of experience in nursing, they felt unprepared to work as a school nurse:

> I just feel for the younger crew, or those that are switching over into the profession that there's no real ability to mentor. You're just thrown into the sharks, because half the time you get a job, and it's just you. You have no real resources.

Eleven of the twenty school nurses noted that they were never invited to come to the Child Study Team (CST) meetings, nor asked for input, and felt that the needs of the student were not adequately evaluated without information regarding the student's health provided by the school nurse. School nurses described events when important health information was not shared between the school staff and the health office, and at times creating issues and concerns regarding coordination of care delivery:

> You know a lot of time what we're finding is that we're not being told information because it's confidential, but it's information that my co-worker and I need. A good, a perfect example, was we were told to watch a child in our office, and she stayed in our office, but we weren't told anything about why she was there. But, later we found out when we asked, like why are these kids coming to us, we don't know why, turns out she was a cutter.

> The child study team, sometimes it ... at different times there's good communication and at other times there's not. People's parents die and they don't tell me. I'm like are you kidding me. They [the students] come into the office, I don't know it and I'm telling them to get back to class because I don't know. Sometimes it's better than other times. Sometimes people will think of the nurse and sometimes they don't, even when there's medical stuff.

Additionally, student outcomes were affected as the school nurses struggled to manage it all while attempting to provide optimal care in line with the National Association of School Nurses' goal that, "All students will be healthy, safe, and ready to learn (National Association of School Nurses (NASN), 2016)." One nurse stated this concern regarding student care and student outcomes, when discussing the impact working as a team and communication has on the care for the student:

> I had a student, I got a phone call from a parent, her daughter was just diagnosed with diabetes, she's a 12th grader. Everybody else [other school staff] knew but me so I was like, "Oh my gosh, okay," but I can't get upset about it because there's a total disconnect.

Unfortunately, most of the school nurses voiced that a major factor missing in their work environment was communication and collegial relationships with school administration. The participants portrayed feelings of frustration with communication, using statements such as "fall on deaf ears," and needing to "create a climate of collaboration." One nurse stated, "I think the reason is there's only four nurses when there's hundreds of teachers, so they can kind of just ignore the nurses because there's only four of us. You know what I'm saying?"

Some school nurses also illustrated events where the school nurse communicated a need to follow district and state mandated policies and was met with resistance. One nurse was transferred to another building and labeled "insubordinate" for contacting Child Protective Services:

> The principal and I differed on ways to deal with children and so it became, I had once wanted to call DYFS [Division of Youth and Family Services] for a child, he had gotten scratched in her foster home. And he [building principal] wouldn't let me do it, he wouldn't let me, so I ended up calling upstairs to the assistant superintendent, and waiting for her to come down to rescue me, to let me do this, and she never came to me. She went to this principal, backed him. I got transferred.

A second nurse stated she was passed over for a job change because she was considered a "troublemaker" for bringing to the district budget office concerns about purchasing required epinephrine pens. A third nurse recounted a situation where students' rights were violated when a building principal chose to disregard the district random drug testing policy. All were communicating and advocating for student safety, following state and local policies and heeding the nursing code of ethics, but were challenged and found barriers from relationships with school administration.

Many voiced that the lack of an immediate supervisor or leader who was a nursing professional was part of the reason school nurses were not seen as members of the school team, affecting their relationships with others. The following explanation exemplifies the perceptions of the school nurses regarding a designated nurse administrator:

> I think that they [school administrators and school boards] do a complete dis-service to their health services department not having nurses report to a nurse. There are so many specific things that are health related that a regular building administrator just doesn't understand. It shouldn't be put on an everyday nurse to have to review all the policies and the regulations that come out. They have enough to do in taking care of the day-to-day aspects of the health office. That's more a managerial piece that needs that nurse-specific eye to take a look at it.

Parents/guardians. The role and responsibilities of the school nurse include care coordination, care planning and case management. All the school nurses acknowledged that communication with parents and families were important in providing optimal care for the student. As with school staff and administration, school nurses noted that developing trust was integral to facilitating rapport with parents. One nurse stated that it was important to demonstrate a willingness to work "Way above and beyond for the trust issue, and the fact that you're not just going to be one of these suburbanites that drops in

and then leaves." The same nurse describes that developing trust "Takes a lot of years to

gain access and part of that is being more than your word." Another nurse described that

she established relationships through constant communication to parents and

understanding as a parent herself:

> I do call them. I try to establish relationships with the little kids. My frequent fliers, ... I try to touch base with the parents and just be like, "Just to let you know, I don't know if they're telling you but they come in here every single day at 10:30." I had one kid that just needed to eat more breakfast. I said to mom, "A Pop-Tart isn't going to do it. He needs to have a ham sandwich. Piece of pizza. He just needs more food. They don't have snack here, he needs to do that." I think they realize. And I always tell them I'm a mom too, I'm a working mom, I get it.

> Eight of the 20 participants stated that what would push them from school nursing

was related to relationship issues with parents. One school nurse stated:

> Honestly, the parents are a big thing as far as the nursing part of it . . . I feel like I don't ever really know the right call so to speak. Someone [student] would come for nothing, I couldn't even see. They were like, "Oh my finger hurts." I'm like, okay, I put a band aid on. Send them out the door. I get a phone call from the principal the next day, the parent complained, "You put a band aid on and you didn't call, they're very upset."

Another school nurse described verbal abuse from parents:

> Sometimes they are yelling and screaming at me because they're upset and angry because their child is sick with a chronic illness and they're frustrated and they're taking it out on me. I know they say you shouldn't let them do that but usually we work things out. That part can be difficult. There's difficult parents everywhere.

> The school nurses described situations where language and cultural barriers made

it difficult to establish a relationship and communicate important health issues as this

school nurse describes the difficulties with getting communication in the appropriate

language:

> I might have the chance to have the family worker talk on the phone [with the parent] and make sure she's telling the right thing. I either wait because they're speaking Spanish ... and then the note itself gets translated on the other side in Spanish so we're hoping that it's all translated.

 Additional workload and time was also an issue in families where language or cultural obstacles existed as the school nurse worked to help the student and family with health needs such as obtaining health insurance, coordinating care needs, and locating primary care providers.

Several school nurses expressed fear of a lawsuit brought by parents. As one nurse stated, ". . . I've never felt so vulnerable as I have here." The nurses talked about elaborate and time-consuming methods of ensuring communication from the school nurse office was received: notes home with the student in triplicate, documenting every phone number and email used to contact a parent/guardian, running a webpage, and "documenting, documenting, documenting".

Workload. This category received the highest number of coding in the participant interviews and was the most frequently cited issue when school nurses were asked, "What would drive you away." "I would be gone. I would be if the ratio, like at the [School Name] school, I would be gone. That workload is – it's not manageable." Workload was a major concern for fourteen of the twenty participants. School nurses described knowing peers who work in buildings with large workloads and expressed feeling "lucky" that they do not have to work in that type of environment. One nurse stated that she feels that she is able to accomplish her job responsibilities due to a lower workload:

> In my old job I would see 50 kids in one day. Now that I have gotten used to doing things the right way, being able to do care plans, I have care plans on all my students, I think I have everything in place that you are supposed to have in place.

Another school nurse talked about being "lucky" to teach health education classes, "I am also lucky to teach the health curriculum in our K through 5th grade

classes. I think school nurses should continue to advocate for more opportunities to teach in schools." The word "lucky" was used over 10 times to describe the ability to practice more fully the scope and standards of the school nurse, due to a manageable workload. Therefore, they were able to meet the expectations of the role that includes not only task-oriented functions of daily health care, but roles as educators, leaders, quality improvement and as a community health/public health nurse.

The school nurses described the top three workload barriers as (a) not having enough staff, (b) large caseloads, and (c) not having enough time to spend with students. The school nurses who reported workload as a substantial concern represented all areas of the state and student populations. Words used to illustrate the workload in the school nurse office were metaphors such as: "a flood of kids", "a revolving door" and a constant "conveyer belt" of students. When describing themselves, one nurse stated that she needed to act like the "energizer bunny" in order to handle the workload.

The workload issues outlined by the participants were significant and indicated student safety issues and potential poor student outcomes and school nurse outcomes. One nurse talked about the challenges of working in a large building, with no hope of getting extra staff:

> You're within a rock and a hard place that way, because then they don't ... To me, it seems like the only way they'd probably ever make a change is if there was, God forbid, some kind of lawsuit or something. You know, as the school nurse, you're not going to let that happen, you're going to be diligent and do everything you've got to do. I know every district's different, but here they're not going to get a second, yeah.

Another nurse described feeling overwhelmed and considering the need to leave, "I don't know, there are some days that I feel like, how much longer can I do this, at this pace, like at this level of the volume, and the amount of responsibility?"

Universally the school nurses expressed that their workload has increased, and felt pressure from a continual increase in students with complex health care needs that required significant medical interventions and behavioral and mental health needs, "Students are needier not just for physical care but for mental health support." Many noted that student enrollment (caseload) numbers continue to increase, without increases in staff or resources, "I don't know, I just know they won't give me a second nurse, so I know that that would probably mean me looking for another job. It falls on deaf ears."

The mental and physical toll workload played school nurse and student outcomes will be addressed separately in the outcomes section.

Safety. In this study, safety was described in the context of having the available staffing and equipment resources: (a) manageable workloads, (b) preparation for emergencies, "We know what we need to do. We know where to get the equipment we need," (c) current, evidence-based policies and procedures, "school nursing requires a supportive administration that understands the legalities, policies and procedures of nursing care," and (d) budget and access to resources, "I don't have budget constraints. If I need to get something, I can buy it. We had to get an extra AED, that wasn't an issue. I just ran out of splinter removal things and-- I just can go and get them."

The school nurses talked about needing to be prepared for all possible emergencies. This meant having the staffing and resources to, "Be proactive rather than reactive." Yet, many school nurses reported when asking for needed equipment or supplies they are told, "We do not have the money." One nurse stated, "There is not enough money in the budget to provide all the necessary services and have all the

necessary equipment. We are always forced to cut corners because of monetary constraints."

Six of the 20 school nurses interviewed used the word "scared" to describe managing care needs and balancing safe care provision. One nurse talked about a feeling of "putting out fires everyday", and "…just praying that nobody would go home not the way they came to school, and it was pretty scary actually." Further, this same nurse described that, ". . . it was pretty traumatic and scary and I had a lot of crazy things happen." Many felt that the system was to blame, with no end to the cycle of chronic workforce shortage and an increasing workload. For example, one nurse talked about school budget constraints related to school nurse staffing and the workload of the school nurse, giving a very vivid explanation about the consequences of a missed or late medication due to staffing needs:

> This is a complete unsafe situation for the student, because you know what? If that child died, you'd [building principal] be upset, she'd [school nurse] have to live with it because the child died because she didn't administer the medication on time.

Another school nurse spoke of the emotional stress and unsafe practice of covering other school buildings, "I feel most stressed when I am made to cover schools for nurses who call out. I do not know the staff, students, families etc. It feels like a very unsafe practice and yet it happens very often."

All of the school nurses reported they contributed to the state required district annual report that details certain chronic diseases and physically disabled students in the school building. However, they expressed a need to illustrate in more detail the student health needs and care required, "My biggest concern really is because our schools today

are keeping so many more high acuity students within the public school system that there's so many more things than just the day-to-day illnesses."

Professional development. This section presents findings related to professional development within the context of clinical competency and professional practice/performance evaluations. The school nurses in this study talked about student care quality related to the use of evidence-based practice. Evidence-based practice and clinical competency have professional development as their foundations.

The school nurses reported that the best school nurse is one who understands that standards of professionalism are part of the role and responsibilities expectations, "you really have to have ownership of your position." However, ownership of the position was difficult to operationalize. The school nurses in this study described access to professional development opportunities were often limited, impacting their role enactment. For example, these nurses stated that the mental health and behavioral health needs of the students was increasing:

> I didn't realize this when I got into school nursing, but a lot of the job is more than nursing. If you want bedside nursing, where I came from, this is completely different than that. It's a lot of psychosocial, it's a lot of behavioral health. It's a lot of referrals.

Another nurse expressed helping students "as best as you can," but needing more support with behavioral health and mental health training:

> It's horrible when you hear their stories but you tell them, you help them as best as you can and say, "You are better than that, you can be better. You just got to keep working and surround yourself by the people that care about you and keep coming to school, keep doing what you have to do, come down here to decompress, come chill out and get yourself together and get back in there." Mental health has become such a big part of I think a lot of school nurse's roles and I feel like we, as a profession, need more support in that area.

Clinical competency was cited frequently as nurses discussed use of evidence-based practice guidelines, and participation in professional development. One nurse explained, ". . . I would usually take two days a year and go to some kind of conference to learn and grow." Membership in professional school nurse organizations, at the local and national level were also important, "I belong to my association, [Name] County Nurses' Association. We also have continuing ed. now at our meetings once a month so you can get continuing ed. there." Obtaining the information, knowledge and skills were important in school nursing practice, ". . . like the more education you get, the more it helps to like handle or deal with student issues."

Nurses delineated the top skills needed for the role: clinical skills, previous nurse work experience, ability to work autonomously and being organized. One nurse called assessment skills, "The bread and butter of the school nurse." Additionally, "I think you need to be independent, but you're not independent, but you're independent," was stated by another nurse. Previous nurse work experience was also important, especially in terms of critical thinking skills. One nurse spoke of the desire to be a school nurse at graduation from nursing school, but recognized that developing clinical skills and critical thinking skills were important in a job where one works autonomously:

> I knew that's what I wanted to do but as you go through [nursing] school, everyone's like, "Oh, you have to work in the hospital first. You have to do med-surg, you have to get your feet wet," which is true.

Prior work experience as a public health nurse helped this school nurse:

> What helped me before I went into school nursing I was a public health nurse, so I functioned independently in the community on my own. Physical assessment is so important. Like heart, and you know lung sounds. Wound care, . . . like dressing changes. The assessments, the ears, the throat, all the time, the sore throat. . .

While most school nurses described access to professional development courses and workshops, others felt limited, "Because we only get two professional development days a year. To really grow professionally, personally, professionally, I had to find a way to do it not at school, which is sad, because there's nowhere to grow." School nurses work outside of a medical environment where health-related trainings, education and workshops are readily available. Another school nurse stated to meet her learning needs she recognized:

> As a school nurse, you usually don't work with another person. So, you're it. You don't have anyone else to ask. . . I take a lot of education courses, on the side, on my own.

The participants also indicated that recent state Department of Education changes in teacher performance evaluations had included school nurses' performance evaluations. Most of the school nurses reported that the change in performance evaluations was a positive for their profession as the annual evaluation required that the school nurse develop Student Growth Objectives (SGOs). The SGOs required school nurses to examine an area within their work environment where they could improve student health and demonstrate their effectiveness. For example, one school nurse spoke about how SGOs improved vision screening in one school:

> One of my nurses, she's doing her SGO on the validity of the vision screener; the diagnosis that the vision screener gives you compared to the diagnosis that's returned on the referral form and so far, she's gotten 12 referrals back, 11 out of the 12 have come back with the exact same diagnosis [from the eye care professional] that we've put on the referral.

Conversely, other school nurses did not see SGOs as a plus to the profession, indicating that it was "another hoop" they were being asked to jump through, "The evaluation process changed last year with the introduction of SGO's, student growth

objectives. Now, what happens is Governor Christie has us jumping through this particular hoop to prove ourselves, as he does teachers. We are lumped in with the teachers."

Many school nurses felt that the school organization system contributed to inappropriate and ineffective performance appraisals, "It's probably not best practice. They [non-nurse administrator] wouldn't know what to look for, they don't know what to look for in terms of even charting or how I do things, even if it's wrong." Along with a much desired request to be supervised by another nurse or healthcare professional, school nurses also voiced a request that performance appraisals be done by a healthcare professional. The school nurses reported being evaluated by different levels of school personnel evaluators: history teacher, physical education teacher, vice principal, principal, special services coordinator and a nurse supervisor:

> We don't have a nursing supervisor, so, in my 20 years I've been observed by science teachers, and history teachers, and, health and phys. ed. supervisors, and now, I am observed and evaluated by a vice principal, that was a former phys. ed. teacher.

Another school nurse reported frustration with evaluations by a non-nurse administrator:

> I would like to have a nursing supervisor. I don't understand why they don't just say, "Pick one," or say, "Okay, you've been here the longest," however it would work. That would make more sense to me, but they don't do it that way here, I don't know why. It's always been an administrator, you know, the head of guidance.

Many school nurses described being evaluated by a non-nurse administrator while teaching a health education class, a component that does not comprise their usual work, and being evaluated using a teachers' rubric. One nurse stated exasperation with being evaluated while teaching a health class:

What I do five days out of the year is- and for 40 minutes, you're going to base my evaluation on, and not what I do the other 175 days out of the year, which is my true nursing job?

They explained their desire to be evaluated by an individual who understands healthcare and their role. The school nurses used words such as "respect" and "value" for their role would improve with an administrator who understood their role and evaluation criteria was based upon school nurse standards of practice. Most school nurses held the view stated by this school nurse regarding performance evaluations, "My evaluation is done because I'm talking very nice to you and you see how one interaction is with one person, and that's not sufficient." One school nurse supervisor, who does performance appraisals, affirmed the performance appraisal process when done in collaboration with the school nurse by a nursing administrator:

> The observations, I can't tell you how thankful they are with the feedback. It validates their practice. It validates what they do and if there's areas where they need to grow we talk about that too and it's a conversation. We come up with the next steps together. Okay, you've done this so far, it worked well. How can we make it better? What can we do next time that's going to increase the quality of practice and increase the effective use of your time? It's a conversation we have together. Unless there's something blatant that I need something that I say that they have to do, it's always a corroborative discussion where we come up with a plan to move us to the next step.

Subtheme 4: Outcomes

The final subtheme, outcomes, illustrates how the school nurses described the consequences of the school nurse work environment on nurse outcomes and student outcomes.

School nurse outcomes. The school nurses described events and scenarios indicative of positive or poor school nurse outcomes throughout their interviews. Indicators of positive school nurse outcomes were statements that described positive job

satisfaction: feelings of value, support, respect and considered a member of the school team. Poor outcomes were statements that described consequences of a poor work environment. Examples of words school nurses used when talking about poor work environments were, "exhausted," " stressed", and "burned out." Two questions in the semi-structured interviews explored the school nurses' perspectives of the work environment, What keeps you here?; and, What would push you away? Represented in this section are areas not previously addressed that demonstrated school nurse positive or poor outcomes.

School nurses described how the work hours are different from hospital acute care shift work which requires 12 hour shifts, and working weekends. They liked that their role responsibilities allow for summers off and no weekend work hours. Several nurses mentioned an oft repeated joke when asked what keeps them in the role: "June, July and August", referring to the school summer vacation period. Also noted was the difference in stress, "I can have stressful days here, but it's nothing like a 12 hour shift in the hospital." The working hours benefit was also mentioned as supportive to the balance between work life and home life. One nurse explained, ". . . I can actually get them [own children] on the bus and still make it here within the seven-minute late time that they allow us." School nurses also reported that the role responsibilities were different every day , therefore, "I will never be bored here." Salary and benefits provided rewards in combination with a rewarding job, as one nurse put it, ". . . let's do something we love and get paid well for it." Another school nurse reported that what keeps her in the role is it, "Allows me to be independent and work autonomously. I can utilize other school

nurses, NASN and workshops to further my knowledge base. It's nice to work

collaboratively with others. The students benefit from that."

For all the school nurses, the overall goal of student health needs was to provide

safe, competent, and evidence-based care. As their primary role responsibility, the

participants described the personal satisfaction they perceived when providing for the

health needs of the students. The school nurses explained that it is, ". . .frustrating but

also rewarding. I really want to work in a school, and work with kids in a school. It's

different than in a hospital." The personal satisfaction most often mentioned was "making

a difference" in the lives of the children, whom they often referred to as "my kids." Some

examples of the statements were:

> I like knowing I make some kind of contribution and difference in the lives I
> touch; and, It's wonderful that you can make the difference that you've made, and
> I'm sure that we never know how all the lives we touch have been changed.

Others talked about finding personal accomplishment through advanced graduate

degree certifications or graduate degrees. Some school nurses would continue their

education to obtain an advanced degree beyond the minimum baccalaureate preparation

or take continuing education course to obtain additional certifications, such as a Sexual

Assault Nurse Examiner (SANE). Applying for grants, developing nutrition

interventions, starting a student book club and social justice projects were also

mentioned. One nurse even stated that she had returned to school to get her Masters'

degree in education, looking for acceptance from non-nursing school staff:

> I got a Master's in Education because I thought that it would help me to
> understand my teaching colleagues better. . . I felt that it would help me to be one
> of the guys, if you will because it is a different mindset. Teachers think
> completely differently than nurses do. Nurses are problem solvers. They want to
> see the highest good. Not that a teacher doesn't, but a teacher needs certain rules
> and you stick by those rules and that's how the problem is going to be solved.

There's just a different way of thinking. So I thought that by pursuing a Master's in education that I would be more readily accepted in this environment.

Unfortunately, some school nurses perceived themselves as expendable, and not valuable actors in the school mission of academic success. Regrettably, the participants were not specifically asked in the interviews whether they had an intent to leave. Several participants did share that they had left a school nurse position to go to another district or a different school in the same district due to job dissatisfaction issues. One school nurse disclosed having left a school, when asked, what would drive you away:

> What would drive me away? Well, uh, not having a supportive administrator, which in my prior school, was definitely an issue. And, um, I did ask to leave a school, because there wasn't that support. And, that saddened me, but that was something that I knew couldn't change, despite my trying to educate her, and, uh, you know . . .

It is also possible that school nurses who describe positive rewards, may still have other areas of dissatisfaction causing turnover. Additionally, individuals may stay in the role, despite job dissatisfaction. Given the descriptions of poor work environment events and conditions, it is interesting that 11 of the 20 school nurse participants in the interview component had been a school nurse for over 10 years.

Some school nurses did explain the deleterious effect the school nurse role has had on their physical and emotional well-being. School nurses were experiencing stress from many aspects in the work environment. The stress of workload, lack of substitute nurses and covering other buildings were the top three areas in school nurse stress. "You really do need to unplug-- if you're giving that much to your job, your batteries do have to be recharged." Another nurse detailed needing a "10 minute mental health break:"

> I guess I didn't get any recognition for all that was done, she wasn't that kind of administrator, not that I need a lot of patting on my back at this point in my life, I don't need that. But, she didn't recognize any of the good things that were done.

And, she would, when you would go to close your door to have lunch, try to have like 10 minutes of quiet, she would open the door and have the child be seen by you, and, I knew in my heart, I just needed like a 10 minute mental health break, but she would send the child in, you know when you were trying to have 10 minutes quiet.

With little opportunity to "unplug" and "recharge" or have "10 minutes of quiet," some of the school nurses described unhealthy outcomes of the stress such as being physically and mentally exhausted and having "nothing left" at the end of the day, leaving them feeling unable to care appropriately for their own families, "The symptoms of being unable to give any more and the symptoms of the ajida stuff and all that, but you know, that's all internal." Another nurse stated having difficulty deciding to move to another building in an effort to decrease stress at work, "I have to decide if I'm going to make this move or not because I do have seniority that I can maybe go elsewhere, so I don't know. I hate starting out again. I think I'm walking into hell."

Work engagement was another area affected. Several school nurses talked about "the school nurse from the black lagoon" who had a poor attitude towards caring for the students. This school nurse was described as someone who "did next to nothing" and would immediately send students back to class without fully addressing the student's needs "get back to class, you're not sick, you don't need to be in here." One nurse explained that a school nurse who was not engaged in their work becomes complacent, and was not practicing holistic care of the student, "I liked to take the time when I was in an office setting to listen. Maybe there's more than just a stomach ache."

The toll on the nurse was described as "exhausting" both physically and mentally. Without exception, the school nurses described the distress they felt when care was compromised in general, and specifically in respect to students who had mental or

behavioral health issues. The frustration at not being able to provide the best possible

care resulted in school nurses feeling their attitudes and behaviors at work were impacted.

One nurse stated, "I became like this militant school nurse. Determined to make it

through…. In other regards I really paid a personal price for it in terms of burnout or

compassion fatigue." Another nurse provided a first-hand experience account of how

safety issues can cause school nurses great emotional, mental and physical stress:

> It's awful. I mean it's really awful. If you want to be responsible and do your work
> and then this nurse doesn't come today and then you have to be pulled from where
> you are to go to a building that you don't know. I don't know those kids. It's
> almost like it's ... It feels ... It doesn't feel safe and it's not safe.

The school nurses also felt that public perception has been impacted, and believe

they are portrayed as ". . . such villains now with the pension fights that go on in Trenton

[state capital], that we're greedy."

Student outcomes. Positive student outcomes were described by the school

nurses as the outcomes that indicated student achievement, that the student was in school,

healthy and ready to learn. No school nurse described a poor student outcome such as

death or severe bodily harm. However, the school nurses did talk about the fear for

potential poor health and education outcomes as the struggled with role enactment

barriers.

Positive student outcomes the school nurses described that influenced health and

readiness to learn were in examples of students successfully managing their chronic

disease care, "I'll show the student, "This is your asthma action plan. This is what doctor

means," and I'll have the student begin to realize, 'ah, yes, now I am feeling better.'"

Individualized Health Care Plans (IHPs) goals were met, and students were in the

classroom ready to learn, "Trying to bring all these other pieces that are health related in

to make the learning experience possible." Positive student outcomes go beyond taking

care of injuries and illness in the office as this nurse explained,

> I want others to know all of the behind the scenes stuff past the first-aid. How about all the counseling that you do? How about the communication with the parents or providing them with education and community resources and outreach; and you're noticing the kid that comes to school every day with the same clothes on. Providing them what they need, do they need to be hooked up with the township and the foodbank or the clothing shelter? Are they somebody who's not getting health care because they don't have the finances? Do they not have school supplies? We get donations through the church. Let's set them up and they can come shopping, make it like a positive experience for them.

Student outcomes were compromised when necessary resources or medicines

were not available, and workload did not allow the time to create Individualized Health

IHPs or Emergency Care Plans (ECPs). Protecting the school and the wider community

was discussed as an area within their role and responsibilities. School nurses talked about

writing IHPs and ECPs, reviewing health records to find and detect issues that are

sometimes not shared, monitoring immunizations, performing disease surveillance and

examining trends, and acting as the first responder.

One nurse described the emotional stress, "For instance I have numerous students

with food allergies but no documentation, no action plans, no medication, not even parent

phone numbers. These are the kind of things that keep me up at night!" Additionally, the

school nurses were concerned about their workload and the great amount of time writing

IHPs, ECPs, and reviewing health records took. They described challenges in obtaining

the needed health records and information from parents/guardians and other healthcare

providers to write care plans. The care plans are important as they describe the role of the

school nurse and other school staff in the daily and emergency healthcare needs of the

students with special care needs. These special care needs range from asthma action plans

and life-threatening allergies to students with chronic disease such as diabetes and sickle cell disease. Not having vital health information caused school nurses unease about the ability to prepare and respond appropriately in an emergency:

> Now, again, this is what can drive you crazy in school nursing. You send out so many letters at the end of the school year and the beginning of the school year, and you say it at Back-to-School nights. "Please, I'm not looking for any private information on your child, but should you feel that I, the nurse, needs to know anything, please call me. Email me. Stop by. Any time you think they need Benadryl and EpiPen, just let me know that so I have it on my record," because I keep records of all that. Never hear from those parents.

