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Organizational Support, Self-efficacy, and Job Satisfaction Among School Nurses

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Organizational Support, Self-efficacy and Job Satisfaction Among School Nurses

in New Jersey

BY

Pao-Chu Tseng

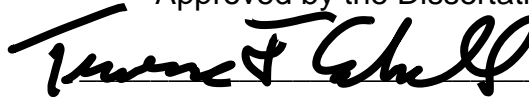

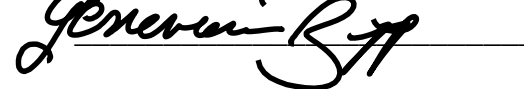
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Abstract

Background: School nursing is a specialized practice and provides health care on-site. With a high prevalence of medical conditions and complex health care needs for school-aged children, school nursing services have become a great demand. However, school health is not a central part of the educational mission; and school nurses are a small percentage in the overall RN population. Therefore, school nurses' issues receive less attention.

Objectives: The purpose of the study was to explore how perceived district support and self-efficacy may interact to affect job satisfaction among public school nurses in New Jersey.

Methods: It was a quantitative, web-based survey research. A solicitation letter with a survey link was emailed to a convenience sample from a membership list, and snowball recruitment requested forward of the letter to non-members. Three instruments, the *Survey of Perceived Organizational Support*, *General Self-efficacy Scale*, and *Minnesota Satisfaction Questionnaire* were included. Path analysis was used for statistical analysis.

Results: Three hundred school nurses provided usable information for the final analysis. In this sample, school nurses did not perceive that their school districts valued their contributions and cared about their well-being. They have a higher self-efficacy score than the US adult population, and, in general were satisfied with their job. Of the

demographic variables, only ethnicity was found to be related to two of the three study variables, organizational support and job satisfaction. In the test of theoretical framework, perceived organizational support contributed both directly to job satisfaction as well as indirectly through self-efficacy. The theoretical framework was not fully supported for the reciprocal relationship between perceived organizational support and self-efficacy.

Conclusion: Support from school districts and self-efficacy both contribute to school nurses' job satisfaction. Implications for school nursing education, practice, and future research are discussed.

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For all my school nurses colleagues: Their willingness to participate made this research possible. I wish I could express my gratitude to each of you individually, but the survey was anonymous. All of you helped me broaden my understanding of my own profession as a school nurse, and I hope this research will contribute to the improvement of school nursing in New Jersey.

To my entire family, thank you for the support and for giving permission for a wife and mother to pursuit her dreams.

To my parents in heaven, you set an example for me to follow; you gave me the strength to finish. I cannot thank you enough for bringing me into this wonderful world!

DEDICATION

This study is dedicated to all the school nurses who care for children and work to improve their lives.

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Chapter I

INTRODUCTION

School nursing services are unique in that they provide communities with health care in a non-medical setting. A school nurse is a dual-commitment professional: he or she holds both educational and health care responsibilities at the same time. In the 21st century, both health care systems and educational institutions are complex and are changing constantly and rapidly. Current challenges in health care include a growing number of uninsured, the changing diversity of the population, increased social morbidity, and technological growth and innovation. These challenges are significantly impacting health care systems (Sultz & Young, 2009). In educational institutions, there are increasing numbers and the additional complexity of school-age children with chronic physical and emotional health conditions, which has made providing health services within the school settings more challenging (U. S. Department of Education, National Center for Education Statistics, 2013). Changes in societal health needs directly impact school nursing. School nursing must reflect these changes in order to provide the quality of care that can meet the demands in both education and health care domains.

According to the National Association of School Nurses (NASN, 2010), school nursing is a specialized practice of professional nursing that advances the well-being, academic success, and life-long achievement and health of students. School nurses are the leaders in carrying out health care activities in school settings. There is a strong link between health and learning as healthier students make better learners (Basch, 2011).

Health services that are provided on-site by school nurses promote school children's health, support their learning, influence quality of life, and enhance the ability to contribute in a democratic society. However, school health is currently not a central part of the fundamental mission of schools in America (Basch, 2013).