A heavy workload caused some nurses to commit errors, such as miss medication administrations and to not appropriately monitor some patients as closely as they would like, "I've had parents yell at me and scream at me and sometimes I've made mistakes." The school nurses described "cutting corners" that caused some "near misses" in harming a student through taking short cuts, not doing things properly, fully, completely, or not following a protocol or procedure. Medications were missed, procedures forgotten or done hastily without regard to protocol, "If I made an error, it's still -- everything is still there. You can't go in there and say, 'Whoops,'" Training emergency lay-person delegates was not done, "For me to just get my blood borne pathogens and asthma training for the staff, it's like when is there time for me to do that? There's never any time for me to do that. I feel like I'm a bother if I'm going to try and do that."

School nurses were troubled by the students with mental or behavioral health needs for a variety of reasons. First, they noted that there has been an increase in the students who have mental and behavioral health needs. Nurses indicated that lack of enough school support staff, such as guidance counselors, and teachers or other school

staff did not know where else to send the student resulted in students coming to their office:

> We have a lot of chronic illnesses and also mental health. A lot of times the kids come in for mental health issues. . . I've seen kids with depression and we always involve our school psychologist is here four days a week and we only have a social work one half day a week but I always bring her in on it. . . I know she always likes to be involved in that. She also in charge of the school psychologist, so if there's a bullying incident, I always bring her in on that, pass that on to her actually because she takes care of that. We've had kids who cut themselves. We've had all the issues through the years but I always bring parents in.

Many noted that they would like to obtain more knowledge and training on how to best meet the needs of these students. They expressed a desire to help the students, but were most often focused on the needs of all the students in the office, and that they did not have enough time to adequately address what may be going on with the student:

> Sometimes we talk to them, but a lot of time we're just so busy that we've already figured what their issues are. But, a lot of times, like, we have to talk to them as a counselor, sort of, and then decide if they should go to guidance, their guidance counselor.

Another nurse vented her frustration, "I'm a school nurse. I wish I had counseling, I wish I was a psychologist." While not specifically voiced, it was felt from the tone of communication that many school nurses may have beliefs that perhaps they could have made a difference in the student mental health outcomes, but were inadequate in some manner. This school nurse talked about a student suicide:

> It was hard, and again I don't know why it happened. I don't know, but I said, 'That's not the girl we knew. The girl I knew would have never done that, so something happened.' Living through that was very difficult. That's why I look at these young ones today and I'm going why are you ... Why are they so stressed out?

Summary

The majority of school nurses spoke of feeling constrained in their ability to provide services and of the tension created in what they believed they could potentially provide. The above themes conveyed their frustrations of not having control over their practice, and to make a difference in the needs of the students. The school nurses indicated they were usually able to provide a minimal level of care, but in many cases could not adequately or comprehensively address the holistic needs of the student due to constraints from the work environment, "Because let's face it if you have 1,400 students and you're here by yourself you've got to prioritize and you do what you can do."

Interesting, and almost without exception, when school nurses reflected upon their work, they pronounced that they loved their job, "You have to love it to put up with this." This seemingly paradoxical and oxymoronic statement will be explored in more detail in the mixed methods analysis section. One nurse reflected on the delicate balance between job stress and the professionalism school nurses demonstrate with their students:

> That I want to treat each child the way I would want my kids to be treated in school. If I always keep that in my mind then no matter how stressed out I am or how irritated I am I keep that in my ... I also say if they're not going home the way, if they're looking differently going home than they came to school, I need to know. I need to see them. I get called a lot.

One school nurse believes that there is hope and opportunities that exist in school nursing because school nurses are, "Trying to bring all these other pieces that are health related in to make the learning experience possible. I think we're finally starting to shine a light on that because it was never really something they considered."

Chapter 5
Quantitative Findings

This chapter describes the quantitative findings of the Maslach Burnout Inventory- Human Services Survey (MBI-HSS) and the Areas of Worklife Survey (AWS). Quantitative methods were used to measure and explore associations among a sample of 100 New Jersey school nurses using the MBI-HSS and the AWS. School nurses in this study were asked to complete two questionnaires. The AWS was comprised of scales to measure their general nurse work environment using a 28-item questionnaire which included six subscales: workload, control, reward, community, fairness, and values. Perceived levels of burnout were measured using the 21-item MBI-HSS which included three subscales: Emotional Exhaustion (burnout), Depersonalization, and Personal Accomplishment. Two research aims were explored in this chapter, aim 2, is school nurses' burnout and job satisfaction dependent upon organizational influences; and aim 3, what is the relationship between school nurses' levels of burnout and their perceptions of barriers that prevent them from professional role enactment.

Descriptive statistics are presented in the first part of the results, which include the demographic profile, instrument psychometrics, comparison of the study sample to the normative sample, and the prevalence of burnout. Next, inference statistics describe the findings for research aim 2 and research aim 3. The last portion of the findings outlines the responses to the open-ended questions within the context of the six subscales of the AWS.

As suggested in the research literature, the MBI-HSS Emotional Exhaustion subscale was used as the measure for nurse burnout (Bakker & Costa, 2014; Gregory & Menser, 2015; Lizano & Mor Barak, 2015). Work environment influences in this study

were measured through the responses to the AWS subscales of workload, control, reward, community, fairness, and values. Job satisfaction was measured through job-person match congruence in the AWS subscales with scores ≥ 3.0 suggesting positive job satisfaction, and levels of Emotional Exhaustion (burnout) from the MBI-HSS scores $\leq$ 17, suggesting zero to low levels of burnout (Lu, Barriball, Zhang, & While, 2012; Poghosyan, Aiken, & Sloane, 2009). School nurses' perceptions of barriers were measured by the AWS subscales that indicated an incongruent job-person match (scores ≤ 3.0). Lastly, as discussed previously in the methods analysis section, the AWS subscales were combined to create one total score, Worklife Total, as a proxy for the nurse work environment characteristics of poor, mixed and good work environments.

Two optional open-ended questions at the end of the survey were available for participant responses: (a) What would you change in your work environment to give you greater satisfaction? (n=39); and, (b) What would you like us to know that we haven't discussed? (n=42). These questions allowed the participant to add further information to the survey responses. Responses were coded for preliminary evaluation using NVivo software according to the definitions of the Areas of Worklife Survey six subscales: workload, control, reward, community, fairness and values.

Further evaluation of the open-ended responses are discussed in the mixed-methods analysis. Findings from the quantitative analysis are integrated with the qualitative findings in Chapter 6.

Demographic Characteristics

Table 5.1 displays selected demographic characteristics of the school nurses, including the organizational characteristics of the school in which they worked. Appendix A gives all the demographic characteristics collected in this study. All 100 participants were female, approximately 51-60 years of age. Forty-eight percent of the school nurses worked as a school nurse between 11 to 20 years. Sixty-three percent stated their number of years as a Registered Nurse was over 30. The majority of the school nurses were employed in a public school district (94%) located in a suburban area (81%), and worked in an elementary school (57%).

Table 5.1
Selected Demographic Characteristics of all MBI-HSS and AWS School Nurses

Nurse Characteristic	Frequency	Percent
Age (years) *n*=97		
≤ 30- 40	3	3.1
41-50	19	19.6
51-60	56	57.7
≥61	19	19.6
Race/Ethnicity *n*=100		
Non-white	4	4.0
White	96	96.0
Educational level *n*=100		
Bachelor's degree	41	41
Master's degree in nursing	57	57
Doctorate	2	2
Location of School *n*=100		
Urban	12	12.0
Non-urban	88	88.0
Years as School Nurse *n*=99		
1-10	28	28.3
11-20	48	48.5
21-30	18	18.2
31-36+	5	5.1
Student population served (more than one may apply) *n*=100		
Head start/Pre-K/nursery	30	30.0
Elementary	57	57.0

Middle/Jr. high	26	26.0
High School	26	26.0
Special education	36	36.0
Alternative	3	3.0
Other	1	1.0
Number of students served $n=100$		
250 or fewer	17	17.0
251-500	39	39.0
501-750	18	18.0
751-1000	9	9.0
1001 or greater	17	17.0
Number of buildings serve in usual week $n=97$		
1	87	87.9
2 or more	12	8.1
Percent free/reduced lunch students n=99		
< 10% - 19%	55	55.6
20-39%	21	21.2
40%+	23	23.2

Statistical Description of the Variables

Descriptive statistics were used to display demographic data on the school nurses.

Table 5.2 presents examples of questions from each subscale of the MBI-HSS and AWS.

Means, standard deviations, skewness, kurtosis and ranges are presented for the

dependent (MBI-HSS) and independent (AWS) continuous variables (Table 5.3).

Frequencies and percentages are presented for categorical variables. Where data was

missing, no values were imputed. Next, correlations between the variables were

examined. The measures were tested in relation to levels of school nurse burnout. In

addition, the measures were evaluated in terms of their contributions in predicting

burnout.

Data were analyzed using SPSS 24.0. Statistical significance was set at $p<0.05$

level. Descriptive statistics were analyzed for skewness and kurtosis and analyses were

conducted to confirm the data met assumptions of linearity, multicollinearity and

homoscedasticity. Scatterplots and Normal *P-P* plots were used to confirm the linear

relationship between the independent and dependent variables, and Normal *P-P* Plots and

scatterplots of the regression models suggested the data were normally distributed.

Therefore, since the variables met the assumptions, parametric testing was conducted.

Table 5.2
Examples of Items from MBI-HSS and AWS

Survey	Subscale	Item
MBI-HSS Subscales	Emot. Exh.[1]	1. I feel emotionally drained from my work.
	Depers.[1]	4. I can easily understand how my recipients feel about things.
	Pers. Acc.[1]	19. I have accomplished many worthwhile things in this job.
AWS Subscales	Workload	1. I do not have time to do the work that must be done.
	Control	8. I have professional autonomy/independence in my work.
	Reward	11. My work is appreciated.
	Community	16. Members of my work group cooperate with one another.
	Fairness	22. Management treats all employees fairly.
	Values	25. My values and the Organization's values are alike.

[1] Emot. Exh.= Emotional Exhaustion; Depers.=Depersonalization; Pers. Acc.=Personal Accomplishment.

Table 5.3
Distribution of independent and dependent variables

	MBI-HSS Subscales			Areas of Worklife Subscales					
	Emot. Exh.[1]	Depers.[1]	Pers. Acc.[1]	Wrkld.	Control	Reward	Comm.	Fair.	Values
Skewness	0.65	1.47	-2.12	-0.01	-1.03	-0.47	-0.79	-0.14	-0.28
SE	0.25	0.24	0.25	0.24	0.24	0.24	0.24	0.25	0.25
Kurtosis	-0.41	2.41	6.86	-0.56	0.82	-0.26	0.54	-0.58	-0.07
SE	0.49	0.48	0.49	0.48	0.48	0.48	0.48	0.49	0.49
Participant's Scores	0.00-49.00	0.00-25.00	11.00-48.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-4.70	1.50-5.00
Possible Score Range	0.00-54.00	0.00-30.00	0.00-48.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00
Mean	18.13	4.30	41.50	2.99	3.81	3.34	3.76	2.92	3.50
SD	12.09	4.87	6.08	0.98	0.94	0.99	0.84	0.81	0.81
Median	14.50	2.00	42.00	3.00	4.00	3.50	4.00	2.80	3.50

[1] Emot. Exh.= Emotional Exhaustion; Depers.=Depersonalization; Pers. Acc.=Personal Accomplishment.

Dependent Variable

MBI-HSS subscales: Emotional exhaustion. To determine the levels of

experienced burnout, the Emotional Exhaustion (burnout) subscale indicated that 54.2%

(*n*=44) scored within the low burnout range, 18% (*n*= 17), scored within the moderate

burnout range, and 28% (*n*=27) scored within high range. Scores on the Emotional

Exhaustion subscale of the MBI-HSS ranged from 0.00 to 49.00 (*M* = 18.13, *SD* =

12.09). Scores of 27 or higher on the MBI-HSS indicate high levels of experienced

burnout, 17 to 26 indicate moderate burnout levels and scores of 0 to 16 indicate low

levels of burnout (Maslach et al., 1996; Maslach, Jackson, Leiter, & Schaufeli, 2016).

MBI-HSS subscales: Depersonalization. Seventy-seven (*n*=76) percent of

school nurses scored within the low level of the Depersonalization subscale, 16% (n=16)

scored within the moderate range, and 7% (*n*=7) scored within the high range. Scores on

the Depersonalization subscale ranged from 0.00 to 25.00 (*M* = 4.30, *SD* = 4.87). Scores

of 13 or higher on the MBI-HSS indicate high levels of experienced burnout, 7 to 12

indicate moderate burnout levels and scores of 0 to 6 indicate low levels of burnout

(Maslach et al., 1996).

MBI-HSS subscales: Personal accomplishment. Lastly, the Personal

Accomplishment subscale findings indicated that 81% (*n*=78) experienced a low level of

burnout, with 13% (*n*=12) experienced a moderate level of burnout, and 6% (*n*=6)

experienced a high level of burnout. Lower scores in this subscale represented higher

levels of experienced burnout levels. Scores of 31 or lower indicate high levels of

experienced burnout, 32-38 indicate moderate burnout and scores of 39 or greater

indicate low levels of burnout. Table 5.4 represents the experienced burnout levels from

each subscale of the MBI-HSS. Correlations, and Cronbach's alpha are found in Table

5.5.

Table 5.4
Levels of Experienced Burnout on the MBI-HSS Subscales

Burnout Subscale	Frequency	Percentage
Emotional Exhaustion *n*=96		
High (score ≥ 27)	27	28.1
Moderate (score 17-26)	17	17.7
Low (score ≤16)	44	54.2
Depersonalization *n*=99		
High (score ≥ 13)	7	7.1
Moderate (score 7-12)	16	16.1
Low (score ≤ 6)	76	76.8
Personal Accomplishment *n*=96		
High (score ≤ 31)	6	6.2
Moderate (score 32-38)	12	12.5
Low (score ≥ 39)	78	81.2

Table 5.5
Cronbach's α, and Correlations for MBI-HSS Scales and AWS Subscales

Survey	Subscale	α	1	2	3	4	5	6	7	8	9
	1.Emot. Exh.[1]	0.78	1	0.63**	-0.33**	-0.58**	-0.53**	-0.54**	-0.52**	-0.45**	-0.46**
	2. Depers.[1]	0.71	0.63**	1	-0.26*	-0.31**	-0.39**	-0.47**	-0.44**	-0.32**	-0.38**
	3. Pers. Acc.[1]	0.92	-0.33**	-0.26*	1	0.13	0.29**	0.37**	0.25*	0.27**	0.37**
	4. Workload	0.82	-0.58**	-0.31**	0.13	1	0.35**	0.28**	0.18	0.28**	0.22*
	5. Control	0.87	-0.53**	-0.39**	0.29**	0.35**	1	0.49**	0.64**	0.53**	0.60**
	6. Reward	0.91	-0.54**	-0.47**	0.37**	0.28**	0.49**	1	0.65**	0.37**	0.45**
	7. Community	0.91	-0.52**	-0.44**	0.25*	0.18	0.64**	0.65**	1	0.44**	0.53**
	8. Fairness	0.85	-0.45**	-0.32**	0.27**	0.28**	0.53**	0.37**	0.44**	1	0.70**
	9. Values	0.87	-0.46**	-0.38**	0.37**	0.22*	0.60**	0.45**	0.53**	0.66**	1

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
[1] Emot. Exh.= Emotional Exhaustion; Depers.=Depersonalization; Pers. Acc.=Personal Accomplishment.

MBI-HSS subscales comparison to normative sample. To determine the degree

of burnout experienced by the participants, the study sample means were compared with

the normative sample means from the subgroup of 1,104 Medicine respondents as

discussed in Maslach et al. (2016). The aggregate school nurses' study mean score on the

Emotional Exhaustion subscale was 18.13, which indicates moderate burnout among the

school nurses, as compared to *M*=20.99 for the normative sample. Comparison of the

Emotional Exhaustion scale for the study sample and the normative sample indicated that

school nurses experience significantly less levels of Emotional Exhaustion than the norm

(p<0.0007). Conversely, the comparison of the study means to the normative sample

means for the Depersonalization and Personal Accomplishment subscales indicate low

levels of burnout and were significant at p<0.000 for both subscales. See Table 5.6 for the

comparison of the study sample and normative sample.

Table 5.6

Comparison of Study Sample and Normative Sample Subscale Means from MBI-HSS

Subscale		Mean	*SD*	*SE*	*t*	*df*	*p*
Emot. Exh.							
	Normative	20.99	10.75	1.15	-3.52	99	.0007*
	Sample	18.13	12.09				
Depers.							
	Normative	7.12	5.22	0.47	-6.07	99	.0000*
	Sample	4.30	4.87				
Pers. Acc.							
	Normative	36.53	7.34	0.58	8.568	99	.0000*
	Sample	41.50	6.08				

*p=<.05, two-tailed.
The normative sample n=1,104, Medicine. Maslach, et al. (2016), p. 24.

Independent Variable

   AWS subscales. To determine work environment factors that indicate job-person

match (congruence) or job-person mismatch (incongruence) analyses were conducted on

the AWS subscales. All subscales for the AWS are scored in the same manner. Scores on

the AWS subscales ranged from 1 to 5. Scores less than 3.0 represent job-person

mismatch (incongruence), scores greater than 3.0 denote a job-person match

(congruence). Two areas indicated a job-person mismatch (scores ≤ 3.0), fairness

(52.5%, *n*=51, *M*= 2.92) and workload (45.9%, *n*= 45, *M*=2.99). An overwhelming

majority of school nurses scored within the job-person match range for subscales of

control (79%, *n*=79, *M*=3.81), and community (79.6%, *n*=78, *M*=3.76). The data suggest

that school nurses experience job-person mismatch in the worklife areas of workload and

fairness; the school nurses experienced congruence in the subscales of control, reward,

community, and values. The frequencies and percentages for each AWS subscale are

represented in Table 5.7. Means, medians, and standard deviations for each AWS

subscale are presented in Table 3.

Table 5.7
Degree of Job-person Match (Congruence) Percentages for AWS Subscales

Subscale	Frequency	Percentage
Workload *n*=98		
Job-person mismatch (1.00-2.99)	45	45.9
Not sure (3.0)	10	10.2
Job-person match (3.01-5.00)	43	43.8
Control *n*=100		
Job-person mismatch (1.00-2.99)	17	17.0
Not sure (3.0)	4	4.0
Job-person match (3.01-5.00)	79	79.0
Reward *n*=98		
Job-person mismatch (1.00-2.99)	30	30.6
Not sure (3.0)	6	6.1
Job-person match (3.01-5.00)	62	63.3
Community *n*=98		
Job-person mismatch (1.00-2.99)	18	18.4
Not sure (3.0)	2	2.0
Job-person match (3.01-5.00)	78	79.6
Fairness *n*=97		
Job-person mismatch (1.00-2.99)	51	52.5
Not sure (3.0)	4	4.1
Job-person match (3.01-5.00)	42	43.3
Values *n*=97		
Job-person mismatch (1.00-2.99)	21	21.9
Not sure (3.0)	9	3.1
Job-person match (3.01-5.00)	67	69.1

AWS subscales comparison to normative sample. The study sample mean

scores on the workload subscale indicate a job-person mismatch between the school

nurses and their workload. A comparison of the workload means for the study sample and

the normative sample found the mean difference was not significant (*p*=0.76). The study

mean score for the control subscale was 3.81 (*SD*=0.94) which indicates a high degree of job-person match. When comparing the study and normative means, the study mean for the area of control was higher than the normative mean (*M*=3.31, *SD*=0.86). This indicates that the school nurses experience greater job-person match regarding control than the normative sample, and the difference is significant (*p*<0.000). Similarly, the subscales of community and values were higher than the normative means, and the difference between the means was significant, *p*<0.000 and *p*<0.002, respectively. A comparison of the study and normative sample means are presented in Table 5.8.

Table 5.8
Study and Normative Sample Means for Areas of Worklife Subscales

Subscale	Mean	SD	SE	t	df	p
Workload						
Normative	2.96	0.80	0.099	0.304	97	0.7619
Study Sample	2.99	0.98				
Control						
Normative	3.31	0.86	0.093	0.5348	99	0.0000*
Study Sample	3.81	0.94				
Reward						
Normative	3.19	0.89	0.100	1.519	97	0.1321
Study Sample	3.34	0.99				
Community						
Normative	3.38	0.84	0.085	4.488	97	0.0000*
Study Sample	3.76	0.84				
Fairness						
Normative	2.78	0.80	0.082	1.706	96	0.0913
Study Sample	2.92	0.81				
Values						
Normative	3.24	0.79	0.082	3.168	96	0.0021*
Study Sample	3.50	0.81				

*p=*p*=<.05, two-tailed.

Psychometric Properties of Instruments

Reliability coefficients for the subscales of the MBI-HSS (0.76 – 0.92) and AWS (0.82-0.91) were considered satisfactory (Bonneterre, Liaudy, Chatellier, Lang, & de

Gaudemaris, 2008; Higgins & Straub, 2006). Analyses revealed that two subscale items,

Workload from the AWS, and Personal Accomplishment from the MBI-HSS, correlated

below $r<.30$ with their corresponding scales, although there was a small correlation

(0.35) between workload and control in the AWS. Lower reliability in the subscale of

Personal Accomplishment has been cited as a concern leading some researchers to use a

one or two-domain subscale based upon Emotional Exhaustion and Depersonalization

(Lang et al., 2010; Lizano & Mor Barak, 2015; Vahey et al., 2004). In this study the

classic three-domain MBI-HSS was maintained to establish a baseline for school nursing.

Means, standard deviations, internal consistency for each MBI-HSS and AWS

dimension, and inter-scale correlations are presented in Table 5.3 and Table 5.5.

Overall, the comparison of the study and normative means of the AWS subscales

reveal that as an aggregate, the school nurses experience more job-person match

(congruence) in the six areas of worklife than do health care workers and public service

workers in the normative sample. School nurses in this study indicated job-person

mismatch between the work organization factors of workload and fairness. There was a

moderate amount of burnout as evidenced by the levels of Emotional Exhaustion on the

MBI-HSS.

Study Instruments Validity and Reliability

The psychometric properties and criterion validity of the MBI-HSS and AWS

were examined in both scales as this was the first known use of these instruments in

published research with school nurses. Considering reliability, the MBI-HSS and AWS

showed acceptable ranges of good to excellent internal consistency with $\alpha=.70$ for all

scales (DeVellis, 2012; DeVon et al., 2007). A comparison of the means of the MBI-HSS

subscales demonstrated a significant difference between the school nurse sample and the normative sample. Associations between the AWS subscale of workload with reward, community, fairness and values were weak. The MBI-HSS subscales of depersonalization and personal accomplishment were also weak. However, the school nurse associations are consistent with the research literature (Brom, Buruck, Horváth, Richter, & Leiter, 2015; Leiter & Laschinger, 2006; Leiter & Maslach, 2004, 2011; Maslach et al., 2016).

The means and *SD*s in the AWS were low, indicating that the answers did not spread across the scale. Ten percent or fewer answered not sure; however with the exception of workload and fairness, most subjects answered in the same direction. When compared to the normative sample, the subscales of control, community and values were significantly different; school nurses perceived a higher person-job match than the normative sample. Two explanations are possible. The item content did not differ among the school nurses, or the participants did not understand the question. The most likely explanation is that there are differences in the school nurse subjects and their work environment that are not accurately reflected in the AWS.

Construct validity of the subscales and the composite scores were evaluated by comparing the scores of a large normative sample (Maslach et al., 2016) with the school nurse sample using a known-groups approach. School nurses had higher levels of burnout when the areas of work life subscales were incongruent. This measure of construct validity supports the theoretical literature reviewed at the beginning of the article, and reflects the framework as was hypothesized (DeVon et al., 2007). Overall, the reliability the evaluation suggests that the MBI-HSS and AWS may be utilized to empirically investigate the organizational factors that impact the school nurse professional role.

Study Research Aims Testing

Research Aim 2: Is school nurses' burnout and job satisfaction dependent upon organizational influences?

   Burnout and work organization factor relationships and influences. Research aim 2 asked if school nurses' burnout and job satisfaction was dependent upon organizational influences. Pearson product-moment correlation coefficients were used to quantify the strength and direction of the relationships between school nurses' burnout (Emotional Exhaustion subscale) and work organizational influences or factors (AWS subscales). Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. Pearson product-moment correlations are displayed in Table 5 among each of the separate subscales. The correlation between the subscales of the MBI-HSS and the AWS was significant at the 0.01 and 0.05 level (2-tailed) for each subscale with the exception of workload with Personal Accomplishment, and community with workload. Several of the correlations were large (r=.50 to 1.0), indicating a strong relationship (DeVon et al., 2007). For example, there was a strong, negative correlation between Emotional Exhaustion and workload (r=-0.58, n=100, p<0.001). The greater the job-person match with workload, the less Emotional Exhaustion (burnout) the participants' experience. Emotional Exhaustion also had a strong negative correlation with three other dimensions of the AWS: control (r= -0.532), reward (r= -0.536) and community (r= -0.519). The three subscales from the MBI-HSS were small to strongly correlated, ranging from -0.26 between Personal Accomplishment and Emotional Exhaustion to 0.63 between Depersonalization and Emotional Exhaustion.

The six individual subscales of the AWS shared small to large correlations

ranging from 0.18 to 0.65. Workload was not strongly correlated with the Personal

Accomplishment subscale of the MBI-HSS and the community subscale of the AWS.

The correlation between workload and community (r= 0.18) was small. However, these

measures are similar to the correlations among the subscales of the AWS found by Leiter

and Maslach (2011) where r=0.14 in a normative sample of over 22,000 respondents; and

r=0.14 in a study of 443 nurses (Brom et al., 2015). Similarly, the correlation between

Personal Accomplishment subscale in the MBI-HSS and workload subscale in the AWS

(r= 0.13) was found in the literature to be r=0.22 (Leiter & Maslach, 2009). Therefore the

subscales were not excluded in the overall assessment of the work environment because

the correlations were similar to those found in the literature.

Confirming relationships with regression models. To determine what influence

the work organization factors as measured by the AWS subscales have on burnout, three

linear multiple regressions were conducted to determine the predictive value of the AWS

in facilitating burnout. Each regression measured each of the six AWS subscales

(Workload, Control, Reward, Community, Fairness, Values) with the dependent variable

as one subscale score from the MBI-HSS, Emotional Exhaustion, Depersonalization and

Personal Accomplishment, respectively. All seven variables were entered into the model

simultaneously. A regression coefficients table (Table 8) and a model summary table

(Table 9) are presented for each set of regressions.

Multiple linear regression analysis was used to develop a model for predicting

Emotional Exhaustion from the six AWS subscales. Basic descriptive statistics and

correlations for each of the subscales are shown in Table 5.3 and Table 5.5. Table 5.9,

Model 1, represents the contribution of the AWS subscales to the prediction of the dependent variable, Emotional Exhaustion. Workload had a significant negative regression weight (B=-5.28, p <.0005), indicating that subjects with lower scores on this variable tend to have higher levels of Emotional Exhaustion, after controlling for other variables in the model. Model 1 in Table 5.10 shows that with all six predictors, the model explains 56% of the variance in Emotional Exhaustion (R^2=0.562, F(6,86)=18.43, p<0.0005).