The Problem

School nurses are about 2.2% (61,323/2,824,641) of the total U.S. Registered Nurse (RN) workforce (Health Resources and Services Administration, 2013). With only a small percentage of school nurses in the overall RN population, school nurses' issues are seldom noticed as a significant issue in the larger health care system. In educational institutions, nurses are a minority with very limited visibility. For example, in New Jersey, there are about 117,803 full time public school teachers and only about 2,500 public school nurses (State of New Jersey Department of Education Fact Sheet, 2013). There is a great demand for nursing services in school settings due to a high prevalence of chronic medical conditions and increasingly complex health care needs for school-aged children (Van Cleave, Gortmaker, & Perrin, 2010). However, school nurses are still peripherally conjoined in education (Broussard, 2007).

According to NASN (2010), the recommended ratio for caseload assignments is one nurse for every 750 students in the general population. If student populations require daily professional nursing services or intervention, then the ratio should be lower. According to the most recent report from NASN in August 2011, only 16 states and the District of Columbia met the recommendation of a 1:750 nurse to student ratio. New Jersey is rated number 11 with 1 nurse per 533 students. From the report of NASN (2011), only 45% of public schools have a full-time school nurse. School nurses are

leaders of school health programs; they are the bridge between health and education, home and school, and home and community. Nursing services in school improve student's health, as well as promote health in the home and community (Kruger, Toker, Radjenovic, Comeaux, & Macha, 2009). However, there are many public schools in the country without a nurse (Maughan, 2009a).

Health services research is an important way to advance health and medicine (Sultz & Young, 2009). From this point of view, research on school nursing is necessary to improve school nursing services. Since the 1980s, society has become aware that the nursing shortage is a key problem in health care (West, Griffith, & Iphofen, 2007). The nursing shortage issue has drawn researchers' attention to nurses' work environments and job satisfaction (Friese, 2005). Some researchers have found that the work environment, i.e. the physical facilities and the hospital culture, is at the root of the current nursing shortage (Friese, 2005). Promoting more favorable work environments and job satisfaction are the two main components cited in the literature as improving retention of nurses in hospitals and solving the problem of the nursing shortage (Sultz & Young, 2009).

In reviewing job satisfaction levels among nurses, most researchers have focused on the hospital RNs as the study subjects, with very limited research focusing on school nursing practice. One of the possible reasons is that the customers of school nurses are school-aged children; the children's minority status makes them unable to advocate for themselves in terms of the need for school nursing services. Another reason is that school nurses are usually supervised by school principals or non-nurse educational administrators (School Health Alert, 2008; Smith & Firmin, 2009); therefore,

school nurses are lacking professional nursing leadership. The fact that the services are provided for clients who are minors and the lack of direct school nursing supervisors for school nurses may together contribute to a common phenomenon of invisibility or non-recognition of the school nursing profession in both health care and education. Public schools in New Jersey are under budget constraints, and eliminating nursing services is a threat that creates a sense of instability among school nurses in the New Jersey area. For example, Anthony Cavanna, Superintendent of the West Orange School District, openly stated in the *New York Times* (Hu, 2010), that reducing nursing staffs in the West Orange School District will be a necessary strategy in dealing with school budget cuts. If economic strains continue to exist, cutting school nursing services may be a common strategy and remain a threat in New Jersey public schools.

The message that such a threat conveys may affect school nurses' perceptions of their work environments, especially with regard to how they feel school districts value their contribution and respect their position. This phenomenon is captured in published literature as one variable in Rhoades & Eisenberger's (2002) theory of Perceived Organizational Support, where research demonstrated that nurses' perceptions of their environments are one major reason for the current nursing shortage (Sulz & Young, 2009).

Another variable that may impact on professional practice is how school nurses' efficacy and belief in their abilities affects control over their professional practice. Self-efficacy has been defined as the degree to which individuals consider themselves capable of performing a particular activity (Bandura, 2003). For example, greater personal self-efficacy generally leads to greater personal successes or beliefs in one's

self (Bandura, 2003). School nurses need to believe in their own abilities to carry out their functions; without self-efficacy, they will have little incentive to take action in fulfilling their own responsibilities. Self-efficacy is a positive quality in one's personality (Hiller & Hambrick, 2005).

According to Blau's (1964) Social Exchange Theory, both the organization and individual interact within an exchange relationship. The relationship between the two is bi-directional or reciprocal. Examination of self-efficacy as it relates to perceived organizational support may be helpful in explaining why school nursing services are not as highly valued as such a professional position might be (Krause-Parello & Samms, 2009).