Table 5.9

Regression Analysis Coefficient Summary for Areas of Worklife Subscales Predicting MBI-HSS Subscales

Model[a]	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
	B	SE B	β	t	p	Lower Bound	Upper Bound
Model 1: Emot. Exh.[1]	63.67	4.77		13.36	0.000	54.20	73.14
Workload Total Score	-5.23	0.97	-0.43	-5.45	0.000	-7.20	-3.35
Control Total Score	-0.93	1.37	-0.07	-0.68	0.50	-3.65	1.80
Reward Total Score	-2.23	1.19	-0.18	-1.88	0.06	-4.59	0.13
Community Total Score	-2.85	1.59	-0.20	-1.80	0.08	-6.01	0.31
Fairness Total Score	-1.17	1.46	-0.08	-0.80	0.43	-4.07	1.73
Values Total Score	-1.32	1.59	-0.09	-0.83	0.41	-4.48	1.84
Model 2: Depers.[1]	17.83	2.42		7.38	0.000	13.03	22.64
Workload Total Score	-0.85	0.49	-0.17	-1.73	0.09	-1.83	0.13
Control Total Score	-0.11	0.70	-0.02	-0.16	0.88	-1.49	1.28
Reward Total Score	-1.15	0.60	-0.23	-1.91	0.06	-2.35	0.05
Community Total Score	-1.00	0.81	-0.17	-1.24	0.22	-2.61	0.60
Fairness Total Score	-0.06	0.74	0-.01	-0.09	0.93	-1.53	1.41
Values Total Score	-0.79	0.81	-0.13	-0.98	0.33	-2.394	0.81
Model 3: Pers. Acc.[1]	30.41	3.24		9.38	0.00	23.99	36.86
Workload Total Score	-0.12	0.66	-0.02	-0.18	0.86	-1.43	1.19
Control Total Score	0.38	0.93	0.06	0.41	0.68	-1.47	2.24
Reward Total Score	1.96	0.81	0.32	2.41	0.02	0.34	3.56
Community Total Score	-0.99	1.08	-0.14	-0.92	0.36	-3.15	1.15
Fairness Total Score	0.10	0.99	0.01	0.10	0.92	-1.87	2.08
Values Total Score	1.97	1.08	0.26	1.83	0.07	-0.18	4.12

[a]. Dependent Variables: Model 1: Emotional Exhaustion Total Score; Model 2: Depersonalization; Model 3: Personal Accomplishment
[1] Emot. Exh.= Emotional Exhaustion; Depers.=Depersonalization; Pers. Acc.=Personal Accomplishment.

Table 5.10

Regression Analysis Model Summary for Areas of Worklife Predicting MBI-HSS Dimensions

Model[a]	R	R Square	Adjusted R Square	SE of the Estimate	df	F	sig
1	0.750[b]	0.562	0.532	8.27	6	18.43	0.000
2	0.547[b]	0.300	0.251	4.22	6	6.20	0.000
3	0.447[b]	0.200	0.144	5.63	6	3.58	0.003
4	0.734[a]	0.539	0.524	8.34	3	35.10	0.000

[a]. Dependent Variables: Model 1: Emotional Exhaustion Total Score; Model 2: Depersonalization; Model 3: Personal Accomplishment; Model 4: Reduced Model for Emotional Exhaustion.

[b]. Predictors: (Constant), Workload Total Score, Control Total Score, Reward Total Score, Community Total Score, Fairness Total Score, Values Total Score

Multiple linear regression analysis was used to develop a model for predicting Depersonalization from the six AWS subscales. See the basic descriptive statistics and correlations in Table 2. Table 9, Model 2, represents the contribution of the AWS subscales to the prediction of the dependent variable, Depersonalization. As can be seen in Table 8, the findings indicate that the six AWS subscales predict Depersonalization. Individually no subscale was significant. The model with all six predictors was significant and explains 30% of the variance in Depersonalization (R^2=.30, $F(6,87)$=6.2, p<.0005). See Table 5.10, Model 2.

Lastly, multiple linear regression analysis was used to develop a model for predicting Personal Accomplishment from the six AWS subscales. Table 2 represents the basic descriptive statistics and correlations. As can be seen in Table 5.9, Model 3, the findings indicate that the six AWS subscales predict Personal Accomplishment. The AWS subscale of Reward was significant (p≤0.02). The model with all six predictors was significant and explains 20% of the variance in Personal Accomplishment (R^2=.20, $F(6,86)$=3.58, p<.003). See Table 5.10, Model 3.

To test which AWS subscales would reduce the regression model 1, to create a more parsimonious model predicting Emotional Exhaustion, AWS subscales were removed one at a time. Selection for removal was based upon the *p*-value of the subscale. Control was removed first (*B*=-.925, *p*=.502), next fairness (*B*=-1.302, *p*=.369), and lastly values (*B*=-2.348, *p*=.070). The regression analysis summary is seen in Table 9, Model 4. It should be noted that the Beta and *p*-value for reward were very close (*B*=-2.244, *p*=.061). The model using the AWS subscales that accounted for the highest amount of variance in predicting Emotional Exhaustion were: workload (*B*=-5.785, *p*<.0005), community (*B*=-4.353, *p*=.002); and reward (*B*=-2.518, *p*=.04). The R^2 value for the original model (Model 1) with all the AWS subscales, explains 56% of the variance in Emotional Exhaustion, while the reduced model 4 explained 54% of the variance in Emotional Exhaustion.

Prevalence of burnout profiles. Examining the pattern of the MBI-HSS scales across the three subscales establishes the ability to categorize participants by profile types. Using an approach and criteria developed by Leiter and Maslach (2016) with a sample of 1,166 health care workers, five profile types were described: engaged, ineffective, overextended, disengaged, and burnout. This new research used latent profile analysis techniques that resulted in five profiles based upon the patterns that emerged. The profiles were labelled Burnout, Disengaged, Overextended, Ineffective and Engagement. Table 5.11 details the profiles as the scores relate to each of the MBI-HSS subscales.

Profiles were developed by examining standardized (*z*) values of the means for each subscale; and setting critical boundaries for the Emotional Exhaustion at *z* = mean +

(*SD**0.5); Depersonalization at *z* = mean + (*SD**.10); and Personal Accomplishment at *z* = mean + (*SD**.10). The data in Table 4 suggest that the school nurses experience a moderate level of Emotional Exhaustion (*M*=18.13), indicative of moderate burnout, low levels of Depersonalization (*M*=4.30) indicative of low burnout and high levels of Personal Accomplishment (*M*=41.50), indicative of low burnout. These levels when examined together suggest an inconsistent pattern of burnout.

The pattern of burnout across the subscales suggests that the most frequent profiles (Table 5.11) for school nurses are Engaged (48%; *n*=45) and Ineffective (20%; *n*=19), making up 68% of the study sample. The remaining profiles suggest profiles of Overextended (18%; *n*=17), Disengaged (2%; *n*=2), and Burnout (11%; *n*=10). Using the patterns of burnout provided a deeper understanding that goes beyond the means of the study participants. Close to one-half (48%) of the school nurses are Engaged. Conversely, 11% (*n*=10) are in the Burnout profile. As seen in Table 5, the Emotional Exhaustion subscale (Burnout) showed that 28% of school nurses were in the high experienced burnout level (total score ≥ 27, average score ≥ 3.0). Examining the subscales together affords a different understanding of the subscales. These profiles are a starting point for other researchers to explore the burnout profiles and how they relate to other variables in the work environment (Leiter & Maslach, 2016).

Findings using the Burnout Profiles to explore the relationship with work organization factors in the AWS subscales (workload and a combined resources subscale) are continued in the next two sections: relationship of burnout profiles to work organization factors: workload; and, relationship of burnout profiles to work organization

factors: resources. These findings replicated research from Leiter and Maslach (2016) using the Burnout profiles and AWS subscales.

The Burnout profiles were examined in this study to offer an opportunity to understand burnout levels using all three subscales of the MBI-HSS, not just the emotional exhaustion subscale. For example, the 28% (n=27) of school nurses were burned out according to the emotional exhaustion subscale. In the Burnout Profile analysis, the 11% (n=10) of individuals are described as high on all three subscales in the Burnout category. Overall the Burnout Profiles show that 48% (n=45) of school nurses are considered Engaged. However, the other four profiles show 52% (n=48) have a moderate level of burnout. The research is still in its infancy. The idea behind the Burnout Profiles is to develop targeted interventions based upon the categories of the Burnout Profile, rather than using the levels of emotional exhaustion as the sole indicator of burnout.

Table 5.11
School Nurse Average Means of the MBI-HSS by Burnout Profile*

Profile	N (%)	Emot. Exh.[1]	Depers [1]	Pers. Acc.[1]
Engaged (low on each subscale)	45 (48%)	1.14	0.17	5.67
Ineffective (high Pers. Acc., moderate others)	19 (20%)	1.41	0.60	4.62
Overextended (high Emot. Exh., moderate others)	17 (18%)	3.73	0.99	4.80
Disengaged (high Depers., moderate others)	2 (2.0%)	1.65	2.20	5.05
Burnout (high on each subscale)	10 (11%)	4.04	2.88	4.34
Overall	93	2.01	0.86	5.20
SD		1.34	0.97	0.76

*Profiles as defined from Leiter & Maslach (2016) and Maslach, Jackson & Leiter (2016).
[1] Emot. Exh.= Emotional Exhaustion; Depers.=Depersonalization; Pers. Acc.=Personal Accomplishment.

Relationship of Burnout Profiles to work organization factors: Workload. A one-way between groups analysis of variance (ANOVA) was conducted to explore the

impact of the organizational influences (AWS subscales) on the MBI-HSS burnout profiles. In order to replicate results from the original article (Leiter & Maslach, 2016) the MBI-HSS burnout profiles were analyzed using the short version of the AWS (Leiter & Maslach, 2011), an 18-item form of the AWS. The measure for Workload was the AWS standardized scale for workload using the short version. The internal consistency was $\alpha=0.80$.

There was a statistically significant difference in the workload scores (dependent variable) for the five different profiles ($F_{(5,99)}=7.167$; $p<0.001$; $\eta_p^2=0.28$). Standardized means, from most to least negative were: Overextended (-0.98), Burnout (-0.44), Disengaged (-0.36), Engaged (0.23), and Ineffective (0.48). Post-hoc comparisons using the Tukey test indicated that the mean score for the Overextended group was significantly different ($ps<0.05$) from the Disengaged and Ineffective profiles, but was not significantly different from the Engaged or Burnout profiles. These findings support the hypothesis in Leiter and Maslach (2016) that the two profiles of Burnout and Overextended will have more negative workload scores than the other profiles.

Relationship of Burnout Profiles to work organization factors: Resources.

Again, to replicate the findings from Maslach and Leiter (2016), the measure for Resources was a combined scale of the five resources of the AWS: control ($\alpha= 0.83$), reward ($\alpha=0.92$), community ($\alpha=0.88$), fairness ($\alpha=0.76$) and values ($\alpha=0.77$). The average of the standardized values from these five subscales used the shortened version of the AWS, creating the variable "Resources".

An ANOVA confirmed the relationship with the AWS Resources measure (dependent variable) with the MBI-HSS burnout profiles ($F_{(5,99)}=8.84$; $p<0.001$;

η_p^2=0.32). Standardized means from most to least negative were: Burnout (-0.87), Overextended (-0.49), Disengaged (-0.17), Ineffective (0.27), and Engaged (0.35). Tukey tests demonstrated that the mean score for the Overextended group was significantly different ($ps<0.05$) from the Engaged and Ineffective groups. These findings differ from the findings of Leiter and Maslach (2016) as the Burnout and Overextended group were more negative than the Disengaged group. The mean results do support the hypothesis that the Ineffective group was more negative than the Engaged group. However, they did not differ significantly.

Figure 5.1. MBI-HSS Burnout Profiles on Workload and Resources Stressors
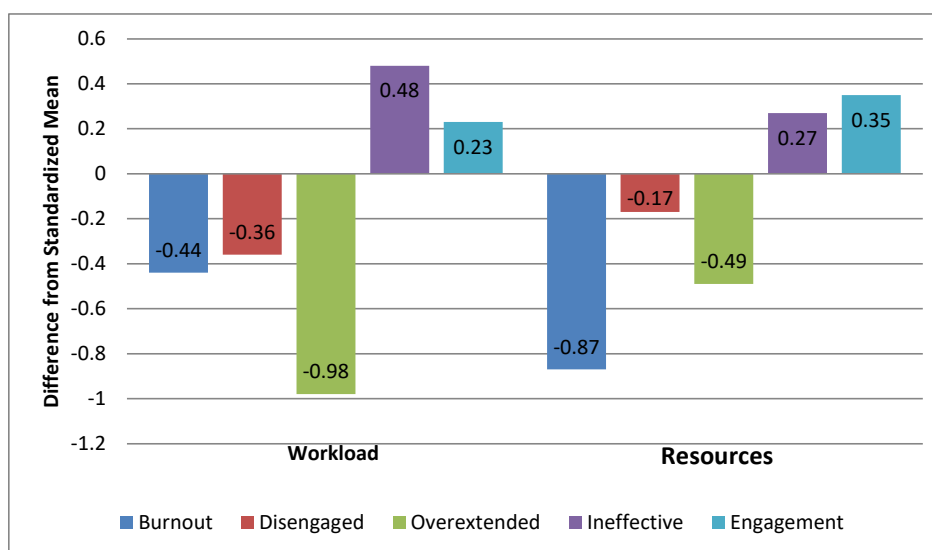
Relationships Between Burnout, Worklife Stressors and School Organization Variables

The school nurse and school characteristics correlations that were significantly associated the MBI-HSS subscales and the AWS subscales are shown in Table 5.12. Work environment issues related to school nurse workload had the most factors that were significantly related: number of buildings the school nurse covers in a usual day and usual week; and school nurse office staffing mix with one RN in one building, RN and

LPN who cover more than one building, and RN and Unlicensed Assistive Personnel

(UAP) who cover more than one building. The workload factors of number of buildings

in a usual day (0.29; *p*=0.01) and staffing with an RN and UAP covering more than one

building (0.27; *p*=0.01) were positively correlated with Emotional Exhaustion. This

suggests that as the number of buildings the school nurse covers in a usual day increases,

with or without assistive personnel increases, the level of Emotional Exhaustion

increases. Number of buildings covered in a usual week (-0.26; *p*<0.001) and staffing

with RN and LPN covering more than one building (-0.22; *p*=0.03) were negatively

associated with the AWS subscales of workload and community, suggesting that as the

number of buildings covered decreases, the level of job-person match increases.

Interestingly in the community subscale, the practice model of one RN in one building is

positively correlated (0.30; *p*<0.001).

Table 5.12
Nurse and School Organization Characteristics Significantly Associated with MBI-HSS and AWS Subscales

Subscale Item	Factors	Correlation	Significance
MBI-HSS Subscales			
Emotional Exhaustion	Location of services	-0.25*	0.01
	Salary	0.23*	0.03
	Number of buildings cover in usual day	0.29*	0.01
	Practice model with RN with UAP cover more than one building	0.27*	0.01
	Percentage free or reduced lunch	0.20*	0.05
Depersonalization	Location of services	-0.22*	0.03
	Age group served: Pre-K	0.21*	0.04
	Age group served: High School	-0.22*	0.03
	Salary	0.29**	0.00
	Percentage free or reduced lunch	0.26*	0.01
Pers. Accomplishment	Months worked/year	0.21*	0.04
AWS Subscales			
Workload	Immediate supervisor	0.31**	0.00
	Number of buildings cover in usual week	-0.26**	0.00
	Percentage free or reduced lunch	-0.37**	0.00
	Years as RN	-0.20*	0.05
Control	Months worked/year	-0.20*	0.05
	Number of buildings cover in usual day	-0.23*	0.02
	Number of buildings cover in usual week	-0.26*	0.01

Reward	Years as SN	-0.23*	0.03
Community	Practice model one RN in one building	0.30**	0.00
	Practice model RN & LPN, >1 building	-0.22*	0.03
Values	Number of buildings cover in usual week	-0.20*	0.05
Correlation is significant at the 0.01 level (2-tailed).			
Correlation is significant at the 0.05 level (2-tailed).			

Levels of burnout predicted by school nurse and school district

characteristics. To test if school nurses' burnout, as measured by the Emotional

Exhaustion subscale, is a function of multiple organizational influences, regression

analysis was used. Specifically, the location of the school nurses' employment in an

urban school district was examined as a potential moderator to understand the

relationship between the number of years working as a school nurse with levels of

Emotional Exhaustion as the dependent variable. In the first step, two variables were

included: years working as a school nurse and Emotional Exhaustion. The interaction of

the variables accounted for a significant amount of variance in Emotional Exhaustion: R^2

= 0.18, $F(2, 92)$ = 6.76, $p < 0.001$. The regression models were tested for normality of the

outcome variable, nonlinearity, and heteroscedasticity. Significant interactions and slopes

were graphed.

Next the interaction term between years working as a school nurse and Emotional

Exhaustion was added to the regression model, which accounted for a significant

proportion of the variance in Emotional Exhaustion, ΔR^2=0.04, $\Delta F(1,91)$= 4.88, p=0.02,

b=5.66, $t(91)$=2.21, p<0.03. Examination of the interaction plot showed an enhancing

effect that years working as a school nurse and urban school districts had the highest

level of Emotional Exhaustion which increased at a much greater trajectory than those

who worked in non-urban school districts. School nurses in urban school districts

possessed moderate levels of burnout (scores of 17-26) in their second year as a school

nurse; and had high levels of burnout (scores ≥ 27) by their third year. In comparison, school nurses in non-urban school districts had just begun to reach a moderate level of burnout by their fifth year as a school nurse. See Figure 2, Model 1.

To test whether additional covariates may influence this model, the percentage of students receiving free or reduced lunch and the number of students served were included. In this model, depicted in Figure 2, Model 2, years working as a school nurse was the only factor that influenced a significant amount of variance ($\beta=1.71$, $p=0.038$). Examination of the interaction plot demonstrated a greater enhanced effect than the model without the covariates. The β values of the years as a school nurse and urban schools indicate that it continues to significantly predict Emotional Exhaustion independent of any moderator. Table 5.13 shows the analyses. Figure 2 illustrates the models.

Table 5.13
Moderation Model

Variable	B	SE	t	p	95% CI
Model 1					
Model 1 Constant	12.32	3.03	4.06	0.00**	[6.29-18.35]
Urban School	-4.97	8.39	-0.59	0.55	[-21.63-11.69]
Years as School Nurse	1.25	0.78	1.59	0.11	[-0.31-2.80]
Moderator Years as SN x Urban School	5.66	2.56	2.21	0.03*	[0.57-10.76]
Model 2					
Constant	7.28	5.03	1.45	0.15	[-2.72, 17.27]
Urban School	-5.42	8.48	-0.64	0.52	[-22.27, 11.43]
Years as School Nurse	1.71	.81	2.10	0.04*	[0.09, 3.32]
Moderator Years as SN x Urban School	5.11	2.57	1.99	0.05*	[0.01, 10.21]
Number of Students Served	0.40	0.71	0.57	0.57	[-1.01, 1.82]
% students free or reduced lunch	0.88	0.88	1.01	0.31	[-0.86, 2.63]

*p<.05. **p<.001.

Figure 5.2. Regression Models of Years as a School Nurse and Burnout Score

Model 1. Years as School Nurse and Burnout Scores	Model 2. Years as School Nurse and Burnout Scores With Covariates of Free and Reduced Lunch and Number of Students Served
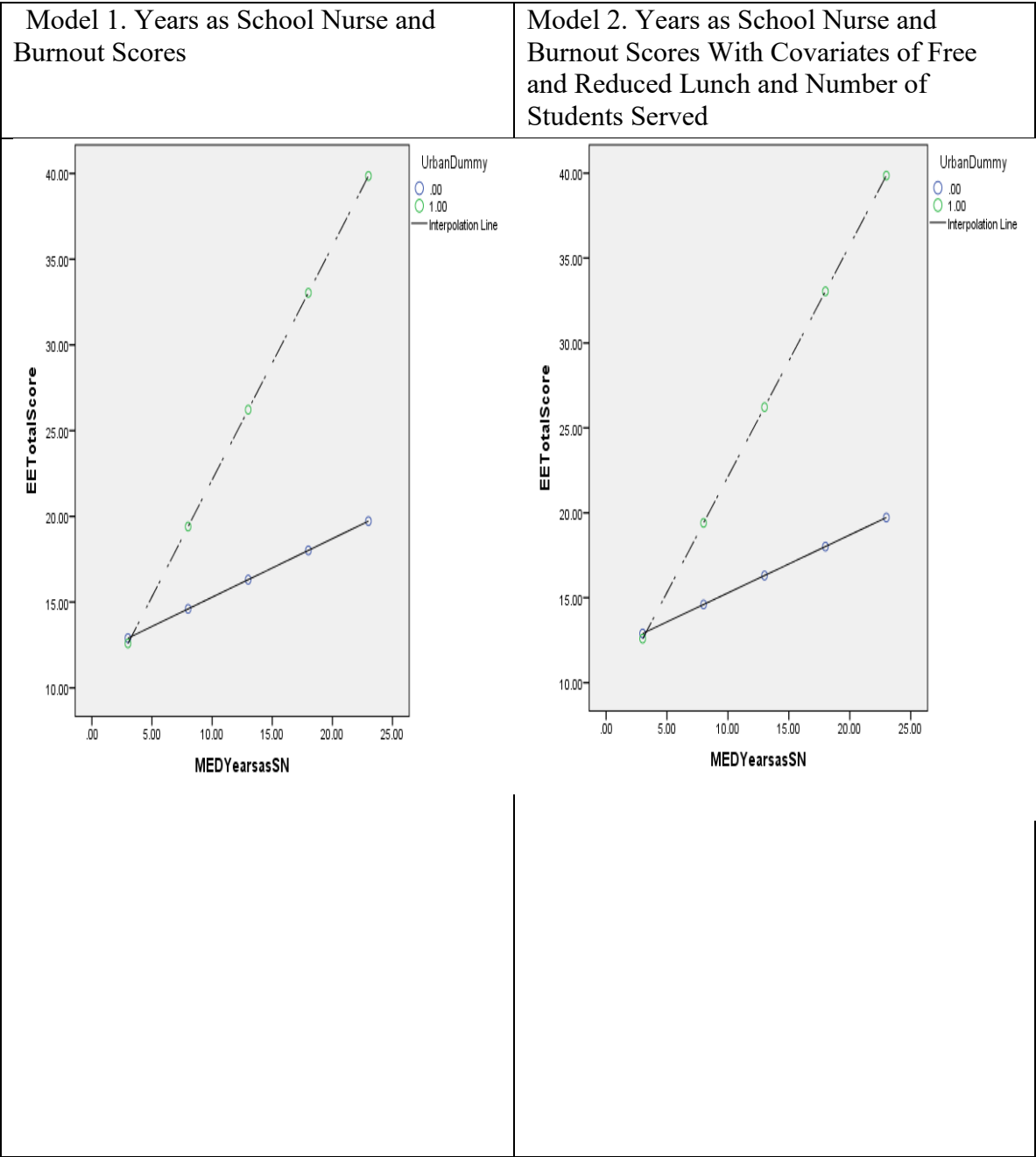
Research Aim 3: What is the relationship between school nurses' levels of burnout and their perceptions of barriers that prevent them from professional role enactment?

To test the relationship between school nurses' levels of burnout and their perceptions of barriers the Areas of Worklife (AWS) subscales were re-coded by adding the scores of the subscales to create a mean total score: Areas of Worklife Total. Bamford et al. (2013) describe using the creation of a Worklife Total score with the AWS subscales in their article. Using this new variable as a proxy for school nurse work environment organizational factors, the scores were analyzed and re-coded into three groups: lowest 25% was "poor" work environment, middle 50% was "mixed" work environment, top 25% was "good" work environment (Aiken et al., 2011).

Scores on the Emotional Exhaustion (burnout) scale with scores ≥ 17 represented school nurses with moderate (17-26) to high levels of burnout (≥ 27). Perceptions of work environment barriers used the AWS scores on the individual subscales (workload, control, reward, community, fairness and values) that indicated job-person mismatch (score ≤ 3.0). Table 5.14 shows the response to the MBI-HSS subscales and the responses to each of the AWS subscales.

Good work environment. The Emotional Exhaustion (burnout) scores of nurses working in the good work environments (top 25%) exhibited no burnout (scores ≤ 17, *M*=8.5), as compared to the nurses in the poor work environments where burnout was high (scores ≥ 27, *M*=28.6). Similarly, the Depersonalization subscale (scores ≥ 13) and Personal Accomplishment subscale (scores ≤ 31) indicated no experienced burnout. Work organizational factors that school nurses perceived as barriers to professional role

enactment, as measured by the scores less than 3.0 on the AWS subscales, were not found in the Good Work Environment. School nurses in the good work environments scored high with job-person match in all the subscales with the top three subscales being control (*M*=4.5), community (*M*=4.5), and reward (*M*=4.3).

      Mixed work environment. School nurses in the mixed work environment were just over the cut-off for levels of burnout (*M*=17.94) in the Emotional Exhaustion subscale. Both the Depersonalization subscale and the Personal Accomplishment subscale remained in the low levels of experienced burnout. The top three AWS subscales were control (*M*=3.9), community (*M*=3.7) and values (*M*=3.5). However, the scores for workload (*M*=2.85) and fairness (*M*=2.84) remained below the job-person match cut-off of 3.0, representing barriers in the mixed work environment.

      Poor work environment. School nurses in poor work environments perceived high levels of burnout (*M*=28.63), Depersonalization scores suggested moderate levels of experienced burnout (*M*=8.38), however Personal Accomplishment remained low (*M*=38.70). Individuals in the poor work environments reported every subscale as job-person mismatch, with fairness as the lowest subscale (*M*=2.18), followed by workload (*M*=2.43), and reward (*M*=2.39).

Table 5.14
MBI-HSS and AWS Scores in Good, Mixed and Poor Work Environments

Survey	Subscale	Good Work Environment					Mixed Work Environment					Poor Work Environment				
		N	Min.	Max.	M	SD	N	Min.	Max.	M	SD	N	Min.	Max.	M	SD
MBI-HSS	Emot. Exh.	24	0.00	23.00	8.54	5.77	47	1.00	42.00	17.94	9.66	24	3.00	49.00	28.63	12.84
	Depers.	24	0.00	11.00	1.96	3.04	50	0.00	15.00	3.54	3.68	24	0.00	25.00	8.38	6.18
	Pers. Acc.	24	37.00	48.00	44.33	3.55	48	11.00	48.00	41.46	6.42	23	23.00	47.00	38.70	6.44
AWS	Wrkld	24	2.80	4.80	3.81	0.71	49	1.40	4.80	2.85	0.79	24	1.00	5.00	2.43	1.06
	Control	24	4.00	5.00	4.53	0.36	50	2.00	5.00	3.93	0.66	25	1.00	4.80	2.85	1.03
	Reward	24	2.80	5.00	4.33	0.57	50	1.30	4.30	3.33	0.62	23	1.00	4.50	2.39	1.04
	Comm	24	4.00	5.00	4.53	0.40	50	2.20	5.00	3.78	0.57	23	1.00	4.60	2.91	0.90
	Fair	24	2.20	4.70	3.75	0.53	50	1.30	4.00	2.84	0.64	22	1.00	3.30	2.18	0.58
	Values	24	2.80	5.00	4.12	0.63	48	2.00	5.00	3.54	0.61	24	1.50	5.00	2.80	0.80

Additional or Ancillary Findings

Interestingly, the mean school nurse Emotional Exhaustion score was slightly lower than the mean normative score (*M*=20.99) found in a compilation of 11,067 human services workers (Maslach, Jackson, Leiter, & Schaufeli, 2016). Table 5.15 illustrates a comparison of the school nurse study scores with the normative scores reported in Maslach, et al. (1996). The scores for the normative participants who were over the age of 50 were included as the school nurse study participants had an average age between 51 and 60 years. Lastly, Poghosyan (2010) was included as an additional reference point. This study provided more current research, included only nursing participants, and was a comprehensive factor analysis of the Maslach Burnout Inventory with 54,738 direct care professional nurses from 646 hospitals in eight countries. The school nurse participants did display a lower Emotional Exhaustion score than the international hospital nurses.

Table 5.15
Comparison MBI-HSS Mean and Standard Deviation Subscale Scores

	Emot.Exh.[1] Mean (*SD*)	Depers.[1] Mean (*SD*)	Pers. Acc.[1] Mean (*SD*)
School Nurse Study Results	18.13 (12.09)	4.30 (4.87)	41.50 (6.08)
MBI-HSS 1996 Aggregate	20.99 (10.75)	8.73 (5.89)	34.58 (7.11)
MBI-HSS Aggregate, age over 51	17.96 (10.33)	5.29 (5.09)	38.41 (6.90)
Poghosyan (2010)	22.00 (10.60)	9.40 (8.00)	37.00 (8.30)

[1] Emot. Exh.= Emotional Exhaustion; Depers.=Depersonalization; Pers. Acc.=Personal Accomplishment.

Open-ended Responses

Lastly, Table 5.16 gives representative quotes school nurses provided in the optional open-ended questions. No quotes were found that reflected a positive perception of school nurse work environment factors of workload, or control. Sixty-eight school nurses responded to the question "What would you change in your work environment to give you greater satisfaction?" When asked, "What would you like us to know that we haven't discussed," 44 school nurses shared their perceptions.

Table 5.16
Representative Quotes Coded to AWS Subscales from Open-Ended Responses

Areas of Worklife Subscale	Number of References Coded	Positive	Negative
Workload	55	None located.	Please ask what a reasonable maximum work load which would continue to allow for quality nursing care (without requiring volunteer work hrs. at the school to complete administrative work.) Please ask: how many extra uncompensated hours do you contribute at the school to complete unfinished and administrative work?

Control	70	None located.	Some parents do not seem to understand or appreciate all that's required of you, how you are supposed to do your job and that you follow NJ State DOE laws which involve regulations.
Reward	40	I love my job! Anyone who knows the role of a school nurse has to acknowledge the many challenges and diversities of the job. I hope to make some kind of contribution and difference in the lives I touch.	Since our "leader" is not a nurse, there is no true understanding of our role or our contribution to the well-being of the students and staff.
Community	77	I have worked in the same school my entire school health nurse career. I have been satisfied with my job not only because I love working with students but also because I truly admire, respect and deeply care for the people I work with.	Their focus is on education, not health and I can understand that. Because of that I can feel isolated.
Fairness	50	I work in a small elementary school where my principal/superintendent is fair with his employees. He understands the stresses of being a working parent. Family comes first, but of course he also gets a very dedicated staff with that attitude.	All the degreed support services except for nurses get stipends. That is unfair and unnecessary…If nurses are not getting a stipend they should not either.
Values	43	As the sole nurse in my building I believe that my unique skills are valued by most staff members most of the time.	School districts have yet to see the full value and potential of a School Nurse who is a role model and advocate for wellness.

Summary

The central aim of the quantitative study was to investigate school nurses' perceptions of factors that impact their professional role by examining the levels of burnout, and areas of worklife job satisfaction present in the school nurse practice environment. In summary, school nurses do exhibit levels of burnout with 28% scoring in the high level of burnout (Emotional Exhaustion subscale) range. However, most school nurses (44%) were in the low burnout range. Across the work environments that were "good", "mixed" and "poor", the subscale of Personal Accomplishment always remained in the low experienced burnout range, even when school nurses were experiencing high levels of Emotional Exhaustion (burnout) in the poorest work environments.

Developing Burnout Profiles demonstrated that exploring the relationships between the MBI-HSS subscales may contribute to further understanding of what each subscale contributes to the levels of experienced burnout. The Burnout Profiles demonstrated that as found in the good, mixed and poor work environments, Personal Accomplishment in school nurses was always in the low range of experienced burnout. Most school nurses (48%) were in the Engaged Burnout Profile, where each of the three MBI-HSS subscales indicated low experienced burnout.

Work environment factors as measured by the AWS subscales suggested that workload and fairness were the areas that the school nurses perceived as the lowest job-person match. Statistical testing results further confirmed that workload was a significant factor in the work environment and was the only worklife factor that significantly contributed to Emotional Exhaustion (burnout) in the regression model. However, as found in the literature, the AWS subscales in this study did contribute to burnout as an

aggregate group, with no one factor statistically significant, or accounting for variance on its own. Workload and fairness were perceived as the barriers to the professional practice of the school nurses as an aggregate group. School nurses in the poor work environment perceived high levels of burnout and all six work environment factors from the AWS as contributing to barriers in professional role enactment.

Additionally, characteristics of the school nurse (years as a school nurse), and characteristics of the school district (urban school districts, and the numbers of students receiving free or reduced lunch) were also factors that contributed to school nurse burnout; causing school nurses in urban schools to burnout at approximately seven years of working as a school nurse versus working approximately 21 years in suburban schools.

Chapter 6
Integrated Findings

This section addresses the integrated (mixed methods) research aim 4: How do the narrative results extend, refute, or clarify the survey findings about areas of worklife and burnout? Qualitative results are presented within the description of the quantitative scales using an integrated results organization strategy described by Dahlberg, Wittink, and Gallo (2010). Therefore, the integrated findings chapter sections headings used the survey instruments and their associated subscales. The four qualitative subthemes: school nurse work environment, control over practice, barriers to school nurse role enactment, and outcomes are discussed within the survey subscales. The open-ended responses from the survey participants are used to extend the findings.

Areas of Work Life (AWS) Workload

The workload subscale explored the amount of work to be done in a given time and captures the extent to which work demands spill into personal life, social pressures and the physical and intellectual burden of job demands (Leiter & Maslach, 2011). The most frequently discussed subtheme in the qualitative interviews was workload. Workload was coded at 230 quotes. Fourteen of the 20 qualitative participants reported that their workload was a source of stress and perceived workload to be unmanageable. Workload was portrayed as a chronic work environment condition, with little opportunity to rest or recover.

The survey findings in the AWS workload subscale supported the statements from the interview participants, in three areas: (a) the percentage of school nurses who perceived a job-person mismatch (46%, *n*=45), while 43.8% (*n*=43) perceived a job-person match in the AWS workload subscale; (b) regression analyses (Chapter 5, Table 8,

Model 1, quantitative findings) demonstrated workload was significant, and uniquely significant, (p<0.000) in the model demonstrating the relationship between the Maslach Burnout Inventory Human Services Survey (MBI-HSS) Emotional Exhaustion subscale when all the AWS subscales were included in the regression model; and (c) school nurses perceived workload a job-person mismatch (scores <3.0) in poor work environments (M=2.43) and mixed work environments (M=2.85).

Demographic factors from the quantitative school nurses that were significantly associated with workload were (1) percentage of students receiving free or reduced lunch, (2) immediate supervisor, (3) number of buildings covered, and (4) years as an RN. Concordance from the open-ended optional responses from the quantitative survey participants was noted in the workload subscale. See Table 6.1.

Additionally, Figure 6.1 represents the levels of burnout with the survey school nurses' number of students served, as a proxy for school nurse workload. School nurses showed moderate levels of burnout whether they cared for a low caseload or a higher caseload. The quotes from the school nurses extend this finding: school nurses carry stress related to workload, even with low caseload numbers. Forty percent (n=8) of the interview school nurses had caseload numbers of less than 250 students. Table 6.2 shows quotes that represent workload stress. While burnout was not measured, the quotes are representative of individuals who may perceive burnout. Therefore, while caseload is one factor in workload, other areas of the work environment impact workload and lead to burnout.

The interview school nurse data and the survey school nurses open-ended responses extend the finding that workload is more than just a measure of the number of

students that are served in a building. The school nurses talked about acuity levels and

health needs of the students, paperwork, and access to resources (equipment, supplies and

staffing). For example, one survey school nurse talked about staffing resources when

covering more than one building:

> I am most satisfied and feel productive when I cover my schools and my students. We have no subs in our district, so nurses cover each other's buildings, taking them out of their own schools. It is extremely stressful and causes resentment.

Workload integrated findings. There was agreement between the survey

responses and the qualitative responses that workload factors were barriers to role

enactment. Workload was significantly associated with Emotional Exhaustion (burnout)

and supported with statements from the open-ended responses by the survey participants

and responses from the interview participants. Exploring the quotes from both groups

suggests there are multiple reasons workload was a barrier to role enactment, among

them a lack of understanding ("no idea what our role is") and access to resources ("There

is no money in the budget"). As with all work environment issues, the factors are

complex and inter-twined. Table 6.1 shows other work environment factors in the

demographics of the survey participants as contributors to workload barriers:

relationships with immediate supervisor, community poverty levels, number of buildings

covered, and years of experience. This information demonstrated that school nurse

workload is more than just a simple caseload ratio of the number of students served per

school nurse.

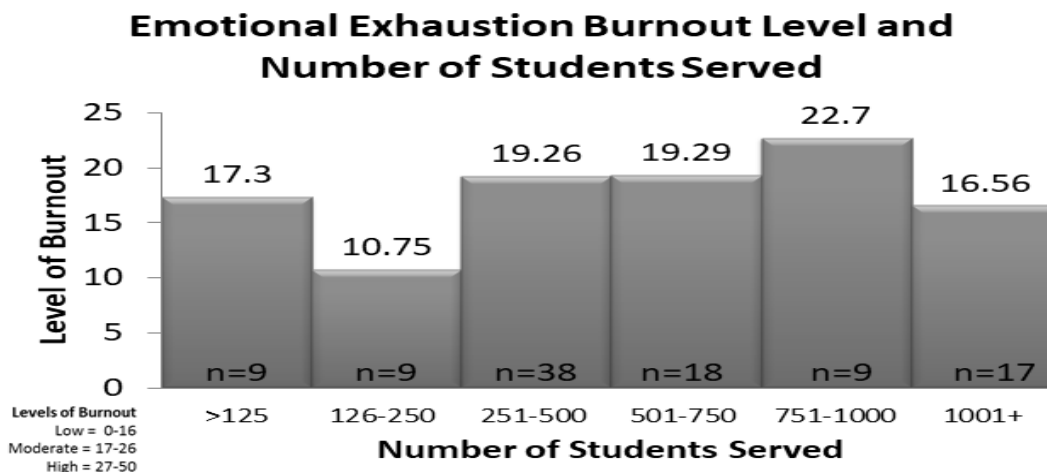*Figure 6.1*. Emotional Exhaustion Levels and Number of Students Served

Table 6.1

Demographic Factors Associated with Workload

Demographic Factor from Quantitative Survey	R	p	Open-ended Response Quotes from Survey Participants	Quotes from Interview Participants
Immediate supervisor	0.31**	0.00	Last year we had a direct supervisor who took everything we nurses had to say to administration and was able to get things done for us. The athletic director is in charge of the district nurses and has no idea what our role is....need I say more?	We don't have a nursing supervisor, unfortunately.
Number of buildings cover in usual week	-0.26**	0.00	I am often covering another building. Sometimes it is not a problem, but sometimes I have a roomful of students and need to be in 2 places at one time. This adds to frustration.	Covering over 20 schools. I almost never get a "duty-free" lunch period. It's very tiring to work 7 1/2 hrs. without break or time for lunch without interruptions.
Percentage free or reduced lunch	-0.37**	0.00	No quotes located.	It was specifically about that, the trauma [adverse childhood experiences] that students go through and how it affects their learning and how it affects them staying in school. I always say that you spend the most time on the one or two problem students. And it's multi-factorial like dysfunctional family, and this, and they're not availing themselves of services, I can't

				reach the parent by phone, and they haven't eaten.
Years as RN	-0.20*	0.05	No quotes located.	So having had that nursing experience is valuable in that particular venue in school nursing. You know what kids need and how they work.

Table 6.2

Workload Quotes from Interview School Nurses with Student Caseloads Less than 250

Quotes
This is kind of crazy, it was just a lot, these kids are sicker, and sicker, and sicker, and nobody ever-- everyone thinks, "Oh, It's great. No, send them all to school" but somebody has to take care of them. A lot of times, the parents aren't all that clicked in as to what's going on with them. As a nurse, I'm like, "Oh, my God." I always say that you spend the most time on the one or two problem students.
It was a lot of work. It was a lot of work trying to get my lesson plans in and get all the materials I needed on top of my regular stuff, and traveling among three buildings, so it was a challenge, but I did okay.
The numbers are increasing phenomenally with the number of students we have in the buildings. The number of students they send to the nurse is just crazy. For one person to handle it on their own and have paperwork and screenings and documentation and phone calls and doing all those other things that are so important.
I stay here most days until at least 4. There are days I'm here until 5, 6, and I do work at home. I spent last night writing a PowerPoint. That's not every day for sure and now that I've been here many years, I have a lot in place.
The afternoons are bad. They don't get that. Anyway, so then I do my screening and then after I do a lot of first aid in the afternoon, recess; recess injuries, some real some not real. A lot of throwing up after lunch, some real, some not real, and then gym in the afternoon. I think that everybody's level of tolerance is a little less in the afternoon, so they might have a kid complain all day "oh just go to the nurse already'. Afternoons get busy. Whenever they leave I start documentation of all their visits of the day and that kind of stuff.

AWS Control

Control over practice was a subtheme identified in the interview school nurse

data. School nurses believed they had limited control over their work environment. The

over-arching theme of "Caged Leaders" was formed from a statement made by one school nurse that she felt like a "caged bird" due to constraints to role enactment.

The opportunity to make choices and decisions, participation in important decisions and professional autonomy were studied in the control subscale (Leiter & Maslach, 2011). Control over practice was identified as a subtheme in the school nurse qualitative interviews. Many nurses described perceptions of control over practice that came from freedom (independence) in decision making in the clinical practice area; and reported the ability to make responsible discretionary decisions in regards to student care provision in the office. However, decisions regarding their professional practice at the school, state and national level were seen as limiting their control over practice and presenting barriers to their role enactment. The school nurses described barriers to participating in decision-making processes within the hierarchy of the work environment. For example within policies and procedures, "We do not have input into policies and procedures," and budgetary issues, "There is not enough money in the budget to provide all the necessary services and have all the necessary equipment. We are always forced to cut corners because of monetary constraints." Therefore decisions were often made without their input leaving the school nurses with a limited authority and lack of control over their professional practice.

It was a surprising finding that the AWS control subscale did not demonstrate lack of control as a barrier to school nurse role enactment. The control subscale had the highest score of each of the AWS subscales (M=3.81, SD=0.94). Descriptive statistics showed 79% (n=79) reported a job-person match, while 17% $(n$=17) perceived a job-person mismatch. The control subscale had significant, positive correlations with each of

the other five subscales of the AWS. Control was strongly correlated with community (0.64), values (0.60), and fairness (0.53). The survey school nurses reported the community and values subscales as job-person matches. As will be discussed in those subscales, the interview school nurses believed community (described in the qualitative findings relationships subtheme) to be a great barrier to their role enactment.

Regression analyses, with the MBI-HSS subscales as the dependent variables, (Table 5.8), showed that control was not a significant predictor in any of the models. This finding was consistent with the literature, no single AWS subscale acts independently, the subscales act together on burnout (Leiter & Maslach, 2009, 2011). Each of the regression models were significant when all AWS subscales were present in the model. Control had a small, but significant correlation with three demographic characteristics: months worked per year (-0.20), number of buildings covered in usual day (-0.23), and number of buildings covered in usual week (0.26). School nurses did perceive a job-person mismatch in poor work environments (M=2.85). However, this finding was expected as it followed the same pattern as the other AWS subscales in the poor work environments, much lower scores for every subscale in the poorest work environment.

Extending the findings to incorporate open-ended statements from the AWS survey the survey participants responses suggests that the questions in the control subscale may reflect control at the individual level, but not at a broader level. Seventy responses were coded to the AWS control subscale. Ninety-nine percent (n=69) of the quotes contained a negative response to the control subscale. Table 6.3 gives the only one positive quote and other selected negative quotes coded to the AWS subscale of control. Some areas where school nurses reported a lack of control ranged from school budgets,

teamwork, relationships, performance appraisals, and supervision. Concordance with the school nurse survey responses and the school nurse interview data was confirmed.

To help understand the data from the subscale of control, and to explore the environment through the lens of control, a cluster analysis of the school nurse work environment coded references is shown in Figure 6.2. The clusters are sequentially combined using a classification technique, progressively aggregated, and then presented graphically (Bazeley, 2010). The cluster analysis used all the nodes that were placed in the broad node heading of work environment. Each different word that appears in the text of the nodes (coded references) is counted and then analyzed with the other text in the work environment heading. Pearson's correlation coefficient (-1=least similar, 1=most similar) is calculated. Using the calculated similarity between each pair of items, NVivo groups the items into clusters, or homogeneous cases, showing a hierarchical clustering dendrogram (QSR International, 2017). The figure is interpreted by examining the hierarchy from right top to left bottom. Surveillance was the node that arose from the exploration of the qualitative interview data.

Surveillance from the perspective of the interview school nurses meant that school nurses struggled with a lack of control to manage their work environment. Surveillance indicates that the school nurses have the access to the resources that they require for information and preparedness to handle anything that comes through the door. As the school nurses discussed the barrier to their role enactment, it became evident that the ability to manage, care, prevent, treat, respond, with optimal care was related to a lack of control – a sense of "unmanageable" due to the great range of responsibilities and large physical space of the school itself. They were afraid, and used the words "scared,"

"afraid," and concerned for "safety," as they looked to have surveillance over their

school. One interview school nurse used the word "radar" to describe a student who

needed constant surveillance,

> I call him a level four because that's an OR term. A level four is like a really sick, medically fragile kid. He has this weird response, he's got these weird rashes, he's developed unexplained respiratory distress that I've had to call the ambulance on him. He's got asthma issues, he's got-- he's a kid on my radar.

Another interview school nurse talked about feeling "scared" not knowing where

everything one might need for an emergency is in place, "I am scared. You will know

where-- you can turn around here you'll be able to find all your asthma action plans, your

food allergy action plans. Anybody can walk through that door." Safety was a big

concern, as one school nurse spoke about how it was a "big responsibility" to manage the

entire school campus:

> I do the entire campus. . . so I do put in some long days, because I'll stay until six o'clock at night, so I'll come in around 7:30 am. Now, is this as busy as working in a trauma ER when you have 30 of your patients waiting for beds upstairs? No, it's not that bad. It's manageable. . .We get some crazy, hairy things, yes. It's a big responsibility, it's hard to be sure that everything is in place. . . that I haven't forgotten something.

To further understand control, the open-ended responses were examined on all

participants who scored a job-person match (scores>3.0) to see if there were responses

indicative of a lack of control over practice. Seventy-nine participants scored greater than

3.0. Presented here are five quotes indicative of a lack of control over practice:

- Too much emphasis is put on extra-curricular athletic sports. More money should be spent on capital improvements, the arts, and a stronger PE program and less money spent on the sports program.

- As far as resources I have no idea what they get. I've heard of numerous paid in-services, overtime for missed preps and meetings after school. That is not offered for the nurse.

- I am in the same union as the teachers, yet I do not have a duty free lunch. I cannot leave the campus at lunch. I feel like a hostage at times.
- It is really frustrating and disheartening to realize that there is no one to cover me for professional development, illness or personal time.
- State legislations that put our nursing licenses at risk causes a lot of stress. We are behind a rock and a hard place. State is dictating laws that is putting our nursing license on the line or requires extensive financial investment that we do not have.

Control integrated findings. Control was a significant predictor in the regression analyses predicting burnout and was significant and strongly correlated with the AWS subscales of community, values, and fairness. The interview data refutes the responses to the survey data. Interview data and open-ended responses from the AWS control subscales suggests the area of professional control experienced by school nurses may not be sufficiently captured, the participants may not have answered the questions from a broad perspective, or the construct is different within this study population.

Table 6.3
Control Subscale: Selected Quotes from the AWS Open-Ended Questions and Interviews

Control Area	AWS School Nurse Open-Ended Quotes	Interview School Nurse Quotes
	Positive Quotes	
Control over practice	Working as a school nurse allows me to be independent and work autonomously.	I just think it's just a great working environment. I can make it my own. I feel like I can work independently well, and I'm respected.
	Negative Quotes	
	Nurses are evaluated by non-medical administrators and these administrators do not understand the laws school nurses or what the nursing scope of practice is	I think what bothers me and what bothers the teachers also is that I'm just evaluated for those 20 minutes and he [principal] doesn't really work with me much besides that.
	Last, although I am assigned to one building, I am often covering another building.	"You're covering another building?" "Yeah when they can't get a sub and

| | Sometimes it is not a problem, but sometimes I have a roomful of students and need to be in two places at one time. This adds to frustration. | somebody calls out." "Does that sometimes mean that there's no one here?" "Mm-hmm (affirmative), yeah, which is not really a good thing. It's not. That one boy that has diabetes, he came in one day and his sugar was 500." |

Figure 6.2. Interview School Nurses Cluster Analysis for the Work Environment Node
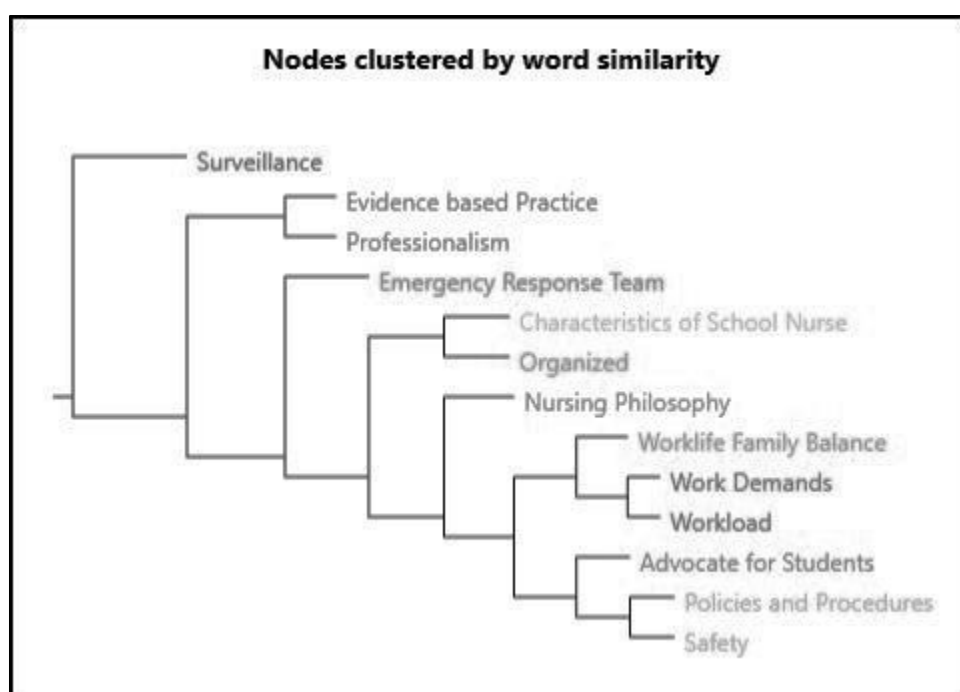
AWS Reward

Reward indicates recognition, both financial and social for one's contribution on the job. Reward also acknowledges contributions to work and clear indications of organization values (Leiter & Maslach, 2011). School nurses talked about positive rewards and negative rewards financially (work related benefits such as pay, insurance, vacation) and socially (quality of relationships) in their interviews. Thirty percent (n=6) of the school nurses reported positive financial rewards when asked, what keeps you in

the role. Financially, some school nurses talked positively about being "paid well" and

having July and August for summer vacation. In contrast, some school nurses spoke

about financial reward barriers with unfairness in salary and stipends. When asked, what

would push you away, none of the interview participants stated that financial rewards

would be a reason to leave the position.

Seventy-five percent (n=15) indicated that social rewards were keeping them in

the role. This nurse stated:

> Oh my gosh, I don't know, I love coming. I do love coming to work, there got to
> the point when I was working in the hospital I was actually dreading every shift. .
> . I feel like this is tough, but I have so many more happy moments here . . . and
> here it's just usually a fun nice atmosphere working with the students so I enjoy
> that. It makes me happy coming into work. And staying here.

Others interview school nurses voiced social rewards barriers where they did not feel

appreciated or valued in their role. These concerns were detailed most frequently in the

lack of understanding and relationships sections of the barriers to role enactment

subtheme.

No positive financial rewards comments were located from the survey school

nurses who responded to the open-ended questions. Twenty percent (n=8) of the 40

comments from the survey school nurses coded to the AWS reward subscale reflected

positive social rewards, "I find my work with my students to be personally rewarding and

well received. As the sole nurse in my building I believe that my unique skills are valued

by most staff members most of the time." The remaining 80% (*n*=32) comments denoted

negative comments. One nurse indicated dissatisfaction with financial rewards, "School

nurses can have many years of experience and get paid like a 22 year-old teacher."

Another nurse reported dissatisfaction with social rewards:

> Enduring nasty emails and voice mails because a child isn't cleared to play sports when the parent handed in incomplete forms a week late....Of course, not all parents are like this, the ones who are in a minority - but it feels like it happens all the time.

The survey findings were mixed. Sixty-three percent (*n*=62) of survey participants reported a job-person match, while 31% (*n*=30) reported a job-person mismatch. The survey school nurses had a greater number of negative comments related to rewards. However, counting quotes in the open-ended responses must be evaluated with care as the open-ended responses asked the participants to express comments regarding areas of their work environment they would like to change; and to add comments on any aspect of their work organization that had not been discussed. Reward was highly correlated with the community subscale (0.65), which is indicative of the quality of the social context with colleagues and service recipients.

Of interest is the quality of relationships within two groups in the school nurse work environment: the service recipients (students) and the rest of the groups that are part of the school nurse work environment (e.g. school administrators, school colleagues, parents, physicians). Many of the interview school nurse and survey school nurse comments were positive as they discussed social rewards and student relationships, and negative as they related social rewards to other group relationships. Often a comment begins with a positive statement related to student care provision, roughly along the lines of, "I love my job, but . . ." The "but" is then followed by a negative comment related to social rewards and other relationships, as shown in this comment from a survey school nurse, "I love the kids, they are great, but sometimes dealing with their parents gets tiresome." Another interview school nurse stated, "I love the students, but the

administrators. . . Not that I share nonsense with them, but they don't want to hear that we're way too busy for one nurse. They're like, 'Just get the job done.'"

Figure 6.3 shows the hierarchy of the relationships nodes. Administration and other school colleagues represented the greatest number of references. The relationships with students will be explored in the final section, My Kids. Twenty references were coded to student relationships, with 10% (*n*=2) as negative references. The school administration and colleague relationships had 195 references coded, with 54% (*n*=106) quotes negative.

Reward integrated findings. It is unclear in the questions from the rewards subscale if the survey school nurses were interpreting the questions regarding who is giving the school nurse recognition for the work. It is clear from the interview statements and open-ended responses that many school nurses perceive they are not receiving rewards from school administrators. Is the recognition and appreciation from the students off-setting the negative perceptions regarding the other groups that school nurses encounter in their work environment? The responses to this subscale suggest that student appreciation and recognition may be the reason the rewards subscale was so highly rated. Seventy-five percent of interview school nurses reported positive financial and social rewards were keeping them in the role. All 15 of the interview school nurses who reported positive financial and social rewards were keeping them in the role indicated that a factor related to caring for the students was keeping them in the role. Table 6. 4 shows selected quotes from the reward subscale.