In reviewing the literature surrounding the concepts of perceived organizational support and self-efficacy in healthcare, it becomes abundantly clear that an individual in an organization also needs to take on responsibilities and contribute actively towards his or her own society and work settings (Ericson, 1997). During his 1961 Presidential Inaugural Address, John F. Kennedy spoke "ask not what your country can do for you-ask what you can do for your country." This famous quotation suggests that individuals must take responsibility for their actions if they want their country to respond equally (Ericson, 1997). According to the Social Cognitive Theory, Bandura (2003) defined that the relationship between individuals and their social environment is reciprocally deterministic, not independently existent. Individuals can be influenced by environment and individuals can, conversely, have influence on their environments as well.

Currently, school nurses in New Jersey fear the elimination of their positions; this may create an insecure feeling for their professional future. Marlow's Hierarchy of

Human Needs theory views job satisfaction of school nurses through a pyramidal structure starting from physiological needs, safety, belongingness, and esteem to self-actualization (Burston & Stichler, 2010). The precariousness of school nurses' jobs may create an environment where safety, belongingness, and esteem are in short supply. Therefore, the current level of job satisfaction among employed public school nurses in New Jersey area is a timely issue for exploration and study.

The general purpose of this study is to explore how personal characteristics and certain factors in the school nurse's work environment may relate to school nurses' job satisfaction. Perceived organizational support presents the work environment factor and self-efficacy presents the personal characteristics factor. According to the literature, these two variables contribute to overall job satisfaction and job satisfaction is a work-related outcome (Moos, 2008).

Significance of the Study

School nursing services play a pivotal role in the health and well-being of children. The services include case management, immunization compliance, promotion of education outcomes and assistance to faculty through reduction of health issues among students (Baisch, Lundeen, & Murphy, 2011). However, the scarcity of resources in New Jersey threatens to reduce or eliminate services. As perceived organizational support is strongly related to occupational stress (Rhoades & Eisenberger, 2002), the value that school districts place on the contribution of school nurses and the degree of respect they accord school nurses may affect the nurses' levels of satisfaction and these are timely issues for study in order to understand the challenges of currently school nursing practice.

To date, there has been no known research that examines all three variables, perceived organizational support, self-efficacy, and job satisfaction on school nurse populations. This study may provide evidence that can be used to formulate future strategies to improve organizational support, self-efficacy and job satisfaction for school nurses. Research outcomes may forge professional growth for nurses, reclaim pride in their profession, and modify university preparation programs that are dedicated to improving the quality of nursing services in school settings. The research outcomes may inspire all stakeholders including school nurses, parents, school districts, and communities to become more aware of school nursing issues and eventually lead to further support for school nursing services.

The most important potential outgrowth would be that of promoting students' health and wellness for their academic and life success through improving support for school nursing, promoting self-efficacy and increasing job satisfaction among school nurses.

Purpose Statement

The purpose of this study is to explore how perceived organizational support in the work environment and self-efficacy in the school nurses' personal character may interact to affect job satisfaction among public school nurses in New Jersey.

Research Aims and Research Questions

There are five research aims to which related research questions are proposed.

Aim 1: To understand the demographic characteristics of the current employed certified public school nurses in New Jersey

RQ 1: What are the demographic characteristics of the currently employed certified public school nurses in New Jersey?

Aim 2: To understand the levels of perceived organizational support, self-efficacy, and job satisfaction among currently employed certified public school nurses in New Jersey.

RQ 2: What's the level of perceived organizational support, self-efficacy, and job satisfaction among currently employed certified public school nurses in New Jersey?

Aim 3: Consider if there is a relationship between demographic variables and the three study variables: perceived organizational support, self-efficacy, and job satisfaction and demographic variables.

RQ 3 Is there a relationship between demographic variables (years of nursing experience, ethnicity, highest education level, and students/nurse ratio) and the study variables (perceived organizational support, self-efficacy, and job satisfaction) among currently employed and certified public school nurses?

Aim 4: Consider if the relationship between perceived organizational support and self-efficacy is reciprocal, and if both perceived organizational support and self-efficacy positively predict job satisfaction

RQ 4a Does perceived organizational support positively predict self-efficacy among currently employed and certified public school nurses?