Table 6.4
Reward Subscale: Selected Quotes from the AWS Open-Ended Questions and Interviews

Reward	AWS School Nurse Open-Ended Quotes	Interview School Nurse Quotes
	Positive Quotes	
Financial Rewards	None located.	I carry the health benefits for my family. I mean, my husband could get health insurance, but it's a lot higher rates through his employer. I like the hours, I'm able to see my kids' basketball games and be for them after school.
Social Rewards	School nursing is AWESOME overall! I can attest to this statement after 30 years in my chosen field! My career as a school nurse has proven to be the right choice for me. I have been very fortunate to work with great administrators and teachers in fulfilling the position of school nurse.	Now I can see the difference, my eighth grader is counting her carbs by herself. Self-care and the teaching and really making a difference, and helping them. I think it's good. I like it. I feel bad, I wish I could take half of them home with me. I know I can't so I feel like I'm just trying to do my part and help as best I can. However I can.
	Negative Quotes	
Financial Rewards	Salary-should not be on a teacher's pay scale. For my part time nurse to be full time and to get money for professional development and continuing education.	I am beating my head against a wall. It does make you feel useless, it makes you feel unwanted, unloved, and all that "wonderful" stuff. . . but, where they decide they're going to put their money. If parents are clamoring they all want iPads for the high school, that comes first, before anything else. It's really kind of a shut the parent up game.
Social Rewards	School nurses do not receive the same respect they once did. We are "necessary evils" in the eyes of administration.	You feel like you're in a thankless job, and I think that the teachers don't thank you, the parents don't thank you.

Figure 6.3. *Hierarchy of Relationships from Interview Data*
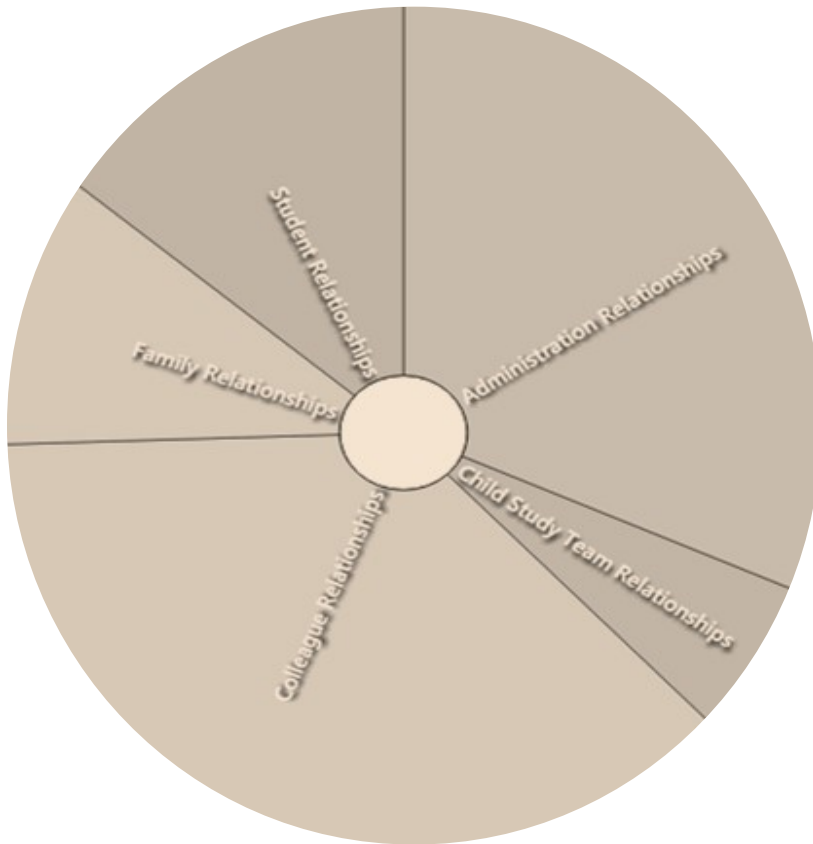
AWS Community

The community subscale measures the quality of the social context in which one works including relationships with managers, colleagues, subordinates and service recipients (Leiter & Maslach, 2011). Quality relationships and understanding was an important construct among school nurses. Participants shared stories of how collegial relationships have positive and negative influence on their personal feelings of fairness, value to the school organization, and the impact on student care quality and safety. A range of topics in the narratives encompassed availability of help and support, teamwork, camaraderie, inclusion in decision-making, and communication lines that are honest, open and approachable.

The participants' responses to the quantitative scales indicate that there is a high job-person match with community (*M*=3.76, *SD*=0.99). These findings were not congruent with the findings in the qualitative data. Community was highly correlated with control subscale (0.64), reward subscale (0.65) and values (0.53). Fairness was moderately correlated (0.44). The community subscale had 77 coded references from the survey school nurses' open-ended responses; 87% (*n*=67) of the responses were negative quotations. While some school nurses did report good working relationships, most participants described many areas of the school nurse work environment where collegial relationships were poor, they believed they had little ability to change or influence decisions regarding their work environment, unequal treatment within the school union, and almost uniformly reported that there was a perceived lack of understanding and recognition by others about their school nurse role and responsibilities.

Exploring the factors the interview school nurses described would push them away from school nursing, the statements indicated that relationships, followed by workload were the top factors that would push them away. For example, one interview school nurse stated, "What would drive me away? A really bad administrator. An administrator who does not see your value or worth, would drive me away." Table 6.5 shows quotes related to community.

Community integrated findings. The survey responses do not match the open-ended responses or the qualitative interview data. The large number of negative responses that indicate poor quality relationships with subordinates, colleagues, managers, and parents. There was also a significant difference in the community subscale scores between the normative sample and the study sample (*p*< 0.0000). The school nurses do

talk about their work and relationships with students in a positive manner. Yet, the survey

questions seem to be indicative of measuring relationships with adult colleagues and

school partners, not specific to the recipients of service, the student population. Most

school nurses are not describing a sense of positive connections with others at work. As

with the reward subscale, it is possible that the relationships with students are quality

social relationships, off-setting poor relationships with other individuals in the school

nurse work environment.

Table 6.5
Community Subscale: Selected Quotes from the AWS Open-Ended Questions and Interviews

Community	AWS School Nurse Open-Ended Quotes	Interview School Nurse Quotes
	Positive Quotes	
	Work with co-workers in my building is very rewarding.	I was asked by the superintendent to be the liaison between central office and the nurses to get all of these different things done and in place, do all the state reporting, and from there we developed this coordinator position.
	Negative Quotes	
	I would create a climate of collaboration and support among all 12 nurses in our district, by having regular nurses meetings in which support and collaboration is a focus.	Well, somebody decided to tell the principal that I didn't come right away, so they had this teacher hovering over me while I'm assessing this kid and taking his blood pressure . . . and as I walked him back, the teacher was like, "You know when we need you here, we need you here."

AWS Fairness

The Fairness Subscale measures the extent to which the organization has consistent and equitable rules for everyone. Fairness is also related to quality of justice and respect at work. Access to resources and resource allocation is understood and consistent (Leiter & Maslach, 2011). Fairness and valued status of the school nurse were two categories in the lack of understanding subtheme. No interview school nurses described any scenarios where they were treated the same as teachers in terms of the ability to advance in their career, and feel valued and recognized the same as other school employees. The interview school nurses described not being treated the same as teachers within the union organization, no opportunity to advance in their nursing career within the school work environment, lack of substitute school nurses, and a desire to have a duty-free lunch. See Table 6.6 for representative quotes.

There were 50 open-ended responses coded to fairness from the survey school nurses. 96% (*n*=48) of the responses were negative quotations. The survey school nurses responses to fairness indicated congruence with the interview school nurse data and the survey school nurse open-ended responses. The fairness subscale showed a job-person mismatch (*M*=2.92, *SD*=0.81). Fairness was significant and highly correlated with values (0.70), and control (0.53).

Fairness integrated findings. Findings were congruent with statements from the interview school nurses and the survey school nurses. Leiter and Maslach (2011) state that a lack of fairness indicates confusion in an organization's values and in its relationships with people. This finding is interesting as the community subscale (quality of relationships) was the second highest job-person match, but was incongruent with the

interview data and open-ended responses. The low score on fairness suggests that the

survey results may be more reflective of the organization's values, rather than

relationships with people, which was rated as a job-person match in this study. Table 6.6

shows quotes from the AWS open-ended questions and the interviews.

Table 6.6
Fairness Subscale: Selected Quotes from the AWS Open-Ended Questions and Interviews

Fairness	AWS School Nurse Open-Ended Quotes	Interview School Nurse Quotes
	Positive Quotes	
	None located.	My principal's very fair and very supportive and I like her a lot. I feel fortunate. She gets it. I always tell her I think you're really a nurse.
	Negative Quotes	
	So now we report to our building principals who do not always have our best interests at heart. They're often more concerned about the money or the parents or the community's view. That's not right.	We don't get a prep. Never. I could never just close the door and say, "Sorry." Same thing with my lunch. I eat at my desk as kids are coming in, I never get a lunch.

AWS Values

The values subscale measures what matters to the individual in their work and the

consistency between personal values and the values inherent in the organization. Shared

successes and values exist (Leiter & Maslach, 2011). The interview school nurses

described ethical issues that demonstrated a tension between personal values and/or

professional values with those of the organization. The interview school nurses confirmed

in their discussion in the qualitative findings lack of understanding subtheme category of

fairness the value of the role and services of the school nurse was seen as less than that of

a teacher.

Relationships with school administrators regarding budget to purchase supplies, and money spent on other programs that are non-educational such as extra-curricular sports were discussed as contradictory to the goals or mission of education. The area of values was described in the subtheme of relationships where the school organization and the school nurse have shared goals – the promotion of health and learning success for all students. See Table 6.7 for representative quotes

The values subscale had 43 coded references; 88% (*n*=38) were negative quotations. The survey findings indicated a job-person match with 69% (*n*=67). Values was highly correlated with fairness (0.66), control (0.60), and community (0.53).

Values integrated findings. The values of the organization were rated as a job-person mismatch in the fairness subscale. Yet, participants rated values as the second highest after the community subscale. Fairness and values were very highly correlated (0.70), which may indicate multicollinearity in this study population. But that does not explain the differences in job-person match for values, and job-person mismatch for fairness.

Table 6.7
Values Subscale: Selected Quotes from the AWS Open-Ended Questions and Interviews

Values Subscale	AWS School Nurse Open-Ended Quotes	Interview School Nurse Quotes
	Positive Quotes	
	My fellow nurses in the district seem to have the same values.	Everything is language, arts and math. If it's not language, arts or math it's this tiny little thing. If it wasn't for us keeping kids healthy and safe and making sure they have their medical coverage and all their shots and all of their things that keep them in school to be able to learn

the language, arts and math, those pieces would never happen.

<u>Negative Quotes</u>

School nurses are a vital part of the education system and are often overlooked by other professional staff members.	I've asked since I started there to meet at least a couple times a year just to go over, "These are the things that are going on. These are maybe the families or the issues that I might need her intervention or whatever," and it hasn't happened. It hasn't happened. I'm like, "We really need to meet."

MBI-HSS: Levels of Burnout

The school nurses as an aggregate were moderately burned out (*M*=18.13), indicating poor job satisfaction. Using iterative analysis, the top three nodes in the qualitative data that school nurses reported as contributing to poor perceptions of their work environment were two subthemes, relationships (coded references = 347), and workload (coded references = 305). The quantitative survey subscales with the three highest correlations were: Fairness and Values (0.70) and Reward and Community (0.654), Emotional Exhaustion and Depersonalization (0.632).

The construct of safety represents the hallmark of healthcare care provision. The participants in both groups indicated that safety and quality were top priorities in the school nurse work environment. The Institute of Medicine (IOM) reports a direct link between quality of healthcare services and the health outcomes of the patient and population health (Institute of Medicine, 2001). The accounts from the school nurses chronicled facilitators and barriers to student quality and safety. Many of the school

nurses described relationships and understanding of the school nurse role and responsibilities as barriers to quality and safe practice. Some examples were organizational processes, budget, workload, staffing, competent, evidence-based care, and access to necessary supplies and equipment. Outcomes for the student and the school nurse were affected. In some instances, the student and school community received safe, and quality care. The school nurse reported feeling well satisfied with their work and work environment. However, some school nurses reported feeling physically and emotionally exhausted by their frustration at not being able to provide the best care possible.

The quantitative data supports the voiced frustration and concern of the school nurses to be advocates for their students and school communities. It was clear that care provision that was of the utmost quality and safety must be present. The inability to provide this type of care affects the school nurses in the MBI-HSS subscale of Emotional Exhaustion. Table 6.9 shows the change in Emotional Exhaustion scores by different work environments (best, mixed, poor). Emotional Exhaustion represents a signal of distress in emotionally demanding work. See the Chapter 5 for further discussion on the differences in Emotional Exhaustion by type of work environment.

Table 6.10 represents the AWS subscales that denote aspects of care quality and safety in the school nurse work environment. The subscale of workload agrees that workload is a concern in the school nurse work environment (2.99). This subscale is the only construct in the AWS, indicating a poor job-person fit. The subscale of values is 3.50, indicating a high job-person fit, a divergence from the qualitative findings. Once again, this is a dissimilar finding from the examples and stories from the qualitative data.

This finding is especially striking as many of the examples given in the qualitative data were indicative of unsafe policies and procedures, lack of following state required laws and regulations, and emergency preparedness deficiencies.

       Levels of burnout integrated findings. Care quality and safety diminishes when aspects of the work environment hinder optimal care provision. There was a mixed concordant/discordant findings between the qualitative and quantitative data. The AWS workload subscale supports the evidence that heavy workloads, poor staffing and student acuity contribute to a poor job-person fit. School nurses highly rate a work environment where there is a match between the organization and their own professional and personal values. The quantitative data and qualitative data do not agree that professional and personal values are congruent in both groups. See Table 6.11 for integrated burnout summary.

Table 6.9
Descriptive Statistics of Emotional Exhaustion Subscale by Work Environment

Scale	n	M	SD	Min	Max
Emotional Exhaustion Total (EE)	96	18.13	12.09	0.00	49.00
EE Best Work Environment	24	8.54	5.77	0.00	23.00
EE Mixed Work Environment	47	17.93	9.66	1.00	42.00
EE Poor Work Environment	24	28.62	12.84	3.00	39.00

Table 6.10
Descriptive Statistics of Areas of Worklife Subscales that Impact Safety

Scale	n	M	SD	Min	Max
Workload*	98	2.99	.98	1.00	5.00
Values*	97	3.50	.81	1.50	5.00

*Areas of Worklife Survey Subscales
Workload subscale: amount of work to be done in a given time. Captures extent to which work demands spill into personal life, social pressures, and the physical and intellectual burden of job demands.
Values subscale: what matters to you in your work and the consistency between personal values you bring to your profession and the values inherent in the organization. Shared successes.

Table 6.11
Burnout Integrated Analysis Summary

Qualitative Categories	Quantitative Scales
Qualitative interview subthemes and categories that support levels of burnout: workload, relationships, control over practice, outcomes	Top three highest correlations in both survey subscales: Fairness with Values (0.70) Emot. Exhaustion with Depers. (0.63) Work environment (poor, mixed, best)

Influence on Work Environment, Burnout and Job Satisfaction
Job satisfaction

Perceived Influence on Work Environment
Burnout Score : moderate burnout

	Descriptive Statistics				
	N	Mean	*SD*	Min	Max
Emotional Exhaustion	96	18.13	12.09	0.00	49.00

Findings
- Years as a school nurse working in urban, low SES environment has an interaction effect, are likely to be burned out by 7 years on the job as compared to non-urban at 21 years in the role.
- Supervision: School nurses in poor and mixed work environments were more likely to be supervised by an RN (9%, n=7), versus best work environment (0%).
- Top three qualitative nodes are confirmed by quantitative data.
- Workload statements when examined with nurse-to-student ratio diverge. 76% (n=19) poor, 74% (n=37), best 71% (n=17) had 1:750 or less. Qualitative statements indicate complexity of workload that ratios are not a true proxy when used alone to measure workload.

"My Kids": I Love My Job, But…

Upon reading the analysis of the results, an interesting question arose: if the school nurses were reporting that issues in their work environment were so dreadful, why do they remain? The school nurses were asked in their interviews, "What keeps you in your role?" This question and another, similar question, "What would drive you away?" are explored in the discussion chapter. The reasons each of the interview school nurses stated when asked "what keeps you in your role" is detailed in Table 6.10.

This section seeks to discover and explore the data to understand the amount of negative qualitative statements, yet, school nurses stay in their job. The Burnout Profiles suggest that school nurses may stay in their jobs with moderate and high levels of burnout, but become ineffective and disengaged. Fifty-two percent of the survey school nurses were in a burnout level category in the Burnout Profiles.

Table 6.12 shows the integrated results for this construct. The study participants did report various reasons for staying in the job. Using iterative analysis, the primary investigator believed that rewards from "making a difference" and caring for the children may offset or moderate burnout. The respondents reported relatively high levels of Personal Accomplishment, therefore, perhaps their involvement with students did not as negatively affect their burnout scores. As indicated in the quantitative analysis findings, the level of aggregate burnout for this study population was significantly different and slightly less than that reported in other nurse specialty populations. The care and advocacy for the students may help explain the lower burnout scores for the study versus the normative. The lack of control over their work environment may also be a reason to consider that school nurses are using the one area they can control – personal control – by having relationships with the students that are positive and may be a mitigating or protective factor.

Throughout the school nurse interview narratives there were frequent references to the students they provide care for with two words: "my kids." This nurse spoke of worries about the care for students if she was out ill, "I get sick on weekends, that's it. Lucky me. I'm glad cause I would feel like who's going to take care of my kids? I don't know." Another nurse stated a similar care theme when asked what would push her away

from school nursing, "I think if something happened seriously to one of my kids and I was present and I couldn't do something or I didn't do the right thing."

The word "love" was stated 92 times in the school nurse interview data as the participants discussed aspects of their role. I love my job was stated by 13 of the 20 participants. One nurse stated, "I love it. I love talking to the kids here. I really do and it's just so amazing working with this population. I do, I love my job." Another nurse stated:

> I love my job. I absolutely love it and I say it like "I love my job," it sounds so like ... "You love your job, you're so nerdy," but I do, I'm so happy. . . I'm like, "It's awesome." I just feel like I get to do so much with this population.

Advocacy for the students was another area that the school nurses talked about, "I'm going to give them the compassion and caring and love and attention that they need and get them to where they need to be and then get them back to class." One nurse talked about being "mom, away from mom," "I don't know if it's the children, the innocence, sometimes, but most the destruction of the innocence drives me to try and be there for them. I'm mom away from mom, so if they find some comfort in me . . ."

The school nurses were there to listen and comfort, where others may not:

> Willing to listen. I know quite often, again I don't have an office. A lot of nurses just shove them out the door or whatever, I liked to take the time when I was in an office setting to listen. Maybe there's more than just a stomach ache. So impact that way.

Another nurse described listening, and giving attention, "I like it. I like helping the kids, especially the psycho/social aspect of it. I feel like a lot of them just want someone to come to, just want someone to pay attention to them for three seconds." Lastly, putting the student above self was evident in this quote:

> My rule of thumb is I really, and I believe this and I teach this to my students, that I want to treat each child the way I would want my kids to be treated in school. If

I always keep that in my mind then no matter how stressed out I am or how irritated I am I keep that in my head.

Despite the challenges and barriers the school nurses one nurse declared, "If I won the lottery. You know what I used to say if I won the lottery, I would probably still work. That's how much I do like what I do;" and, "You have to love it to put up with this, I think. For me, I'm still in it for the ride."

My Kids integrated findings. School nurses report overwhelmingly that relationships with the students and the school community keep them in their role. The subscales and individual questions that relate to caring behaviors found control, values and community the highest ranking scores. The relationships and advocacy for the students may play a moderating or protective factor in burnout. Therefore school nurses stay in the role for longer periods of time, despite poor working conditions. Table 6.10 shows the qualitative and quantitative data summary.

Table 6.12
Integrated Analysis Summary: My Kids

Qualitative Categories	Quantitative Scales
Interview question: "What keeps you in the role"	Burnout survey: Personal Accomplishment subscale
Word text query with love and similar terms to describe job: 102 coded references. 23% (n=23) reported, "I love…" aspect of role related to direct relations with students.	Demographics of participants by differing work environment levels (poor, mixed, best).
Top two qualitative nodes: Relationships and workload.	Top two quantitative AWS subscales: control and community.
	MBI-HSS Depersonalization and Personal Accomplishment significantly different, lower than normative sample.
	Matrix coding of qualitative statements from AWS subscales.
	Quantitative responses to subscales and individual questions by differing work environment level that relate to caring behaviors:
	AWS Workload "I have enough time to do what's important in my job" (M=3.3).

AWS Control "I have professional autonomy/independence in my work" (*M*=4.1). AWS Reward "My work is appreciated" (*M*=3.6). AWS Community subscale "I am a member of a supportive work group." (*M*=4.0). AWS Values subscale: "My values and the Organization's values are alike." (*M*=3.4). AWS Fairness: "Management treats all employees fairly." (*M*=2.9). MBI-HSS Emot. Exh. (*M*=18.13). MBI-HSS Depers. (*M*=4.30) MBI-HSS Pers. Acc. (*M*=41.50)

Table 6.13

Factors School Nurses Report as Keeping Them in Role Related to Student Advocacy and Caring

What Keeps You Here?
Food drives, clothing drives, provide resources. Love the kids "You have to love it to put up with this, I think. For me, I'm still in it for the ride.
I'm mom away from mom", "the kids."
Find comfort in me.
The destruction of innocence, be there for them.
God puts me wherever he wants me to be. I got the best job for school nursing.
I like helping the kids, especially the psycho/social aspect of it.
I feel like a lot of them just want someone to come to, just want someone to pay attention To them for three seconds.
Sometimes, it's not a stomachache, it's because they haven't eaten … or whatever the case is.
Likes being health educator, teaching students about caring for themselves.
Educating parents, helping.
Seeing the difference in the teaching and self-care.
Trying to do my part and help as best I can. However I can.
Oh my gosh, the nurse professional, she knows everything.
In general I love my job. I'm very happy here.
I feel like a celebrity.
Likes feeling needed by students.
I feel like I'm respected.
I'm respected.

Chapter Summary

       The qualitative data and the quantitative data found concordance in the AWS workload subscale and the fairness subscale. The subscales of control, community, reward and values were mixed. The qualitative data overwhelmingly indicated a negative perception of those areas of worklife. Counts of positive and negative references coded to the AWS open-ended responses and the qualitative interview narratives supported a job-person mismatch. Further exploration could not definitively state that one aspect method of data (qualitative or quantitative) held the correct perspective for the school nurses. There may be issues with the survey constructs, limitations of the study participants, or power and effect size contributing to the mismatch in findings. The discussion chapter will explore the divergence in the integrated findings.

Chapter 7
Discussion of the Findings

Introduction

The purpose of this research was to answer the overarching mixed methods question (Plano Clark & Manijeh, 2010): How do school nurses' perceptions of their work environment illuminate understanding of the relationships between their work environment, burnout and job satisfaction? The study combined semi-structured interviews with empirical instruments to form a robust investigation integrating qualitative and quantitative methodological traditions.

The study has three key findings. First, the qualitative data confirmed that school nurses have challenges and barriers to their role enactment that originate from the structures and processes of the work environment. Comparing data from both data sets, workload and fairness were congruent factors found in the qualitative and quantitative studies. Control, community, reward and values were mixed.

Second, school nurses exhibited a moderate amount of burnout. Intrinsic (personal characteristics) and extrinsic or situational characteristics (job demands, access to resources) of the work environment influenced how quickly burnout may occur. Workload and reward were significant AWS subscales predicting levels of burnout.

Lastly, the over-arching theme of "Caged Leaders" emerged from the qualitative data. See Figure 4.1 for the "Caged Leaders" depiction. The structures and processes of the work environment created the bars that constrained the school nurses. The lack of control over the structures and processes impacted school nurse role enactment, which in turn influenced nurse and student outcomes. From this description, the "Caged Leaders" work environment was explained through four subthemes: work environment (the

organizational structures and processes), control over practice (lack of control), barriers to role enactment (workload, relationships, safety, lack of understanding, professional development), and outcomes (nurse and student).

This chapter summarizes the key findings, examines them in relation to extant literature, discusses contributions to current knowledge, and identifies emerging questions and implications for school nurses, school administrators and school policy-makers.

Work Organization and Processes that Constrain Role Enactment

The "Caged Leaders" work environment model (Figure 5.1) is in line with the Job Demand-Control-Support-model (JD-R model), which postulates that access to job resources and working conditions influence workers' perceptions of the work environment (Bakker et al., 2014; Bakker et al., 2004; Demerouti, Nachreiner, Baker, & Schaufeli, 2001). Maslach and Leiter (2004) continued to expand the research using the JD-R model and developed the theory of job-person mismatch. The authors used this theoretical framework to examine individual and organizational factors of the work environment where mismatch may occur. The Areas of Worklife Survey (AWS) was developed as Maslach and Leiter identified six factors of the work environment: work overload, lack of control, insufficient reward, quality of community relationships, absence of fairness and values conflict. These six areas were identified as antecedents to levels of burnout (Leiter & Laschinger, 2006).

A great amount of research has been done that examines the facilitators and barriers that contribute to worker job satisfaction. Work related burnout, the feelings of emotional exhaustion, depersonalization, and lack of efficacy in the work environment

(Maslach & Jackson, 1981), has been linked to adverse consequences, including a

reduction in job satisfaction (de la Cruz & Abellán, 2015; Dyrbye et al., 2017; Lambrou,

Merkouris, Middleton, & Papastavrou, 2014; Leon, Halbeslebena, & Paustian-Underdahl,

2015; Manzano-García & Ayala, 2017). Additionally, research shows that poor work

environment experiences that influence job satisfaction pose a threat to the organization

as job burnout can negatively affect work performance (Bakker & Costa, 2014; Ryan et

al., 2017), worker engagement (Greco et al., 2006; Laschinger & Leiter, 2006), and intent

to leave (Breau & Reaume, 2014; Lambrou et al., 2014; Lavoie-Tremblay, Fernet,

Lavigne, & Austin, 2016; Leiter & Maslach, 2009; Mahon & McPherson, 2014).

No studies on the burnout rate of school nurses were located in the current

published literature. Literature in the U.S. and international acute care nursing settings

has described specific factors that are significant contributors to nurse job satisfaction,

improved patient outcomes, lower rates of mortality and higher levels of patient

satisfaction (Aiken & Patrician, 2000; Clarke & Aiken, 2006; Lucero et al., 2010; Vahey

et al., 2004). Those factors are described in the Nursing Organization and Outcomes

Model, which includes adequate staffing and access to resources, collegial relationships,

control over practice, authentic leadership and participation in decision-making processes

(Lake, 2014; Lake, 2002, 2007).

The first research aim asked, what factors of the school nurse work environment

support or constrain professional role enactment. The "Caged Leaders" (interview school

nurses) perceived that organizational structures and processes constrained their role

enactment. Those work environment structures and processes are described in Chapter 4.

The school nurses described a lack of control from organizational structures and

processes such as limited access to opportunities for advancement and career growth within the school organization. The school nurses talked about feeling stifled and having to look to other areas, such as obtaining advanced graduate degrees, for growth opportunities. In addition, career growth through attendance at professional development trainings and workshops was often cited as problematic due to a lack of substitute school nurses to obtain time off during the work week. The school organization hierarchy of communication and access to information was expressed through statements such as one nurse reported when a local school health policy decision was made without knowledge or any nursing input, "There was never a mention to us nurses. We had no idea." Access to resources presented constraints as the school nurses spoke about frustration with school budgets, school budget priorities, and missing needed medical equipment and supplies.