RQ 4b Does self-efficacy positively predict perceived organizational support among currently employed and certified public school nurses?

RQ 4c Does perceived organizational support positively predict job satisfaction among currently employed and certified public school nurses?

RQ4d Does self-efficacy positively predicts job satisfaction among currently employed and certified public school nurses?

Aim 5: Consider if self-efficacy mediates the relationship between perceived organizational support and job satisfaction

RQ 5 Does the relationship between perceived organizational support and job satisfaction mediated by self-efficacy?

Theoretical Framework

The factors that are associated with job satisfaction of school nurses may be multiple and complex. This study examines the potential relationships between perceived organizational support, self-efficacy, and predicted job satisfaction of school nurses. The idea originally came from the Conceptual Framework of Work Environment Scale (Moos, 2008). In the Conceptual Model of Work Environment Scale, a reciprocal interaction relationship exists among the three factors of Organizational, Personal, and Work-related Outcomes (Moos, 2008). This research plans to select one element from each factor. The Organizational Factor is represented by Perceived Organizational Support; the Personal Factor is represented by self-efficacy; and the variable of Work-related Outcomes is represented by job satisfaction.

The concept of Perceived Organizational Support (POS) originated from organizational support theory (Eisenberger, et al. 1986). Perceived organizational support theory states that employees develop beliefs regarding the extent to which the organization values their contributions and cares about their well-being (Eisenberger et al, 1986). POS is also rooted in social exchange theory. Social exchange theory proposes that human behaviors are driven by reciprocity and expectation of rewards

(Blau, 1964). In his Social Exchange Theory, Blau suggests that most social interactions involve some level of social or economic exchange. Perceived organizational support is, from the employees' standpoint, how well the organization offers rewards for their efforts. The main idea of perceived organizational support is that an employee's commitment to the employer in a social exchange base is rooted in his/her perception of their relationship as a reciprocal relationship (Eisenberger et al, 1986). More specifically, when employees have a high level of perceived organizational support, they will have a greater motivation to work toward organizational goals (Rhoades & Eisenberger, 2002). If school nurses in New Jersey fear the elimination of their positions due to budget restraints, then perceived organizational support may be an important factor for job satisfaction of school nurses in New Jersey.

Self-efficacy theory stems from social cognitive theory (SCT). SCT was developed by Albert Bandura, a psychologist and professor at Stanford University. In SCT, Bandura emphasizes the role of observational learning and social experience as the most important factors in the development of personality (Bandura, 2003). Bandura defines perceived self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Self-efficacy is a person's belief in his or her own competence and strong self-efficacy enhances human accomplishment and personal well-being. Most school nurses work independently; self-efficacy may affect how they view the work environment and how they face and overcome adversity.

According to the Conceptual Framework of Work Environment Scale (Moos, 2008), the Organizational, Personal, and Work-related Outcomes interact reciprocally.

This study will apply this concept framework to test the relationships between perceived organizational support, self-efficacy, and job satisfaction among school nurses in New Jersey.

This study will test a theoretical framework based on the Conceptual Framework of Work Environment Scale as shown in *Figure 1*.

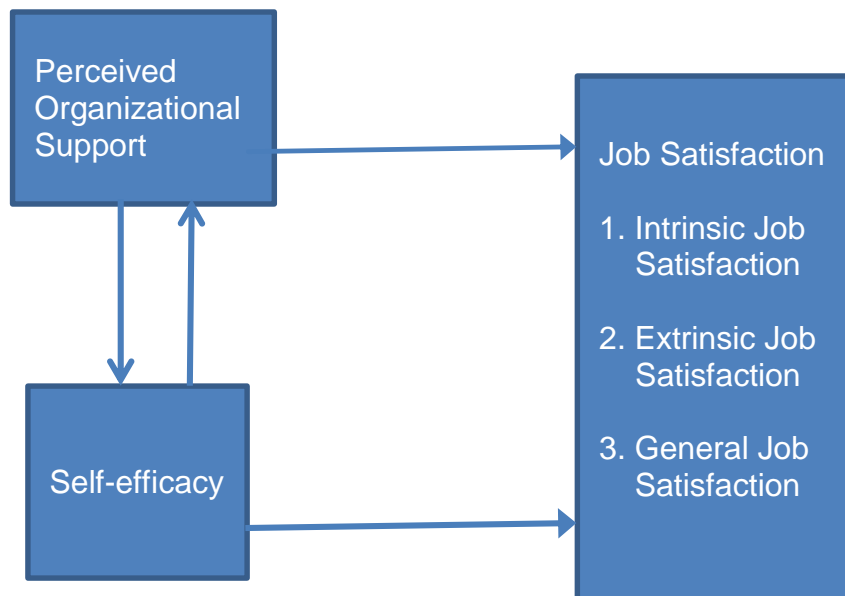


Figure 1. Theoretical Framework

(Created by Pao-Chu Tseng, 2014)

Summary

Chapter 1 provides the circumstances of the problem under exploration, meaning of the study, purposes and questions for research, as well as a visual theoretical framework of the relationships among the variables under study. Chapter 2 contains a brief background of school nursing and a review of the literature that supports this study. Chapter 3 presents a detailed explanation of the study design, measurement tools, recruitment of participants, and data collection and data analysis strategies. Chapter 4 presents the outcomes of the research questions. Chapter 5 includes interpretations of the outcomes and provides feasible implications and recommendations based on these outcomes as well as study limitations, suggested areas for future research and conclusions.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter presents a literature review related to the following areas: a brief review of school nursing and current requirements for school nurses in New Jersey; a review of theoretical and empirical literature on perceived organizational support, self-efficacy, and job satisfaction; and the relationships between perceived organizational support, self-efficacy and job satisfaction. This review will determine any gaps in the literature concerning these areas in the general population and in school nursing practice.

School Nursing

By gathering information from historical, political, cultural, and contextual backgrounds of school nursing, it is possible to develop a broader understanding of the school nursing profession (Croghan, Johnson, & Aveyard, 2004)

Historical perspective. In the early twentieth century, immunizations and antibiotics had not yet been invented, and scarlet fever, diphtheria, pertussis, varicella, and mumps were serious communicable diseases among children and their families. In addition to communicable diseases, crowded and unsanitary living conditions associated with scabies, ringworm, impetigo, conjunctivitis, and pediculosis were very common among school-age children (Hallett, Lotten, & Davis, 2006). Communicable diseases and unsanitary living conditions seriously impacted students' attendance, and poor attendance directly affected students' learning.

In 1902, Lina Rogers was the first nurse to be placed in a school setting in New York City (Selekman, 2006). Ms. Rogers, who started school nursing services by

working with school physicians, included screening for and treatment of communicable diseases among her responsibilities. Besides direct care for students in school, she also made home visits to follow up on treatment plans. Ms. Rogers practiced school nursing rigorously by maintaining a daily journal and carefully documenting daily records of students' conditions, treatment, home visits, teaching, referrals and follow-ups. Her records testify that nursing involvement in school settings successfully improved students' health and attendance (Selekman, 2006). The results of placing nursing services in New York City schools caused similar programs to quickly expand to other cities and even to other states.

Immunizations were developed, including immunization for cholera and typhoid in 1914, diphtheria in 1923, pertussis in 1915, tuberculosis (BCG) and tetanus in 1927, yellow fever in 1935, influenza in 1945, and polio in 1955. These great advances in medicine, especially the invention of antibiotics in 1928 and improvements in public health sanitation, brought communicable diseases under control (Immunization Action Coalition (IAC, 2013). Now, more than one hundred years later, school nurses ensure that children who enter the classroom are free from communicable diseases by checking and monitoring students' immunization schedules to make sure every student is compliant with immunization requirements (Salmon, Moulton, Omer, Chace, Klassen, Talbien, & Halsey, 2004). One of the current and essential responsibilities of school nursing practice is to improve student attendance (Telljohann, Dake, & Price, 2004). With the greater control of communicable diseases among school age children through immunizations, the role of school nurses has broadened to include emphasizing

prevention and promoting wellness and health education (National Association of School Nurses, 1999).

Policy perspective. Policies and laws from state and local governments influence the role of school nurses.

While advanced medical technology saves many lives, especially increasing the neonatal intensive care unit (NICU) survival rates, it also greatly increases the numbers of school-age children with moderate to severe disabilities and chronic medical conditions (Allen, Cristofalo, & Kim, 2011). Federal law requires school systems to provide care to such children with disabilities so that these children can have access to public education. Not surprisingly, this impacts school nursing practice heavily (Allen et al, 2011).