Challenges within the social structures and processes came from the administrative hierarchy and bureaucracy of the school. Collegial and supportive relationships, feeling part of the school team, and collaboration were described by the participants. The school nurses described how they often believed that "no one gets it," and felt there was a lack of support and understanding for their role. Most frequently, the lack of understanding for their role was related to the immediate supervisor who was usually a non-nursing supervisor. The school union was also discussed, as many school nurses are part of the teachers' union. They felt they were not treated like everyone else in the building, especially in relation to obtaining a "duty-free" lunch. The school nurse indicated that she would attempt to take a break, but were often interrupted by an "emergency." The inability to leave the office left some feeling isolated. This isolation

may contribute to poor relationships and lack of understanding as the school nurse cannot interact with school colleagues outside of their office. They cannot leave the office to attend meetings, participate in committees, or eat lunch with other school employees in the faculty break room. Those who did indicate they participate in committees or meetings often indicated they had to ask to be included; the school nurse was not routinely regarded as integral to the academic success of the student. More often than not, school nurses felt as one nurse put it, "Sometimes people will think of the nurse and sometimes they don't, even when there's medical stuff."

School community characteristics such as culture, ethnicity, community size, location (urban, non-urban) also contributed to difficulties. Urban school district school nurses spoke about supporting students and their families in finding health care services. Urban school levels of poverty were higher than non-urban schools.

Mandated policies, laws and regulations are described in Chapter 4. The school nurses described adherence to these policies often presented challenges. The required paperwork and school nurse tasks, such as mandated annual screenings and writing Emergency Care Plans (ECPs), added to workload frustrations.

Lastly, the scope and standards of practice were described as an area where the school nurses believed there was a tension between the standards and expectations of the role. They often struggled to provide minimum care, "You've got to prioritize and you do what you can do;" while other role expectations included care coordination, leadership, quality improvement and promotion of community health and public health.

The survey school nurses' perspectives of the organizational structures and processes were reflected in each of the six subscales of the Areas of Worklife Survey

(AWS). While the AWS subscales are not defined in terms such as political structures, or scope of practice, the inherent meanings of the subscales addresses the structures. The school nurses described obstructions to role enactment that were consistent with job-person match theory (Leiter & Laschinger, 2006; Leiter & Maslach, 2004), burnout theory (Maslach, 1982; Maslach & Jackson, 1981), and the Nursing Organization and Outcomes Model (Aiken & Patrician, 2000; Lake, 2002, 2007).

Control

The driving force behind the barriers to role enactment came from the limited control, power and authority school nurses have over the structure and processes of the work environment. Kanter (1993), described control over practice as a power dynamic: "the ability to get things done, to mobilize resources, to get and use whatever it is that a person needs for the goals he or she is attempting to meet" (p. 166). While there are many definitions of power in the social sciences, the concept of power in nursing signifies the kinds of power over nursing care in order for nurses to make their optimum contribution (Manojlovich, 2007). This suggests that power and control are linked. Manojlovich (2007) describes in a historical analysis of power and empowerment in nursing that there are three types of power that nurses need in the work environment to make their optimum contribution: control over the content of practice, control over the context of practice, and control over competence. These control domains are not exclusive of each other, they each must be present.

The school nurses described factors from these three areas in the narratives. The first power domain, control over the content of practice, describes professional autonomy. Kramer and Schmalenberg (1993) described this domain as the "freedom to act on what

one knows" (p. 62), and is often synonymous with autonomy (Manojlovich, 2007). The school nurses used words such as freedom, independence and autonomy to describe their practice. They were describing control over the ability to make decisions about their clinical practice. For example, decisions about how to treat and prioritize an illness or injury. However, this level of control by itself, which many school nurses reported was present in their practice, has limitations as Manojlovich states that having control over the content of nursing practice "may not be enough to provide power for nurses." (para. 22). For example, the same nurses who reported the control subscale as a job-person match (scores>3.0) made statements indicating that control over their practice was poor.

The second domain, control over the context of practice, represents the attributes of organizational social structures. Manojlovich states that nurses may not be able to use their professional preparation, which focuses on autonomy and independence, because they have a lack of control relative to organizational administrators. Therefore, having control over the content of nursing practice may not give nurses enough power to fully experience control that contributes to optimum practice. For example, magnet hospital characteristics that attract and retain nurses includes professional practice models or shared governance, collaborative governance, ability to influence decisions and participation in decision making (Aiken & Patrician, 2000). The integrated findings were mixed in this control domain, however the open-ended responses from the survey school nurses indicated that control, especially in regards to relationships was challenging. The qualitative school nurses spoke about poor relationships often, some relationship events even suggested incivility or bullying. For example, the event described by one school

nurse who was transferred to another school after calling child protective services against the request of the principal.

Lastly, control over the competence of nursing practice has its foundation in educational preparation and knowledge development (Manojlovich, 2007). Organizations that are aimed at promoting nurses power through the use of their professional skills and expertise contribute to the job satisfaction of the nurse (Aiken, Havens, & Sloane, 2000). Again, the integrated findings were mixed. However, the both groups of school nurses spoke about the lack of opportunities to participate in professional development. They also voiced concerns about professional competence in relation to their performance appraisals, which were most often done by a non-nurse administrator who is unfamiliar with evaluating a health care professional and the school nursing scope and standards of practice.

The school nurses described events and factors in the work environment indicative of challenges and a lack of control in each of the three domains. While the school nurses may believe they have control over the content of nursing practice domain, the findings suggest that there is limited control in the context of nursing practice and control over the competence of nursing practice domains. The lack of control suggests that similar to other work nurse environments, overall control over practice is linked to job satisfaction (Lucas, Laschinger, & Wong, 2008; Rafferty, Ball, & Aiken). These findings are consistent with findings reported by (Laschinger, 1996; Laschinger, Finegan, Shamian, & Wilk, 2001; Laschinger, Sabiston, & Kutszcher, 1997). Similarly, researchers have found that control over practice has a large inverse effect on burnout (Greco et al., 2006; Manojlovich & Laschinger, 2007). Researchers in the school nurse

work environment have also found that autonomy (Junious et al., 2004; Simmons, 2002) and empowerment (Broussard, 2007) were areas school nurses discussed as challenges and barriers in their role enactment. A study by Kramer and Schmalenberg (2003) found that access to resources and power were important for nurses working in magnet hospitals. This suggests that nurses who work in environments with limited control over practice, are at risk for burnout. Therefore, the lack of control over practice, lack of access to resources and limited authority or power suggests that school nurses will likely experience stress and frustration which could lead to burnout and reduced job satisfaction.

Burnout and Work Environment Relationships

The second and third research aims of this study were to determine what aspects of the school nurse worklife are areas of perceived stress and their relation to burnout. As demonstrated in the control section, individuals who have limited control over areas in their work environment may experience burnout. Burnout, the dependent variable in this study, was defined as a complex condition with three dimensions: emotional exhaustion, depersonalization and decreased personal accomplishment (Maslach et al., 1996; Maslach et al., 2016). Emotional exhaustion is directly related to job-related chronic stress, and has been described as the core component of burnout (Leiter & Maslach, 2016; Leon, Halbesleben, & Paustian-Underdahl, 2015).

In this study, personal accomplishment and depersonalization had moderate to strong correlations with emotional exhaustion. School nurses reported moderate levels of emotional exhaustion, low levels of depersonalization and high levels of personal accomplishment. Depersonalization and workload had the highest correlations with

emotional exhaustion, which is consistent with the literature (Maslach et al., 2016). The Maslach Burnout Inventory Human Services Survey (MBI-HSS) profiles captured an enhanced understanding of the individual subscale patterns. While 48% of school nurses were considered engaged in their role, the remaining 52% were in burnout-level categories. Burnout profile analysis is an emerging research area; the rationale being that defining groups can function as an early warning mechanism for developing burnout (Leiter & Maslach, 2016). Use of the profiles supports the goal of creating specific interventions to reduce job related burnout.

The importance of the dimension of personal accomplishment suggests that the high levels of personal accomplishment school nurses perceived in their job played a role in the person-job match measures of the AWS subscales and the levels of emotional exhaustion (burnout). It is not entirely clear how to make sense of this result; however, it appears to be a critical element for those nurses who may be at risk for burnout have high levels of personal accomplishment, a feeling of "making a difference." The integrated findings suggest that personal accomplishment and the interview school nurses "my kids" may mitigate or provide protective factors to burnout.

No one predictor or significant AWS subscale has been identified in the research as critical to predicting burnout, therefore this remains an exploratory issue (Leiter & Maslach, 2009). Additionally, there are few studies in the literature using the AWS as variable ((Bamford et al., 2013; Laschinger et al., 2006; Leiter & Maslach, 2009). What was concluded from this research is that school nurse burnout is related to a complex interaction of stressors that affect the individual mentally and physically. The subsequent goal of examining the AWS dimensions is to describe the implications that will support

the development of policies, practices, and interventions aimed at breaking the cycle of burnout.

Job demands: Workload. The integrated results indicated that the primary issue in the work environment was workload, with emotional exhaustion as a function of an "unmanageable" workload. School nurse workload is a factor associated with the development of stress. The statements used by the both groups of school nurses to describe their stress included exhaustion, losing sleep, frustration, and anxiety. The relationship between stress and workloads for school nurses is based on the school nurse profession itself. Examples from the interview school nurses' responses of the types of workload demands included: daily routines, indirect care, non-nursing task such as housekeeping, professional demands, caring for student illnesses and injuries, and the overall comprehensive pressures that come with being the only health professional in an education environment. Workload mismatch drains energy through excessive demands, and interferes with recovery by generating pervasive anxiety that continues beyond the workday (Bamford et al., 2013).

Structural and organizational characteristics of the school system, such as school nurse workload can affect care quality and patient safety. When nursing shortages take place, the workload increases for those who remain. As school boards seek to develop budgets in the face of rising costs, reduced expenditures, and staffing, school nursing is often the first area cut. A heavy nursing workload can affect the amount of time to perform various procedures; decreases the time spent collaborating and communicating with school colleagues, parents, and other healthcare personnel; low morale and work engagement; anxiety; patient errors; violations or work-arounds in care procedures and

regulations; and a systemic effect on others in the workplace (Carayon, Alvarado, & Hundt, 2007; Carayon, Schoofs Hundt, Alvarado, Springman, & Ayoub, 2006). Examples from the interview school nurses included statements such as knowing that Emergency Care Plans or Individualized Health Plans were not in place, and occasions when medications were not administered as prescribed due to workload issues.

Workload stress factors associated with school nurse workloads are dependent upon how the school is organized and what systems are in place. Organizational structures and processes can impact and diminish the perceived job satisfaction school nurses may feel when organizational structures support their role (Laschinger, Gilbert, Smith, & Leslie, 2010). In this study the school nurses perceived that effective organizational structures as demonstrated by the positive person-job match in the AWS subscales of reward, community and value increased when low levels of burnout were present; and, workload and community were the most highly weighted subscales in the model predicting emotional exhaustion. As discussed in the control section, it is not surprising that community subscale, which measures quality of relationships and social processes was so highly weighted. The interview school nurses support this in their responses regarding relationships and their function in barriers to role enactment.

An interesting finding was that there was no difference in the number of students served and the level of emotional exhaustion. This confirms the research literature that workload is a complex entity. Measuring workload as a function of school nurse to student ratios, while easy to measure, ignores the contextual and organizational characteristics of the particular work environment. Therefore, research on workload instruments and staffing levels should examine multiple dimensions of work factors,

rather than one source of data to inform decision making (Alghamdi, 2016; Bowling, Alarcon, Bragg, & Hartman, 2015).

Job resources: Control, Reward, Community, Fairness, Values. Regarding the control subscale, school nurses work in isolation, often the only healthcare individual in an educational institution. Therefore, the school nurse may have more control in their work, their work processes and the opportunity to make choices and decisions than nurses working in acute care hospitals. The community subscale addresses the quality of social interaction, especially relationships. While school nurses work in isolation, the subscale indicates mutual support and the capacity to work as a team is present in their job, off-setting the physical isolation of the role. Burnout research supports this relationship; personal accomplishment is closely related to a sense of community. Both subscales were statistically higher in the study participants than the normative sample (M. P. Leiter & Maslach, 2011). Lastly, school nurses perceived their personal expectations and those of the school organization to be a greater person-job match than the normative sample. This suggests that the participants believe that they are contributing to a meaningful personal objective, which is also reflected in the high scores of the personal accomplishment subscale.

The job resources scale, with the exception of fairness did not align with the interview school nurses depiction. The school nurses described barriers to their practice in terms of lack of understanding, "nobody gets it," relationships, "We should be a member of the superintendent's administrative team," fairness "not treated like everybody else," safety, "it's not safe," and professional development, "we only get two professional development days a year."

School District Characteristics

The survey subscales that correlated with the school district characteristics were weakly correlated. Those with the highest levels of correlation were workload related factors. However, it should be noted that difference in work environment and sources of stress were found in a combined model of controlling for years as a school nurse, urban school districts and the number of students who obtain free or reduced lunch (proxy for low socio-economic status (SES) was a key element in the trajectory of burnout. These findings relate to the school nurse context suggesting that teaching in an underprivileged area was related to higher scores for emotional exhaustion, with a greater trajectory for burnout when compared to non-urban schools with lower SES.

School Nurse Personal and Personality Characteristics

In this study, the outcomes of interest were based upon the responses to the MBI-HSS, AWS and limited school and personal covariates of interest. Certain factors that have previously been reported as important for burnout were not addressed by the surveys in this study. An element that may contribute to burnout in this study is gender. Unfortunately, the study sample did not enroll any male school nurses. However, it is important to consider that gender differences in sources of stress and societal norms may explain, in part, some of the results. One element that may contribute to gender differences is societal norms and expectations. For example, women may hold employment outside the home, but continue to have the main responsibility for housework and family. The combined demands of work and home may result in higher levels of stress (emotional exhaustion subscale). The female gender role also expects women to be more likely to emphasize relationships, conflict avoidance, gentleness and

pliability. Therefore, women may be more likely to have greater emotional exhaustion than depersonalization (Purvanova & Muros, 2010). In this study, the findings were consistent with female gender role norms, higher emotional exhaustion with lower scores on depersonalization.

Outcomes

The consequences of burnout and poor work environments are high turnover rates, absenteeism, ineffectiveness and low job satisfaction (Battistelli, Portoghese, Galletta, & Pohl). School nurses indicated in the integrated findings that workload and fairness are two areas to explore in the school nurse work environment. School nurse administrators and policy makers should aim strategies at increasing the school nurses' sense of control. Outcomes described by the school nurses were frustration, anxiety, scared for the safety of the students, and a lack of sleep. A moderate level of burnout was reported from the MBI-HSS. Outcomes for students were not measurable events, however the interview school nurses did give examples that medications had been missed, and equipment and needed medical supplies were not available to provide mandated care.

Outcome metrics for school nursing are difficult to calculate as there is little data available for use. The acute care setting has successfully used nurse sensitive quality indicators to link patient outcomes and nurse outcomes to organizational structures and processes (Aiken et al., 2011; Cimiotti, Aiken, Sloane, & Wu, 2012; Kleber, 2014; Kutney-Lee, Wu, Sloane, & Aiken, 2013; Li et al., 2013). Some examples of nurse sensitive quality indicators include patient falls, decubitus ulcers, urinary tract infections, and central line infections. Currently the Agency for Healthcare Research and Quality

(2016) quality indicators for pediatrics are in-patient measures such as neonatal infection rates. Outpatient or ambulatory care setting nurse sensitive quality indicators that may be applicable to school nursing were not located.

The National Association of School Nurses (NASN) has implemented a "Step Up and Be Counted" initiative that collects data at the national level about the health needs of students in schools, and how school nurses support those needs. In addition, two recent articles examined potential nurse sensitive indicators through the lens of workload (Daughtry & Engelke, 2017; Jameson, Engelke, Anderson, Endsley, & Maughan, 2017). However, presently no definitive metrics have been defined for use. Thus, the ability to link student health outcomes and academic outcomes to school nursing care delivery or care processes is limited.

School nurse outcomes such as turnover, intent to leave, and workforce data are difficult to obtain as the data collected is inconsistent from state to state. For example, the New Jersey Department of Education reports statistics to inform consumers about the number of students to teacher ratios by grade levels, schools, district and county. Data for the school nurses in each school building is not available. There are no current statistics available from the Department of Education or other New Jersey state nursing workforce registries that indicates the current number of certified school nurses in the state, the number of certified school nurses working as school nurses, and the number of nurses who work as school nurses in private schools. The lack of this information prevents school administrators and policy makers from making informed decisions about workforce interventions.

An important objective of school nurses is to facilitate the Whole School, Whole Community, Whole Child Model (Lewallen, Hunt, Potts-Datema, Zaza, & Giles, 2015) approach to learning; and to promote greater alignment between health and educational outcomes (Maughan, Duff, & Wright, 2016). These findings provide evidence there are stressors in school nurse work organizations that need to be addressed to foster student success, and encourage the optimal use of this important workforce.

Healthy Work Environment

The findings indicate that identifying critical organizational stressors are important in order to facilitate an understanding of the school nurse work environment, and develop strategies and interventions that promote a healthy work environment. The elements of a healthy work environment are fundamental for nursing and healthcare work organizations that have demonstrated effectiveness in attracting and retaining nurses, and which factors are associated with safety, quality of care, and patient outcomes (American Association of Critical-Care Nurses, 2016). However, school nurses are not generally recognized as a critical partner in health care, often described as a hidden system of health care (Lear, 2007), and viewed as a safety net at best (Lineberry & Ickes, 2015). The AACN (2016) describes best practices in a healthy work environment have six essential components: skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition and authentic leadership.

Twenty-eight percent of school nurses reported a high degree of emotional exhaustion (scores ≥27). It is significant to note that various factors contribute to burnout, such as increased workload, job demands, patient acuity, staffing shortage, and limited support from supervisors and colleagues (Dyrbye et al., 2017; Goodwin, 2017; Lang et

al., 2010; Poghosyan et al., 2009). Our finding that the worklife factor of workload was a significant factor in predicting school nurse burnout underscores that a healthy work environment is of even greater importance when the health, safety and learning outcomes of children in our schools are at risk. Weinberg (2003), in her landmark book, *Code Green*, described how nurses felt compelled to try to meet patients' needs without the necessary resources, and adequate time in their workload to plan care, or evaluate treatment plans. Administrators suggested that nurses "used the language of patient risk to increase their control over organizational policies and practice, not to communicate a real threat to the quality of care." (loc 358). We now understand that the threat to quality of care and poor patient outcomes is indeed related to the antecedents of burnout: lack of control, workload, staffing, and adequate time to provide care (Bakker et al., 2014; McHugh & Ma, 2014; Rochefort & Clarke, 2010; Van Bogaert, Clarke, Wouters, et al., 2013).

Chapter 8
Conclusion

Summary

The purpose of this mixed methods study was to explore school nurses'
perceptions of the factors in the school work environment that impact their professional
role enactment, and organization factors influencing burnout and job satisfaction. This
study adds significant evidence to the literature on the school nurse work environment,
and demonstrated there is a need for further research as there is a limited amount of
inquiry examining organizational climate for school nurses. The "caged leaders"
portrayed the political, social, and community structures as the bars to the cage. The bars
then constrained the role enactment of the school nurses who reported relationships,
workload and control over practice and nurse and student outcomes were affected.

This was the first known use of the MBI-HSS and AWS with school nurses found
in published research and dissertations, addressing a gap in the school nurse work
environment literature. This is also the first known mixed methods study on the school
nurse work environment in New Jersey or any other state. Despite the fact that school
nurses are delivering care to millions of school children in the U.S., we know very little
about how the school work organization affects this nursing specialty, care delivery, and
outcomes. The evidence provides a beginning point for investigating predictors of school
nurse burnout, organizational factors that influence role enactment, and job satisfaction.
The integrated findings were mixed, especially in regards to the control subscale.
However, the integrated findings provide insight into the barriers to role enactment and
the relationship with control and power.

Finally, this study raises key questions that school organization leaders might consider if they are interested in strategies that aim to deepen the support for student learning outcomes: are we adequately investing in all levels of school personnel to develop the school community stakeholders and partnership relationships that are fundamental to student learning objectives and building a culture of health?

Conclusions

The integrated findings of this study support that relationships exist between levels of burnout and workload. The school nurses in this research study demonstrated that workload, relationships and control over practice are important to role enactment. The role of "my kids" may be a protective or mitigating factor of burnout. School nurses reported variability in the area of control over practice. A theoretical relationship between three domains of control was found in the literature with similarity to the discussions from the interview school nurses; offering an explanation for the divergence in the control findings.

An inverse relationship was found between work environment factors and Emotional Exhaustion, Depersonalization and Personal Accomplishment. Among the variables tested workload, control and reward were significant and highly correlated to job-related burnout. Years as a school nurse, school location and poverty levels were significant predictors to how quickly a school nurse may burnout. There was a job-person match with the variables of control, rewards, community and values. There was a mismatch with workload and fairness. The results of this study revealed that in this sample the combination of all six AWS subscales predicted Emotional Exhaustion,

Depersonalization and Personal Accomplishment better than a combination or any one variable alone.

Generalizations from this study are limited by several factors. First, the quantitative analyses were based on cross-sectional self-report surveys. The ability to establish temporality is a threat in cross-sectional studies. There is no capacity to establish antecedents, therefore the direction and causality cannot be established. Second, the sample population was small, consisted of a convenience sample, contained only enrolled female subjects, and was obtained from professional membership. This may have contributed to differences in the study sample and normative samples. Added to this, despite the similarity of factors that have been related to nurses' burnout in acute care nursing, it may occur that distinct contextual differences in school organizational processes and social processes may affect the measures.

The participants were all from one state. While this is a strength in the homogeneity of the study population, it is also a limitation to generalization across other areas of the country as school nursing is operationalized differently in various areas of the U.S. Therefore, the information obtained is not generalizable to other states.

However, the data did provide the researchers with a developing understanding of the usefulness of the MBI-HSS and the AWS to explore the dimensions of the school nurse work environment in a larger, national survey. A further limitation was the power of the statistical tests was reduced, increasing the probability of a Type 2 error. Larger data sets will be essential in future studies.

The qualitative methods were based on sound focused qualitative description methodologies. The PI obtained a representative sample across the state that varied by

location of school, age group served, and years of experience. A strength of this study was the ability to examine complex phenomena to explore new areas of research and obtain a deeper understanding of the school nurse work environment.

It must be noted here that the focus of this study was on barriers to the role enactment of the school nurse. During the course of the interviews, the semi-structured interview questions were not created to explore only negative perceptions of the school nurse role. However, many of the participants shared largely negative views of their role. This may be related to the fact that most school nurses work in isolation and do not often have the opportunity to vent about their work environment with someone who "gets it."

Implications for Practice

Conceptual framework. The nurse work environment has been measured in various settings, primarily acute care, hospital settings. There has been little research in the community health and public health nursing specialties that focus on the development of domains of the work organization for school nursing. Further research is required to develop a framework that accurately depicts all the domains of the school nurse work environment that school nurses perceive to affect their role and outcomes.

Instrument development. While the MBI-HSS and AWS form a beginning foundation to measure the school nurse organizational climate, the instrument may not be adequate to capture all the domains in the school nurse work environment. There are other research instruments that measure nurse work environments. Future research is needed to explore the use of those instruments to determine their suitability for use. A scale is only reliable for a specific population and a specific construct in that population. Due to a lack of research in the school nurse work environment, it is not possible to be

certain the constructs are the same as acute care settings. Psychometrics can then be evaluated to determine if further refinements or perhaps abandonment of the scale use is necessary.

Outcomes research. Research linking the school work organization characteristics to school nurses and student and/or community outcomes was not located in the published literature. There is limited extant data to allow identifying school nurse care provision through Medicaid care provision. However, federal Medicaid requirements are complex and vary by state. The ability to identify school nurse care in school administrative data systems is challenging. Documentation systems are necessary to provide the evidence to develop and support understanding the impact of the school work organization characteristics on school nurse outcomes, student outcomes and population health outcomes. Research that explores differing contextual factors at the work environment level that explains the difference in the perceptions of the work environment at the individual level are needed. Lastly, investigations that measure the impact of the school work organization on school nurse outcomes such as burnout, intent to leave, and job satisfaction will provide school administrators with evidence that suggest appropriate, targeted resources that support school nursing practice.

Policies and procedures related to burnout awareness and interventions. Implications from this research point to the responsibilities of school nurses, school administrators and policy changes. School nurses and school staff need to be educated on the concept of burnout, leading to an increased awareness the symptoms of burnout, it's consequences to self and students, and awareness of coping strategies. As recommended by Bodenheimer and Sinsky (2014), "The Triple Aim", enhancing patient experience,

improving population health, and reducing costs must include a fourth aim. That fourth aim, represents including the goal of improving the worklife of healthcare providers. It is recommended that the organization embrace a healthy work environment that addresses through policies and procedures not only the task-oriented, care provision aspects of the school nurse work environment, but to consider continual support through recognition of performance, inclusion in decision making processes, meaningful team collaboration, and authentic leadership. Developing wellness programs may allow for improvements in retention and recruitment of school nurses. An annual employee survey, or systematic assessment of burnout and areas of worklife can provide school organization leaders with the necessary data to implement appropriate strategies.

Recommendations

Nursing Science/Research. Work environment research in the school nurse specialty practice has limited research. This study on factors that support and constrain role enactment, and influence burnout and job satisfaction supports the actions of school administrators and policy-makers as they create a healthy work environment (Bargagliotti, 2012). The results of this study help to define the work organization stressors and may offer valuable insight into developing interventions.

While a theoretical framework was not part of this mixed methods study, the Job Demands-Resources model (JD-R) may provide a foundational model that integrates job demands and job resources with burnout. Additionally, the theoretical models related to autonomy, control, and empowerment should be considered to guide future studies (Manojlovich, 2005, 2007; Manojlovich & Laschinger, 2007).

In discussions with the school nurses it was noted that most of the school nurses did not relate their role to the aspect of community and public health. It is possible that workload factors may have prevented them from acting in this role as many school nurses spoke of items that are left undone due to workload and time constraints. However, in those discussions, the school nurses were not talking about community or population health ideas that they would like to do if they had the time.

Nursing Education. Nursing education may benefit from the knowledge generated about the relationship between work environment and burnout in school nursing. The importance of the school nurse in the health of students and community health could be incorporated into nursing curricula. Curricula could focus on the role enactment with the goal of improving the health, safety and academic success of students through underscoring the importance of a positive and healthy work environment.

In addition, educational curricula that helps future nurse leaders understand what is important to nurses in regards to the six AWS subscales. The results of this study provided knowledge that workload and fairness were important to the practicing nurses. Autonomy and control over practice, and collegial relationships were also key factors in this research. Strategies and interventions for enhancing control over nursing practice and mitigating the risk of burnout could be developed. The findings from this research may be transferrable to academic settings themselves. Nursing faculty is influenced by similar work environment factors that were found to influence burnout and constrain role enactment in this study.

Communicating and educating, advocacy, and promoting the understanding of the role of professionalism and healthy work environments is critical. Nursing is about

building relationships within teams in order to deliver optimal care. Nurses who have control over their practice, are empowered, possess highly effective communication skills and understand the scope and standards of practice are essential skills for all nurses.