Relevant laws include the Rehabilitation Act, the Individual with Disabilities Act (IDEA), and No Child Left Behind Act (U. S. Department of Education, 2009). The Rehabilitation Act of 1973 and The Individual with Disabilities Act (IDEA) of 1975 had great impacts on school nursing practice (Wolfe & Selekman, 2009). Section 504 of the Rehabilitation Act (Wolfe & Selekman, 2009) prohibits discrimination on the basis of disabilities and mandates access to public programs that receive federal funds. Under Section 504, students with disabilities can require reasonable and individualized accommodations within the school setting. IDEA became the Education for All Handicapped Children Act of 1975, also known as Public Law 94-142. The law mandates that schools develop an Individualized Educational Plan (IEP) for children with disabilities. In 1999, the Supreme Court decided that schools are financially

responsible for providing nursing services for children with medical needs (Wolfe, & Selekman, 2009).

The No Child Left Behind Act became public law 107-110 in 2001 (U. S. Department of Education, 2009). The law originated as a civil rights law that was designed to ensure the academic rights of every student and to close the achievement gap among certain special groups, including economically disadvantaged children, children with limited English proficiency, racial/ethnic minorities, and special education students. The law now redefines the federal role in K-12 education as one of improving the academic achievement of all American students. The principles of No Child Left Behind include standards and assessment, data collection and report achievement by population types, accountability for all students, and improved teacher quality. No Child Left Behind also requires all schools to meet the state standards by 2014. The act's impact on school nursing practice includes responsibility for the detection of health-related learning barriers and for providing appropriate nursing interventions, acute care and chronic medical management, counseling on medical issues, administering medications, coordinating school health programs to promote healthy lifestyles, working with multidisciplinary school teams to implement accommodations and strategize to increase academic achievement. School nurses also collaborate with school teams to promote safety in the school environment and increased parental involvement. The No Child Left Behind Act requires highly qualified staff. According to Costante (2006), to be in compliance with the No Child Left Behind Act, school nurses will need to update their knowledge and skills to maintain competence in their profession and promote public confidence in the practice of school nursing.

Contextual and cultural perspective. A tremendous amount of scientific discoveries, technological innovations, and educational reform have occurred in the twenty-first century. In the area of health care, constant changes in policy and even population structure have affected medical practice (Sultz & Young, 2009). These factors directly impact school education and greatly change school nursing practices.

One of the major elements is the increased number of school-aged children with chronic medical conditions. As science has advanced, more technologies have been developed to treat disease and prolong life. Children born with congenital chronic medical conditions, who previously would have died in infancy or very early childhood, now live to attend school (Fritts, 2004). Van Cleave, Gortmaker, & Perrin (2010) report that American children with chronic health conditions doubled from 12.8% in 1994 to 26.6% in 2006. According to the U. S. Department of Education, the percentage of enrolled children with disabilities was 8.3% during the 1976-77 school years and during the 2007-08 school years was 13.4%, and in 2011-2012 school years, the number of children and youth receiving services had declined to 13% of total public school enrollment (National Center for Education Statistics, 2014). Another issue is the increase in psychiatric-related incidents and mental health problems in children. Childhood depression, ADHD, anxiety disorders, bipolar disorders, conduct disorders, drug and substance abuse and suicide attempts have significantly increased in the last decade (Center for Disease Control, 2011). Children's mental health problems in school not only create challenges for administrators and classroom teachers but also greatly increase nursing responsibilities for administering medications and providing mental health care or mental health counseling (Foster et al., 2005).

Another significant change in school nursing is medical care policy reforms (Sultz et al, 2009). As a result of briefer hospitalization stays, school nurses are responsible for follow-up treatment, care, and medication administration immediately after injury, surgery, and hospital discharge. The post-hospital discharge nursing care in school settings may sometimes even become a long -term requirement of care (Brener, Wheeler, Wolf, Vernon-Smith, & Caldart-Olson, 2007).