Nursing practice. A healthy work environment is important to the recruitment and retention of nurses (Kleber, 2014; Kutney-Lee et al., 2013). Nurses tend to stay in organizations were they are valued, have autonomy, access to resources, collegial relationships and have manageable workloads (Bowling & Kirkendall, 2012; Brewer et al., 2012; Chan, Jones, & Wong, 2013; Kohr, Hickey, & Curley, 2012). The results of this study revealed that workload and rewards predicted burnout better than any of the other variables. Relationships and control over practice emerged as a large factor in the barriers within the school nurse work environment. These results add valuable insight on the importance that nurses are empowered or have control over practice that allows open communication and collaboration with all team members. School nurses want to feel empowered to deliver quality patient care using professional autonomy and working collaboratively as a respected and equal member of the school team.

Nursing Administration/School Administration. The results from this study may assist school administrators and school policy-makers in recruiting and retaining school nurses in an improved work environment. Evidence-based strategies can be developed that support school nurses' control over practice and decrease the risk for burnout. The school nurses reported a job-person mismatch with workload and fairness. This insight for school nurse administrators should increase their awareness of where workloads increase through caseload, acuity, and indirect care, poor outcomes for school nurses and students may occur (Brom et al., 2015; Daughtry & Engelke, 2017; Geiger-

Brown & Lipscomb, 2010; Kramer & Son, 2016; Pahlavian, Gholami, Moghaddam, Akbarzadeh, & Motamedzadeh, 2015; Russell; Sanders, Yong, & Rui, 2016). Workload and staffing resources should be adequate to decrease stress levels and prevent errors. The findings from this research suggest that a school nurse administrator, preferably a nurse, is supportive and creates a just and fair culture that promotes a healthy work environment.

Control. Research that incorporates theoretical exploration to obtain a more thorough understanding of the role control, power, and empowerment exerts over school nursing practice.

Replication. Due to the limitations of this study, replication of the study with a larger and representative sample of school nurses from across several states who are not member of a professional organization would improve generalizability and psychometric evaluation. Use of a professional organization assists in participant recruitment, but creates a bias in the study population. Research suggests that members of a professional organization may lead to study bias that produces stratification and inequities in representation of the study population (Rhoads, 2011).

The following research questions are proposed for future research:

- What is the nature of school demographics, nurse characteristics and burnout among school nurses?
- Does personal accomplishment mitigate the relationship between burnout and workload?
- Relationships and community, communication, conflict management and incivility in the workplace require further research.
- What is the relationship between job satisfaction and the immediate supervisor in school nursing?
- What is the relationship between control over practice and job satisfaction?

It defies logic to consider that a study by (Brownson, Chriqui, & Stamatakis, 2009) found that of the 10 greatest public health achievements, only 6.5% of these achievements provided details that showed the policies or laws were based on scientific information. The translation of research into policy has similar barriers as the translation of research into practice. Studies cite that the lack of value of evidence-based research in the institution and the lack of communication or contact between researchers and policymakers contribute to the challenges of research to policy (Innvær, Vist, Trommald, & Oxman, 2002). The central theme to effective policy development is the need to link scientific research with the policymakers. The science-push model to drive health policies is lacking (White, Dudley-Brown, & Terhaar, 2016). Literature indicates that research must employ a means of disseminating the knowledge and include recommendations for implementation within the research to improve the actual ability to become part of the organization's policies and practices.

Innvaer et al. (2002) reports that the most frequently mentioned barrier to the use of research in policy-making was the lack of personal two-way communication. A review of the literature revealed that when research was utilized in policy making decisions, 94% of the time the study had been commissioned (Innvaer et al., 2002). The ability to bridge the gap between research and policy-making requires the researcher to synthesize the evidence so that policy-makers have "reliable, timely and clear information and evidence at their disposal" (Colby et al., 2008, p. 1182). Doing so will improve the use of evidence-based research in policy-making. This will enhance the science-push model rather than the demand-pull model of research application to policy making clinical

practice application and improve the development of policies that are grounded in evidence-based research.

Brownson, Chriqui and Stamatakis (2009) reported that only 15% of the US health care budget is devoted to prevention strategies. A reasonable individual would then argue that if there are prevention strategies that can prevent possible harm or death to a patient, the institution should have policies and procedures in place that address this issue. Aiken et al. (2011) in a large study involving 65 hospitals and over 1 million discharge abstracts was able to demonstrate conclusively that patient outcomes are affected by organizations that promote a healthy work environment. Literature documents that having scientific based policies in place that foster healthy work environments is a cost-effective and effective means of reducing costs to the institution in terms of liability from lawsuits and nursing turnover costs (Simpson, 2009; Upenieks, 2003).

In summary, the moderate to high burnout rates noted among the school nurses in this study, it is essential for school administrators and school policy makers to implement interventions and strategies to decrease burnout among employees. School organizations should promote a work environment for all employees that provides access to resources, communication, control over their practice/work environment, administrative support, and access to opportunities that promote professional growth and career growth. The association between a healthy work environment and lower levels of burnout offers an economic benefit to the organization as burnout affects engagement and turnover intentions (Aiken et al., 2002).

This research provides a beginning foundation to understanding the impact of the school work environment on the school nurse. While wages and benefits are important to

employees; productivity of the workforce comes from providing participative management styles, empowerment and opportunities for growth and learning. Gebauer and Lowman (2008) report that when an employee has the opportunity to improve their knowledge and/or skills their work performance is enhanced. It is important for nursing leaders to include leadership development within their organization. Using retention statistics will assist in determining the value of school nursing to the organization and quantify the contribution to health care quality. Calculating the benefit-cost analysis when investing organizational dollars in nursing productivity and knowledge acquisition is necessary (Sherman & Pross, 2010).

Efficient and effective mechanisms for change are needed in the constantly evolving healthcare world. Investment in a healthy work environment development program will benefit the school organization through promoting a healthy work environment, decreasing staff turnover, and improving fiscal status.

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Appendix A

Letter of Agreement

October 12, 2015

Dear Institutional Review Board Members,

It is our intention to support the proposed study, "Investigating the School Nurse Work Environment: Work Engagement, Job Satisfaction and Levels of Burnout", presented by investigators, Dr. Felesia R. Bowen, PhD, APN, and Beth E. Jameson, MSN, RN, School of Nursing at Rutgers University. I am writing a letter of support for the proposed study to be conducted with the New Jersey State School Nurses Association (NJSSNA) membership.

I understand the purpose of the project is to determine the organizational characteristics present in the school nurse practice environment that are specific to burnout and worklife satisfaction in school nurses.

I understand that Dr. Bowen and Ms. Jameson will obtain consent for all NJSSNA members participating in the study. The investigators have agreed to provide to my office a copy of all Rutgers University approved study protocol materials including the approved consent documents prior to participant recruitment. Any data collected by Dr. Bowen and Ms. Jameson will be kept confidential and will be stored in a secure location per the approved protocol. Dr. Bowen and Ms. Jameson have also agreed to provide to us a copy of the aggregate results of the research. Further, I understand if a report of this study is published, or the results are presented at a professional conference, only group results will be stated.

I have read the research proposal and support the involvement of our New Jersey State School Nurses Association in this project and look forward to working with Dr. Bowen and Ms. Jameson.

Sincerely,

Laura T Jannone EdD, RN, NJ-CSN, FNASN
Lorraine Chewey EdD (c), RN, NJ-CSN
Research Consultants, NJ State Nurses Association
ljannone@monmouth.edu

Appendix B

MBI-HSS Survey Sample Questions

MBI-Human Services Survey

Christina Maslach & Susan E. Jackson

*The purpose of this survey is to discover how various persons
In the human services, or helping professionals view their job
and the people with whom they work closely.*

Because persons in a wide variety of occupations will answer this survey, it uses the term *recipients* to refer to the people for whom you provide your service, care, treatment, or instruction. When answering this survey please think of these people as recipients of the service you provide, even though you may use another term in your work.

Instructions: On the following pages are 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way about *your* job. If you have *never* had this feeling, write the number "0" (zero) in the space before the statement. If you have had this feeling, indicate *how often* you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way. An example is shown below.

Example:

How often:	0	1	2	3	4	5	6
	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

How Often 0-6	Statement:
1. _____	I feel depressed at work.

If you never feel depressed at work, you would write the number "0" (zero) under the heading "How Often." If you rarely feel depressed at work (a few times a year or less), you would write the number "1." If your feelings of depression are fairly frequent (a few times a week but not daily), you would write the number "5."

Appendix C

Permission to Use Areas of Worklife Survey

Appendix: Sample Areas of Worklife Survey

Areas of Worklife Survey

by Michael P. Leiter & Christina Maslach

Published by Mind Garden, Inc.
www.mindgarden.com

Note to Masters and Doctoral Students:
You may insert the following SAMPLE copy of the instrument
in your IRB proposal if necessary.
You may NOT insert a complete copy of the instrument
in your Thesis or Dissertation!!!
See Mind Garden Sample Item letter for details.

Appendix D

Optional Open-Ended Questions Quantitative Study

INVESTIGATING THE SCHOOL NURSE WORK ENVIRONMENT
FELESIA BOWEN

RUTGERS
School of Nursing

Optional Open-Ended Questions

☐ What would you change in your work environment to give you greater satisfaction?

☐ What would you like us to know that we haven't discussed?

Protocol Version 1.0 – 01/04/16   Page 1 of 1

RUTGERS APPROVED
IRB ID: Pro20150002073
Approval Date: 2/24/2016
Expiration Date: 2/23/2017

Appendix E

Mind Garden, Inc. Privacy Policy

Mind Garden, Inc. Privacy Policy
www.mindgarden.com

March 2014 Version
(a) Browser Information and Cookies. Collection of Information regarding your browser: The Mind Garden web site may log information about your browser, such as the user agent string, (which includes information like your browser type and version and your operating system type) and when you visit the site. This information is used to help to administer the website. Mind Garden also uses cookies for session identification purposes (i.e., so we know when the same person comes back to the site again).
(b) DNT. The Mind Garden website does not place cookies (or any other technology) that tracks your web browsing across sites nor do we allow third parties to do so. Your DNT setting does not affect this.
(c) Mind Garden's Use of Your Information. If you purchase a product or service from Mind Garden, you input certain personally identifiable information on the order form. You must provide contact information (such as name, email, and shipping address) and financial information (such as credit card number and expiration date). This information is used for billing purposes and to fill your orders. Mind Garden verifies customer-provided credit card information with a third party prior to order processing. We store this information so that we can use it to contact you should problems arise or for customer service support of mindgarden.com. Mind Garden may also use your address and the like for Mind Garden to follow up with you on your purchases and areas of potential interest. Mind Garden may also store and use the data it receives to provide and improve its products over time.
(d) Service Providers. In order to provide users the best possible online experience, Mind Garden works with service providers. Payment processors allow users to pay electronically. These processors (such as *Innovative Gateway* and *MIVA Shopping Cart*) collect certain information from users and you should consult their privacy policies to determine their practices. Various technology infrastructure companies also help Mind Garden serve its users online (such as internet service providers/bandwidth providers) and have access to various data and its transmission. In order to understand our users' needs better, Mind Garden uses third party analytics providers (such as Google Analytics). In the course of performing work for Mind Garden, our software and database developers also may come into contact with user data. Please know that while we listed some of our service providers here, these may change and while we will do our best to update changes here, it may take us a while. The providers listed serve as examples only.

(e) When Disclosure May Be Necessary. Mind Garden may disclose your information if required to do so by law or in the good faith belief that such disclosure is reasonably necessary to: (i) comply with legal process; (ii) enforce the Terms of Service; (iii) respond to claims that any content related to or posted by you violates the rights of third-parties; or (iv) protect the rights, property, or personal safety of Mind Garden, its users and the public; (v) comply with certain federal, state, local or other government regulations that require that we disclose such information. In such cases, we will use reasonable efforts to disclose only the information required under applicable law.

(f) Specific Information Not Shared. Mind Garden receives the name and e-mail addresses of its Customers and, often, Participants of Customer Created Inventories for the purpose of being able to provide Customers and their Participants with reports, scoring and evaluations related to those Inventories as well as other services and products. Mind Garden does not share this information with anyone other than the Customer and the Participant and its service providers.

(g) Other Disclosures. In certain circumstances, such as to support research, product development, and to support authors, Mind Garden may share data with identifiers such as name and email address removed.

(h) Security.

(i) Encryption. When a user accesses the assessment platform (the current platform is called Transform), pays for a Mind Garden product or service, or places an order online, the user's personal information (name, address, etc.) and credit card information are processed and encrypted by offsite, secure servers using industry-standard SSL encryption. SSL is short for Secure Sockets Layer, a protocol developed by Netscape for transmitting private documents via the Internet.

(ii) Other Security Practices. We undertake a range of security practices including measures to secure web access to data, limit data base access to essential staff members, and undertake efforts to address security vulnerabilities for various tools and databases. We also have policies in place to prohibit employees from viewing personal information without business justification. However, by providing an online service, there are risks. The technical processing and operation of the Site, including your content, may involve (1) transmissions over various networks; and (2) changes to conform and adapt to technical requirements of connection networks or devices. No method of transmission over the Internet, or method of electronic storage, is 100% secure. Therefore, while we strive to use commercially acceptable measures to protect your personal information, including physical access controls, passwords, access logs, and similar measures, we cannot guarantee its absolute security.

(iii) Security Questions. If you have any questions about security on the Mind Garden Web site, you can contact Mind Garden at: http://www.mindgarden.com/forms/contactform.php or info@mindgarden.com

(i) Non-Use of Information. Mind Garden does not sell, trade, rent or otherwise

barter to any other entity or organization the individual customer information our customers submit when placing an order except as specifically stated otherwise in this privacy policy.

Mind Garden does not sell, trade, rent or otherwise give to any entity or organization other than the Customer or our service providers any individually identifiable information given by a Participant in response to an Inventory. In other words if a Participant gives responses to an Inventory then the Customer who provided that Inventory to the Participant and the Participant will receive from Mind Garden information that is individually identifiable so that the Customer may properly collect research data, counsel or advise the Subject as appropriate based on the scoring or evaluation of the Inventory.

(j) Passwords. Mind Garden's method of login is such that Mind Garden has no access to your password because it is encrypted. You are able to change your password at any time with the profile feature in Transform. If you do not remember your password you must use the "I forgot my password" feature on the login page, which will send a new password only to your email previously provided to Mind Garden.

Other Disclosures

Mind Garden may be required to disclose information to the government or others. This may happen if we receive a valid search warrant, subpoena, court order, or other legal mandate.

In certain other limited situations, Mind Garden may disclose your Data such as when needed to protect the rights, privacy, safety, or property of Mind Garden or its users and to enforce our terms of service.

Data Integrity

If required by law, you may request access, correction, or deletion of your personal data. Such a request will be considered only if you provide sufficient information to identify data related to you.

Any such requests or other questions or concerns regarding this Policy and Mind Garden's data protection practices should be addressed to:
www.mindgarden.com/contact.htm and emails may be sent to:
info@mindgarden.com

Updates

Mind Garden may change the Privacy Policy from time to time. Any and all changes will be reflected on this page. You should periodically check this page for any changes to the current policy.

Transfer of Data to the U.S.

Mind Garden is a global organization and operates in different countries. Privacy laws and common practices vary from country to country. By using Mind Garden services, you consent to the transfer of the information collected to Mind Garden or its third party service providers in the United States and other places where our distributed, third party network exists (which is in several countries around

the world).

Data Retention
Mind Garden retains information for the amount of time the information is needed to fulfill the purposes described in this Policy unless a longer retention period is required by law or regulations. For assessments, data is typically retained for at least on year.

Appendix F Recruitment Flyer

Quantitative Study

Appendix G

Demographic Data Form Qualitative Study

RUTGERS
School of Nursing

Attachment 7

Demographic Data Form

What is your age?	What is your gender?
☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ 61-65 ☐ Other	☐ Female ☐ Male ☐ Other
What best describes your race/ethnicity? ☐ African-American ☐ White ☐ Hispanic ☐ Asian ☐ Native American ☐ Other	**What is your highest level of educational preparation?** ☐ Diploma ☐ Baccalaureate in nursing ☐ Baccalaureate ☐ Master's in nursing ☐ Master's other than nursing ☐ Doctorate
Do you hold a New Jersey School Nurse Certification? ☐ Non-instructional Certificate ☐ Instructional Certificate ☐ Emergency certification ☐ Not certified	**Employment Status?** ☐ Full-time ☐ Part-time
What location do you provide School Nurse services? ☐ Urban ☐ Suburban ☐ Rural ☐ Native American Reservation ☐ Domestic US Military Base ☐ Overseas (Department of Defense or International School) ☐ Other	**What type of school are you employed by?** ☐ Public school district ☐ Alternative/charter/private/parochial/boarding ☐ Public health ☐ Retired ☐ Other (government, military, private hospitals, universities, etc.)
Who do you report to? ☐ RN Supervisor ☐ Non-nurse supervisor	**Intentionally Left Blank**

Demographic Data Form   Page **1** of **2**

How many years have you worked as a school nurse?	How many years have you been a nurse?
☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ 21-25 ☐ 26-30 ☐ 31-36+	☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ 21-25 ☐ 26-30 ☐ 31-36+
How many years have you worked in your current school?	**What population do you provide services to (check all that apply)?**
☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ 21-25 ☐ 26-30 ☐ 31-36+	☐ Head start/Pre-K/nursery ☐ Elementary school ☐ Middle/junior high ☐ High school ☐ Special education ☐ Alternative ☐ None/other
How many students do you serve?	**BLANK**
☐ 125 or fewer ☐ 126-250 ☐ 251-500 ☐ 501-750 ☐ 751-1000 ☐ 1001 – 2000 ☐ 2001 – 3000 ☐ 3001 – 4000 ☐ 4001 – 5000 ☐ 5001 or more ☐ Not providing services/other	

Appendix H

Interview Guide Qualitative Study

Attachment 8

Interview Guide

1. How did you get into school nursing?

2. Tell me about your preparation for the school nurse role.
      Training
      Education
      Certification
      Experience

3. Tell me about your job.
      What do you do?
            Screenings
            Prevention, health and safety
            Illness, chronic illness, special needs
            Injury
            Educator

      Tell me about an ordinary day
      Tell me about a difficult day

4. What keeps you in this role? Why do you stay as a school nurse?

5. What would make you leave? What would push you away?

6. Tell me about what it is like to work in a school.
      Resources
      Support mechanisms – peer and administrative
      Adequate staffing
      Autonomy
      Accountability
      Communication
      Collaboration - policies
      Concern for health and safety of students/staff
      Professional development
      What do you find satisfying
      What do you find challenging

7. Tell me how you relate to the people you work with.
      Students
      Staff
      Administration

Physicians
Parents
Community

8. Tell me what skills are important for a school nurse.
Professional knowledge/degree status
Nursing experience – years, specialty practice
Communication
Clinical health/medical skills
Clinical judgement
Self-management
Computer literacy
Collaborate
Leadership

9. What else do you want to tell me?

Appendix I

Informed Consent Qualitative Study

RUTGERS
School of Nursing

Division of Nursing Science
Ackerson Hall Room 326
Rutgers, The State University of New Jersey
180 University Avenue
Newark, NJ   07102
www.nursing.rutgers.edu

CONSENT FORM

Title of Study: Factors Affecting the School Nurse's Role and Responsibilities in the Work Environment
Principal Investigator/s: Beth E. Jameson, MSN, RN; Teri Lindgren, PhD, RN

INVITATION TO PARTICIPATE:
You are invited to participate in a school nurse role and responsibilities research study that is being conducted by Beth Jameson, MSN, RN who is a PhD student in the School of Nursing at Rutgers University and Dr. Teri Lindgren who is a Professor in the School of Nursing at Rutgers University. This consent form contains information about the study that the researcher will go over with you. You will have the opportunity to ask questions and have them answered. When all of your questions have been answered, you will be asked to sign this consent form if you agree to participate in the study. A copy of this consent form will be given to you to keep for your records.

PURPOSE:
The purpose of the study is to explore the school nurse work environment context and describe how it impacts school nurse professional practice and job satisfaction. The goal of the study is to gain a better understanding of the school nurse role and the organizational attributes that are valued by the school nurse. This is a required class project for a PhD Nursing Research course. Some of the students in the course, who are also key study personnel in this study, will be reviewing the written transcripts. The interview transcripts will not contain any participant's names.

SUBJECT SELECTION:
In order to participate in this study you must be able to speak and read English; and, be currently employed, full or part-time as a school nurse.

PROCEDURES:
Your participation in this study will last for approximately 30-60 minutes. Study procedures are as follows:
- You will be asked to:
  - Complete a questionnaire that tells us a little about you (5 min);
  - A one-time in-person interview with me (Beth Jameson) that will last between 30-60 minutes. The interview will be conducted at a time and location that is convenient for you, with the location of the interview in a public place. The interview will be audio-recorded.
  - During the interview you will be asked about your job responsibilities and professional practice as a school nurse. You can skip or refuse to answer any question and you may stop the interview at any time.

BENEFITS:
There are no direct benefits to you, however, this study will assist in an improved understanding of the school nurse role.

RISK:
You may become tired or may have some unpleasant memories when answering the questions. If this occurs you can skip or refuse to answer any questions, or stop the survey at any time.

COMPENSATION:
You will receive a $20.00 gift card of your choice: Amazon, Dunkin Donuts or Starbucks.

COST:
There is no cost to you.

ALTERNATIVES:
This is not a treatment study. Your participation is completely voluntary. Your alternative is to not participate.

CONFIDENTIALITY:
The research records will not include any information that will allow us to identify you. The completed questionnaires will be kept in a locked file cabinet at: Rutgers University College of Nursing, Ackerson Hall Room 320, University Avenue, Newark, NJ. Audio-recorded files will be destroyed as soon as the transcription is complete and the information has been verified as correct. The research team and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. All study data will be kept for at least three years and then destroyed. Research results will be made available upon request when the study is complete.

WITHDRAWAL:
Participation in this study is voluntary. You may withdraw from the study (quit) at any time without penalty. and you may refuse to answer any questions that you are not comfortable with. You must complete the interview to receive the compensation.

RESEARCH QUESTIONS:
If you have any questions about the study, you may contact Beth Jameson by telephone at 908-723-5996 or by email at: beth.jameson@rutgers.edu OR Teri Lindgren, PhD, MPH, RN at Rutgers University School of Nursing, 180 University Ave, Room 320, Newark, NJ 07102 at 973-353-1941 or by email at tlindgr@rutgers.edu.

SUBJECT RIGHTS:
If you have any questions about your rights as a research participant, you may contact the IRB Administrator at Rutgers University at:
Rutgers University Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
Office: 973-972-3608
FAX: 973-972-0906
65 Bergen Street, SSB 511
Newark, NJ 07107

TITLE: FACTORS AFFECTING THE ROLE OF THE SCHOOL NURSE
PI: Beth E. Jameson

AUDIO/VIDEOTAPE ADDENDUM TO CONSENT FORM

You have already agreed to participate in a research study entitled: **Factors Affecting the School Nurse's Role and Responsibilities in the Work Environment** conducted by Beth E. Jameson.

We are asking for your permission to allow us to **audiotape (sound), audio-record** as part of that research study. You do not have to agree to be recorded in order to participate in the main part of the study. The audio-recording will be used to record your responses during the interview, which will then be transcribed and analyzed.

The audio-recording and your transcribed interview responses will not contain any information connecting you to your name, telephone number, or any other contact information you provided. The audio-recording will be stored in a computer that is password-protected. Once the interview is transcribed and verified for accuracy, the audio-recording will be erased. The transcribed interview will be stored on a separate password-protected computer and will be erased three years after completion of the research study.

Your signature on this form grants the investigator named above permission to audio-record you as described above during participation in the above-referenced study. The investigator will not use the audio-recording for any other reason than that/those stated in the consent form without your written permission.

AGREEMENT TO PARTICIPATE

1. Subject consent:

I have read this entire form, or it has been read to me, and I believe that I understand what has been discussed. All of my questions about this form or this study have been answered.

Subject Name:_____

Subject Signature:_____ Date:_____

2. Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed the full contents of the study including all of the information contained in this consent form. All questions of the research subject and those of his/her parent or legally authorized representative have been accurately answered.

Investigator/Person Obtaining Consent (printed name):_____

Signature:_____ Date: _____

Appendix J

Demographic Data Form Quantitative Research Study

INVESTIGATING THE SCHOOL NURSE WORK ENVIRONMENT
FELESIA BOWEN

RUTGERS
School of Nursing

Demographic Data Form

What is your age?	What is your gender?
☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51-60 ☐ 61-65 ☐ Other	☐ Female ☐ Male ☐ Other
What best describes your race/ethnicity? ☐ African-American ☐ White ☐ Hispanic ☐ Asian ☐ Native American ☐ Other	**What is your highest level of educational preparation?** ☐ Diploma ☐ Baccalaureate in nursing ☐ Baccalaureate ☐ Master's in nursing ☐ Master's other than nursing ☐ Doctorate
Do you hold a New Jersey School Nurse Certification? ☐ Non-instructional Certificate ☐ Instructional Certificate ☐ Emergency certification ☐ Not certified	**Employment Status?** ☐ Full-time ☐ Part-time
What location best describes where you provide School Nurse services? ☐ Urban ☐ Suburban ☐ Rural ☐ Native American Reservation ☐ Domestic US Military Base ☐ Overseas (Department of Defense or International School) ☐ Other	**What type of school are you employed by?** ☐ Public school district ☐ Alternative/charter/private/parochial/boarding ☐ Public health ☐ Retired ☐ Other (government, military, private hospitals, universities, etc.)
Who do you report to? ☐ RN Supervisor ☐ Non-nurse supervisor	**What is your marital status?** ☐ Single, never married ☐ Married ☐ Divorced, widowed, separated ☐

How many years have you worked as a school nurse?	**How many years have you been a nurse?**
☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ 21-25 ☐ 26-30 ☐ 31-36+	☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ 21-25 ☐ 26-30 ☐ 31-36+
How many years have you worked in your current school?	**What population do you currently provide services to (check all that apply)?**
☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ 21-25 ☐ 26-30 ☐ 31-36+	☐ Head start/Pre-K/nursery ☐ Elementary school ☐ Middle/junior high ☐ High school ☐ Special education ☐ Alternative ☐ None/other
How many students do you serve?	**How is your position funded?**
☐ 125 or fewer ☐ 126-250 ☐ 251-500 ☐ 501-750 ☐ 751-1000 ☐ 1001 – 2000 ☐ 2001 – 3000 ☐ 3001 – 4000 ☐ 4001 – 5000 ☐ 5001 or more ☐ Not providing services/other	☐ Regular Education Budget ☐ Special education budget ☐ Grant ☐ Health department (local or state) ☐ Hospital ☐ Unsure ☐ Do not work in a school nurse role
How many months per year do you work?	**What is your salary?**
☐ 12 months ☐ 11 months ☐ 10 months	☐ $19,999 or less ☐ $20,000 - $39,999 ☐ $40,000 - $59,999 ☐ $60,000 - $79,999

☐ 9 months ☐ Less than 9 months ☐ My position is less than 12 months, but I can opt for summer employment ☐ Other	☐ $80,000 or more
How many buildings do you provide school nurse services in a usual work day? ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ Other	**How many buildings do you provide school nurse services in a usual work week?** ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ Other
What is the model of practice in your district (check all that apply)? ☐ RN provides direct care in 1 building ☐ RN provides direct care alone in >1 building ☐ RN oversees LPN in >1 building ☐ RN oversees aide/clerk in >1 building ☐ RN with UAP cover in >1 building ☐ Advanced Practice Nurse with RN	**What percentage of the students that you serve receive free or reduced lunch?** ☐ <10% ☐ 10-19% ☐ 20-29% ☐ 30-39% ☐ 40%+

Appendix K

Recruitment Email Letter Quantitative Study

Email Subject Line: Research Participant Invitation: The School Nurse Work Environment

Dear New Jersey State School Nurses Association Member:

You are invited to participate in a research study: **Investigating the School Nurse Work Environment: Work Engagement, Job Satisfaction and Levels of Burnout.** This study is being conducted by Dr. Felesia Bowen, PhD, APN, Assistant Professor, Rutgers University School of Nursing , and Beth Jameson, MSN, RN, PhD student Rutgers University School of Nursing ..

You are receiving this email because you are a member of the New Jersey State School Nurses Association. Your email address was obtained from the New Jersey State School Nurses Association Research Committee.

This study is about the school nurses' perception of factors that impact professional role, The survey will ask about levels of burnout, work engagement and job satisfaction in the school nurse practice environment. The survey is anonymous and will take approximately 30 – 45 minutes to complete. The survey includes questions about your school nurse working experiences, areas of your worklife that are important to you and your This study will close after 100 participants respond. In appreciation of your time, a $10.00 gift card will be offered to those who want it.

Please do not forward this invitation. Study participants must be a member of the New Jersey State School Nurses Association. More information about the study and informed consent can be found HERE. [URL link to Informed Consent inserted here]

Thank you for your consideration. We look forward to hearing what you have to say about our school nursing profession.

Clicking on the link below indicates your agreement to participate in this research study.

CLICK HERE TO BEGIN THE SURVEY [URL link to the survey inserted here].

RUTGERS School of Nursing

If you have any questions about the study, please contact Dr. Felesia Bowen at 973-353-3843 or via email at fbowen@sn.rutgers.edu.

If you have questions about your rights as a research subject, please contact the IRB Director at (973)-972-3608 Newark/ (732)-235-9806 New Brunswick/Piscataway.

The content of this email message has been approved by a Rutgers Institutional Review Board (IRB). IRBs are charged with protecting the rights and welfare of people who take part in research studies.

RUTGERS APPROVED
IRB ID: Pro20150002073
Approval Date: 2/24/2016
Expiration Date: 2/23/2017

Appendix L

Analysis of Power and Effect Size Quantitative Study

Maslach Burnout Inventory-Human Services Scale
Emotional Exhaustion Subscale
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s)   = Two
                  Effect size *d*   = 0.23
                  α err prob   = 0.05
                  Sample size group 1   = 3421
                  Sample size group 2   = 100
Output: Noncentrality parameter δ   = 2.2671036
                  Critical *t*   = 1.9606383
                  df   = 3519
                  Power (1-β err prob)   = 0.6204078

Depersonalization Subscale
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s)   = Two
                  Effect size d   = 0.9
                  α err prob   = 0.05
                  Sample size group 1   = 3421
                  Sample size group 2   = 100
Output: Noncentrality parameter δ   = 8.8712748
                  Critical *t*   = 1.9606383
                  df   = 3519
                  Power (1-β err prob)   = 1.0000000

Personal Achievement Subscale
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s)   = Two
                  Effect size *d*   = 1.125
                  α err prob   = 0.05
                  Sample size group 1   = 3421
                  Sample size group 2   = 100
Output: Noncentrality parameter δ   = 11.0890935
                  Critical *t*   = 1.9606383
                  df   = 3519
                  Power (1-β err prob)   = 1.0000000

Areas of Worklife Scale**
Workload Subscale
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s)   = Two
                Effect size d = 0.0000000
                α err prob   = 0.05
                Sample size group 1   = 100
                Sample size group 2   = 22523
Output: Noncentrality parameter δ = 0
                Critical t = 1.9600689
                df = 22621
                Power (1-β err prob)   = 0.0500000

Control Subscale
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s)   = Two
                Effect size d = 0.5555556
                α err prob   = 0.05
                Sample size group 1   = 100
                Sample size group 2   = 22523
Output: Noncentrality parameter δ = 5.5432638
                Critical t = 1.9600689
                df = 22621
                Power (1-β err prob)   = 0.9998302

Reward Subscale
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s)   = Two
                Effect size d   = 0.2102353
                α err prob   = 0.05
                Sample size group 1   = 100
                Sample size group 2   = 22523
Output: Noncentrality parameter δ = 2.0977014
                Critical t = 1.9600689
                df = 22621
                Power (1-β err prob)   = 0.5547656

Community Subscale
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s)   = Two

Effect size *d* = 0.5000000
α err prob = 0.05
Sample size group 1 = 100
Sample size group 2 = 22523
Output: Noncentrality parameter δ = 4.9889371
Critical *t* = 1.9600689
df = 22621
Power (1-β err prob) = 0.9987722

Fairness
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s) = Two
Effect size d = 0.1250000
α err prob = 0.05
Sample size group 1 = 100
Sample size group 2 = 22523
Output: Noncentrality parameter δ = 1.2472343
Critical t = 1.9600689
df = 22621
Power (1-β err prob) = 0.2386604

Values Subscale
t tests - Means: Difference between two independent means (two groups)
Analysis: Post hoc: Compute achieved power
Input: Tail(s) = Two
Effect size d = 0.3750000
α err prob = 0.05
Sample size group 1 = 100
Sample size group 2 = 22523
Output: Noncentrality parameter δ = 3.7417028
Critical *t* = 1.9600689
df = 22621
Power (1-β err prob) = 0.9625911

*Normative sample obtained from Maslach et al. (1996)

**Normative sample obtained from Leiter and Maslach (2006)

Appendix M

All Demographic Characteristics of MBI-HSS and AWS Respondents

Demographic characteristics of all MBI-HSS and AWS respondents (n=100)	
Nurse Characteristic	*n*(%)
Age (years) *n*=97	
≤ 30	1 (1.0)
31-40	2 (2.1)
41-50	19 (19.6)
51-60	56 (57.7)
≥61	19 (19.6)
Gender *n*=100	
Male	0 (0)
Female	100 (100)
Race/Ethnicity *n*=100	
African American	1 (1.0)
White	96 (96.0)
Other	3 (3.0)
Educational level *n*=100	
Bachelor's degree in nursing	32 (32.0)
Bachelor's degree	9 (9.0)
Master's degree in nursing	30 (30.0)
Master's degree other than nursing	27 (27.0)
Doctorate	2 (2.0)
NJ School Nurse Certification *n*=99	
Non-instructional certificate	11 (11.1)
Instructional certificate	84 (84.8)
Emergency certificate	2 (2.0)
Not certified	2 (2.0)
Employment *n*=98	
Full time	97 (99.0)
Part time	1 (1.0)
Location of School *n*=100	
Urban	12 (12.0)
Suburban	81 (81.0)
Rural	7 (7.0)
Type of School *n*=100	
Public	94 (94.0)
Charter/Private/Parochial/Boarding/Alternative	5 (5.0)
Public health	1 (1.0)
Report to *n*=99	
RN supervisor	7 (7.1)
Non-nurse supervisor	92 (92.9)
Marital status *n*=100	
Single, never married	1 (1.0)
Married	79 (79.0)
Divorced, widowed, separated	20 (20.0)
Years as School Nurse *n*=99	
1-5	11 (11.1)
6-10	17 (17.2)
11-15	23 (23.2)
16-20	25 (25.3)
21-25	14 (14.1)
26-30	4 (4.0)
31-36+	5 (5.1)
Years as RN *n*=96	
1-5	1 (1.0)
6-10	2 (2.1)
11-15	3 (3.1)

	16-20	8 (8.3)
	21-25	9 (9.4)
	26-30	10 (10.4)
	31-36+	63 (65.6)
Years in current school *n*=96		
	1-5	29 (30.2)
	6-10	20 (20.8)
	11-15	20 (20.8)
	16-20	13 (13.5)
	21-25	10 (10.4)
	26-30	2 (2.1)
	31-36+	2 (2.1)
Student population served (more than one may apply) *n*=100		
	Head start/Pre-K/nursery	30 (30)
	Elementary	57 (57)
	Middle/Jr. high	26 (26)
	High School	26 (26)
	Special education	36 (36)
	Alternative	3 (3)
	Other	1 (1)
Number of students served *n*=100		
	125 or fewer	9 (9.0)
	126-250	8 (8.0)
	251-500	39 (39.0)
	501-750	18 (18.0)
	751-1000	9 (9.0)
	1001-2000	14 (14.0)
	2001-3000	2 (2.0)
	3001 or greater	1 (1.0)
Position funding *n*=100		
	Regular education budget	88 (88.0)
	Special education budget	7 (7.0)
	Unsure	5 (5.0)
Months work/year *n*=100		
	12 months	1 (1.0)
	11 months	5 (5.0)
	10 months	80 (80.0)
	9 months	1 (1.0)
	Position is less than 12, but opt for summer employment	13 (13.0)
Salary *n*=98		
	$19,999 or less	1 (1.0)
	$20,000 - $39,999	1 (1.0)
	$40,000 - $59,999	24 (24.5)
	$60,000 - $79,999	40 (40.8)
	$80,000 or more	32 (32.7)
Number of buildings serve in usual week *n*=97		
	1	87 (87.9)
	2	8 (8.1)
	3 or more	4 (4.0)
Staffing Models *n*=100		
	RN in one building n=100	89 (89.0)
	RN alone > one building	11 (11.0)
	RN oversees LPN > one building	2 (2.0)
	RN oversees aide/clerk > one building	2 (2.0)
	RN with UAP > one building	2 (2.0)
	RN with APN	0 (0)
Percent free/reduced lunch students *n*=99		
	< 10%	31 (31.3)

10-19%	24 (24.2)
20-29%	10 (10.1)
30-39%	11 (11.1)
40%+	23 (23.2)

Appendix N

Summary of Qualitative Studies

Author/Year	Study Aim/Participants	Relevant Findings	Gaps/ Critique
Knauer, H., Baker, D. L., Hebbler, K., Davis-Alldritt, L. (2015). The mismatch between children's health needs and school resources. *The Journal of School Nursing, 31*(5), 326-333. doi: 10.1177/10598405155 79083	Qualitative descriptive study in California with 17 key state informants from health departments, current and former state legislators, education superintendents and administrators, pediatricians. Aim was to identify ways schools are successful in supporting school nurses, understand challenges, and inform strategies to improve schools support of the school nurse role.	Five themes: children not receiving special education may not have their health needs recognized, thus, no individualized education plan (IEP); financial allocation affects provision of school health services leading to underfunding; communication, collaboration, coordination of services inadequate; data collection and monitoring are limited; the ability to support must be improved.	Good use of purposeful sampling strategy to identify key informants from various stakeholders . Excellent literature review/disc ussion regarding need to understand participants' perceptions of health needs and role of the school nurse. Reports of theoretical saturation after 17 participants, in-depth interviews, provided interview guide. Described analysis. Representati ve quotes for each theme well-constructed

			in participants' own words. Did not mention reflexivity of authors Gaps: Perceptions of other stakeholders such as parents and school nurses would have been valuable. Published in journal read primarily by school nurses, not those in school policy, legislative or administrative positions.
Maughan, E., & Adams, R. (2011). Educators' and parents' perception of what school nurses do: The influence of school nurse/student ratios. *Journal of School Nursing, 27*(5), 355-363. doi:10.1177/10598405 11416368	Qualitative descriptive study of 33 participants across U.S.: 12 school nurses, 11 parents, 10 educators. Aim was to understand what educators and parents believe regarding the role of the school nurse; and does the understanding of the role vary in schools with high ratio vs.	School nurse, educator and parent perceptions included in study. Nurse job satisfaction reported as less. Educators and parents suggested quality not quantity of interaction influenced value and	Use of snowball sampling – weak, inappropriate for study aim, introduces bias, threats to truth value. No mention of saturation or representativeness of sample. No

	low ratio student-nurse	relationship with nurse. Parents and educators viewed role as primarily first aid, Band-Aids and medication administration.	indication of study questions or guide. No information regarding length of interview. Failure to address differences in school nurse data. Good use of triangulation from three different participant groups. Gaps: Overall lack of ability to find trustworthy. Published in journal read primarily by school nurses.
Maughan, E. (2009). Part II-Factors associated with school nurse ratios: Key state informants' perceptions. *The Journal of School Nursing, 25*(4), 292-301.	Qualitative descriptive study of 30 key school nurse informants from 11 states across geographic U.S. 15 were school nurses, 10 were nurse or health professional, 2 educators, 3 others. Aim was to understand adequate school staffing and investigate influence of legislation, policies, and supply of school nurses.	Factors for increasing school nurses efforts by parents and teachers; when teachers, parents, principals understood and valued what school nurses do they were supportive; funding a barrier; not seen as cost-saving;	Identified typology, purposive sampling for geographic locations used appropriately, described limitations to this approach. No interview guide, no length of interview.

		role misunderstood; influence of leaders.	No discussion of saturation. Good use of triangulation to compare across and between groups. Well framed table identifying positive, negative factors, swing factors that influence school nurse employment in public schools. Gaps: identified in limitations lack of response from effort to include other stakeholders such as educators and legislators.
Krause-Parello, C. A., & Samms, K. (2009). The US model: the role of school nurses in New Jersey. *British Journal of School Nursing, 4*(6), 287-292.	Aim to identify role and responsibilities of school nurses in own words. 27 New Jersey school nurses interviewed via face-to-face interviews approximately 30 minutes length.	Maintained "themes" from the six areas identified as the research aims. Listing of diseases, medical procedures,	Generalizability weakened by demographic setting in N.J and convenience sample.

| | | health promotion and disease prevention, collaborative efforts, perceptions of school nurse activities, documentation of school nursing activities. Overall perception of school nursing as professional practice not supported by school community. | Provided interview guide. No length of interview. Did not address saturation. No reflexivity. Data analysis did not describe an iterative process. Gaps: Quantified qualitative data, many threats to rigor. Conclusions not substantiated with literature. |
| Smith, S. G., & Firmin, M. W. (2009). School nurse perspectives of challenges and how they perceive success in their professional nursing roles. *Journal of School Nursing, 25*(2), 152-162. | Phenomenological study of 25 Midwestern urban school district school nurses. Purpose was to augment previous empirical research with the stated perceptions of school nurses regarding their role and responsibilities. | Positive nurse-student interaction was valued, differences in perceptions regarding school nursing before and after they were employed contributed to job stress, the unscheduled nature of the school nurse office contributes to stress and job dissatisfaction. | Did not describe phenomenology, did not describe sampling strategy, no sample demographics, no length of interviews, discussion regarding replicating quantitative studies does not make sense. Well described |

		Collaboration and communications were also valued.	data analysis procedure, appropriate to method. Excellent statements of experiences to support derived themes. Gaps: Threats to rigor, publication journal, did not compare findings with empirical research as indicated in study aim.
Smith, S. G., & Firmin, M. W. (2009). School nurse perspectives regarding their vocational decisions. *Journal of Ethnographic & Qualitative Research, 3*(2), 98-104.	Phenomenological study of 25 school nurses in Midwestern U.S. to discover perspectives on vocational decision to enter school nursing profession. Focused on vocational choice, job satisfaction, challenges, success definitions, integration with home life.	Three themes: preference for pediatric nursing in community setting; school nurse work schedule; influence of those currently in school nursing practice.	Generalizability limited due to sample of elementary school nurses only. No demographics given. No sampling strategy given, No length of interview, no interview guide. Well described data analysis, appropriate to method.

Broussard, L. (2007). Empowerment in school nursing practice: A grounded theory approach. *Journal of School Nursing, 23*(6), 322-328. doi:10.1177/10598405 070230060401	Grounded theory. Ten school nurses in Louisiana. Research question to understand empowerment in school nursing. Generated themes and setting-specific theory.	Themes of establishing support, gaining trust, assisting other to understand role, enlisting support. Nurses identified as "second class citizens".	Gaps: Threats to rigor. Did not describe sampling strategy, provided sample demographics. Described interview process as in-depth lasting 1 hour. Describes saturation determined by data in each category, not appropriate for qualitative research. Very few representative quotes, created a theory with small sample. Adequate literature review. Gaps: trustworthiness did not include discussion about demographics of

			previous supervisory experience and its importance to the study.
Junious, D. L., Johnson, R. J., Peters, R. J., Jr., Markham, C. M., Kelder, S. H., & Yacoubian, G. S., Jr. (2004). A study of school nurse job satisfaction. *Journal of School Nursing, 20*(2), 88-93. doi:10.1177/10598405 040200020601	Qualitative, descriptive study asking are you satisfied with your job and what are changes that would increase your satisfaction. 71 school nurses in southwestern U.S. divided into 8 focus groups asked structured five open-ended questions.	Themes of benefits, resources, autonomy and coping. 17% dissatisfied with job – related to low salaries, lack of trust, lack of support from administration.	Provide interview guide. No size of focus groups given. No reflexivity discussion. Poorly described analysis process. Gaps: publication journal, rigor and trustworthin ess issues.
Simmons, D. R. (2002). Autonomy in practice: A qualitative study of school nurses' perceptions. *Journal of School Nursing, 18*(2), 87-94. doi:10.1177/10598405 020180020501	Grounded theory interviewed 12 school nurses from two counties in California: 6 novices and 6 experienced to understand autonomy in school nursing practice.	Five major themes with similarities and differences between expressed themes and concepts between groups. Independence, isolation, freedom, connection, powerlessness, role confusion, leadership.	Identifies grounded theory, described convenience sampling strategy. Well-presented themes from data with representati ve quotes. Inappropriat e discussion of saturation as "limit to 12". Had 6 subjects representing each group. No

	demographics.
	Gaps: trustworthiness, school nurse journal publication.

Appendix O
Summary of Quantitative Studies

Author/Year	Study Aim/ Participants	Relevant Findings	Critique/Gaps
Maughan, E., & Mangena, A. A. (2014). The 2013 NASN school nurse survey: Advancing school nursing practice. *NASN School Nurse, 29*(2), 76-83. doi: 10.1177/1942602X 14523135	Cross-sectional survey. Descriptive statistics from 2013 survey with 30% response rate of U.S. NASN membership (*n*=6,841).	Top activities: caring for students' illnesses, medication administration, indirect care (reports, paperwork, meetings), lice, immunization tracking and compliance, injury. In contrast, school nurses reported none of those areas where would like to spend time.	No advanced statistical analyses – only provided frequencies and percentages. Did not control for confounding factors. Inability to generalize due to membership in professional organization. Gaps: access to large data set could provide further illumination of school nurse work environment with more advanced statistical analyses, or even adding confounding demographics to the information.
Hill, N. J., & Hollis, M. (2012). Teacher time spent on student health issues and school nurse presence. *The Journal of School Nursing 28*(3), 181-186. doi: 10.1177/10598405 11429684	Two year cross-sectional 2-year survey design with traditional and special education teachers in western North Carolina. Participants 435 teachers and 7 school nurses Year 1, 442 teachers and	80% agreed that presence of school nurse resulted in fewer early releases due to illness, increased communication, less time spent on health problems, more time teaching, students with chronic problems are safe, personal resource for health	Did not report on school nurse survey data, although reported collected in methods. No discussion of confounding factors or use in analyses. Statistical analyses not well-defined in tables to understand the results. Gaps: lack of adequate data in electronic health records to understand time spent by school nurse and other

	7 school nurses Year 2.	information.	personnel Data was collected on one day/one point in time. Lack of statistical conclusion validity.
Baisch, M. J., Lundeen, S. P., Murphy, M. K. (2011). Evidence-based research on the value of school nurses in an urban school system. *Journal of School Health 81*(2), 74-80.	Mixed methods study, cross-sectional design surveys, perceptions of the impact of the school nurse on efficient management of student health concerns. 2006-07 data from (1) principals and assistant principals, clerical staff and teaching staff, and (2) 9346 student health records with matched control of 7249 records. Aim was to understand the satisfaction with the nurse in their schools, and identify perception of amount of time spent on student	Statistical significant difference in amount of time spent before and after. Mean decrease of 57 minutes. Health records of students with a school nurse were more complete. School nurse identified significantly more life-threatening conditions – 33% greater odds probability that a life-threatening alert noted in students' record Demonstrated school nurses support the academic mission of the school, cost effective, cost efficient, exposed dangers of critical health information accuracy.	Generalizability in one school district, Title I. Self-report of time spent on health issues may be unreliable. Provided survey questions. No control for confounding factors. Sample strategy appeared to demand participation in the study. Mono-method bias. Gaps: Satisfaction between groups of teachers, asst. principals and clerical staff should have been examined with a t-test.

	health issues before and after a nurse was assigned to the building.		
Krause-Parello, C.A., & Samms, K. (2011). School nursing in a contemporary society: What are the roles and responsibilities? *Issues in Comprehensive Pediatric Nursing, 34*, 26-39. doi: 10.3109/0146082.2011.555273	Exploratory descriptive study to confirm qualitative research findings with newly developed instrument. Cross sectional sample of 384 school nurses from 35 states.	Six themes confirmed roles/responsibilities. Respect and support for role found to be areas of dissatisfaction.	No discussion of sampling strategy. No psychometrics given. No advanced statistical analyses – only frequencies and percentages reported. No demographics given of sample other than numbers by state. No power analysis. Gaps: use of confounding and demographics to better understand the information. Use advanced statistical methods. Lack of statistical conclusion validity.
Rodriguez, E., Austria, D., & Landau, M. (2011). School health: A way to the future? *Challenges to Social Health Research in Political Sociology, 19*, 27-41.	Five year study to expand school nursing and formally link nurses to school-based health clinics in the San Jose Unified School District in California. 6,081 student outcomes of access to primary care	Outcome noted an improvement in outcome measures by percentages for each outcome. 75% teachers in demonstration school reported a "very positive impact of school nurse" versus 32.4% among teachers in control schools. Academic success and decreased	Unclear what methods were used to collect qualitative and quantitative data. Difficult to follow and understand results and discussion. Gaps: Unclear statistical significance as only present frequencies and percentages. While there were positive changes, not able to discern if the changes were statistically

	and prevention for asthma and chronic condition management.	absenteeism resulted.	significant between the intervention and control groups. Causes reader to suspect that there was not any significance.
Green, R., & Reffel, J. (2009). Comparison of administrators' and school nurses' perception of the school nurse role. *Journal of School Nursing, 25*(1), 62-71. doi:10.1177/10598 40508324248	Cross-sectional survey, 9 school nurses, 25 school administrators in an inner-city K-12 school system. Developed from an issue brief on the role of the school nurse.	Found superintendents and nurses did not understand the role of the school nurse regarding IHPs, superintendents believed role to be clinical. Superintendents also may perceive fewer students with chronic health conditions.	Use of new instrument. No psychometrics. No sampling strategy described. Small sample, one school district. Low power. Gaps: Dated literature, statistical conclusion validity.
Volkman, J. E., & Hillemeier, M. M. (2008). School nurse communication effectiveness with physicians and satisfaction with school health services. *The Journal of School Nursing, 24*(5), 310-318. doi:10.1177/10598 40508323199	Cross-sectional survey, state instrument developed in PA to assess school nurse, principal and parent perceptions of school health services. Secondary analysis of 615 Pa school nurses in 2006.	Perceived leadership role of the school nurse showed that school nurses were over twice as likely to report effective communication with physicians and 75% more likely to be satisfied with health care delivery to students. School nurse leadership skills indicate level involved in policy development and leadership skills.	Generalizability due to state limited survey. Mono-method bias. Did perform advanced statistical analysis with multiple regression. Did not provide instrument or examples of questions. Use of demographics to control for confounding. Gaps: Dated literature. Factor analysis would have been helpful in understanding the survey results and predictors of effective communication.

Kruger, B. J., Toker, K. H., Radjenovic, D., Comeaux, J. M., & Macha, K. (2009). School nursing for children with special needs: Does number of schools make a difference? *The Journal of School Health, 79*(8), 337-346. doi:10.1111/j.1746-1561.2009.00419.x	Cross-sectional survey, designed by authors. Assessed perceptions of 50 school nurses in Florida (40 RNs, 10 LPNs) who care for students with special needs who cover multiple schools.	School nurses who only covered one school had lower nurse to student ratios, reported more collaboration with internal school groups and external groups such as county health department and physicians.	Small convenience sample. Self-report and recall bias. No advanced statistical analyses. No power, no alpha coefficients given. Only frequencies and percentages reported. Gaps: good idea for replication in larger school nurse population. Inconsistencies regarding state school nurse scope of practice and educational preparation.
Kirchofer, G., Telljohann, S. K., Price, J. H., Dake, J. A., & Ritchie, M. (2007). Elementary school parents'/guardians' perceptions of school health service personnel and the services they provide. *Journal of School Health, 77*(9), 607-646. doi:10.1111/j.1746-1561.2007.00240.x	Cross-sectional survey of nationally representative random sample of 369 parents of elementary school-aged students in 2005. Questionnaire author developed. Only descriptive statistics provided.	86.3% perceived school nurses as important or extremely important and that schools should have school nurses, school counselors and social workers in their child's elementary school. Parents ranked importance of full-time health and academic services as school nurses (85.1%), social workers (75.9%), and school counselors (57.9%).	Good sampling strategy well defined. Limited to elementary school parents' perceptions. Gap: Parent's perceptions could be expanded for all age groups. Only reported frequencies and percentages. Could expand results and discussion if looked at significance between groups.

DeSisto M. C., & DeSisto, T. P. (2004). School nurses' perceptions of empowerment and autonomy. *The Journal of School Nursing, 20*(4), 228-233.	Non-experimental descriptive. Used CWEQII and CONPS scales to determine relationship between autonomy and empowerment in 82 school nurses from Massachusetts.	Positive correlation (R^2=0.3433). Significant relationships (p<0.01) between subscales and total scores of both scales. School nurses scored high on levels of empowerment, but low on perceived control over nursing practice.	Generalizability – from professional organization, bias introduced. Cross sectional survey, low power, instrument for CONPS not obtainable. Question statistical conclusion ability. No instrument psychometrics given, no discussion of limitations. Theoretical constructs and relationship to study aims poorly understood in introduction. Gaps: Dated literature. Inability to consider findings valid.
Foley, M., Lee, J., Wilson, L., Cureton, V. Y. Canham, D. (2004). A multi-factor analysis of job satisfaction among school nurses. *The Journal of School Nursing, 20*(4), 94-100.	Cross-sectional survey. Non-experimental descriptive. Index of Work Satisfaction scale. Evaluated level of job satisfaction in 299 California school nurses.	Subscales from most important to least as ranked by participants: autonomy, interaction, professional status, pay, task requirements and organizational policies.	Cross-sectional survey. Generalizability concerns with sample. No instrument psychometrics for study given. No discussion of confounding or other defining characteristics. Gaps: Dated literature. Limitations did discuss that IWS constructs may not adequately measure school nurse constructs. But then did not evaluate or provide information from their own study.

Parsons, M. A., & Felton, G. M. (1992). Role performance and job satisfaction of school nurses. *Western Journal of Nursing Research, 14*(4), 498-511.	Longitudinal design over three years conducted in 1985 to determine the influence of an educational intervention on role performance and job satisfaction of school nurses. 98 began the program 51 ended the program. School nurses practicing in a southeastern state. Used Bullough's Job Satisfaction Scale and the author developed scale - Role Performance Scale.	Examined factors of creativity, skill, interest, importance and respect, promotion, salary and routinization. Role performance examined physical health, psychosocial health, program management, environmental health. Job satisfaction was correlated with intrinsic job satisfaction. Findings suggest that school nurses were motivated to perform their role despite low extrinsic job satisfiers.	No sampling strategy provided. Data used was from 1985. Unclear if retrospective, or delay in publishing. Provided instrument psychometrics with acceptable alpha coefficients. Poorly described analyses with difficult to understand tables. Performed factor analysis, but no data provided. No demographics of participants. No power analysis – poor power evident. Problems with sample drop-out. Gaps: dated literature. In ability to discern statistical conclusion validity.