The consumers of school nursing services are not just students. An advantage of school nursing service is providing health care for school faculty and staff in addition to students. Furthermore, school nurses are valuable resources for parents and communities members. Perrin, Goad, & Williams (2002) show how school nursing services are beneficial to all school employees. School employees rated school nursing services as satisfactory or excellent, as the services have the potential benefit of improving their health conditions and well-being. School nursing services reduce faculty's time away from their jobs to attend health care appointments. By providing services to school staff, school nursing absorbs some of the responsibilities as occupational health care providers. School nursing services also allow other school employees to perform their primary job responsibilities. For example the research by Hill & Hollis (2012) finds that school nursing takes care of students' health issues, indirectly increasing teaching time for all students.

Changing social contexts increase school nurses' responsibilities. Fleming (2009) states that in response to changing populations, increasing numbers of immigrants, the rise in the number of people lacking comprehensive health insurance coverage or without primary care providers, school nursing might be an effective way to help

students and their families find access to health care. School nurses are first-line health care providers, especially for helping underserved and vulnerable children and their families.

In light of historical, cultural, and contextual changes in school nursing, school nursing practices now must integrate pediatric, psychiatric, emergency, and public health nursing care. School nursing now also involves occupational health responsibilities including taking care of school teachers and employees. The responsibilities of school nursing have become so expansive that the increased pressure and frustration on the part of school nurses is substantial and evident.

Requirements of school nurses in New Jersey. Currently, there is a deficit of uniform standards for professional preparation and certification for school nurses in the United States (Maughan, 2009a). Every state has different requirements for school nurses. For instance, New Jersey requires an Educational Services Certificate to practice as a school nurse (New Jersey State School Nurse Association (NJSSNA), 2014). This endorsement authorizes the nurse to perform nursing services and to teach health in public schools from preschool through grade 12. To be eligible for the standard certificate in New Jersey, a school nurse must meet the following requirements: have a bachelor's degree, hold a current state RN license, have cardiopulmonary resuscitation (CPR) and automatic external defibrillator (AED) certification, and have completed 30 credits of preparation for becoming a school nurse. The curriculum requirement for school nurses in New Jersey includes human growth and development, health assessment, fundamentals of substance abuse and dependency, special education, methods of teaching health, school nursing, and public health. Currently, there are

eleven colleges that offer school nurse certification programs in New Jersey (NJSSNA, 2014).

The twenty-first century has brought with it many educational and medical challenges that have affected school settings. As a result, school nursing practice has become far more complex than has been the case historically. The level of responsibility that the typical school nurse performs on a daily basis has, likewise, increased in recent years. New Jersey requires a standardized certification, which means before becoming a school nurse, a registered nurse needs to attend a school nurse certification program and complete the standardized training courses to obtain a certification in order to be employed in the public school setting, underscoring the high level of professionalism expected.

Perceived Organizational Support

Introduction. School nurses are entangled in an environment of trying to balance the responsibilities of education and health care. Krause-Parello & Samms (2009) studied the role of the school nurse and discovered that, overall, school nurses found their school nursing practice undervalued; in particular, the administrators did not positively support school nursing. A common misconception about the role of the school nurse, according to Krause-Parello & Samms (2009), is someone who only performs simple and non-professional work such as applying bandages and taking care of stomach aches and other ailments that do not require professional training. The role of the nursing professional who promotes the health of school-aged children for academic success and serves as a health educator is not recognized by the community at large (Krause-Parello & Samms, 2009). There is a great discrepancy in the perception of a

school nurse's role among administrators, parents, and teachers (Pinckney 1996, Green & Reffle 2009, Barnett 1999). Generally, the school nurse's role in health counseling and small group health teaching is not recognized by these constituencies (Pinckney 1996, Green & Reffle 2009, Barnett 1999). Currently New Jersey public school districts are experiencing budget cuts and decreased services in order to meet bottom-line requirements. Hu (2010) argues that there is a relationship between the perception of school nursing services and the threat of eliminating nursing services due to budget constraints.

Another issue in school nursing is the heavy work load. According to the U.S. Department of Education (2013), there are more than 50 million school-aged children placed under the care of about 61,323 school nurses, which equates to 815 students per school nurse. According to the National Association of School Nurses (2013), the recommended ratio is 1 nurse to 750 children. Considering the greater severity of health concerns of school-aged population, for example, there are about 26.6% of American children with chronic health conditions (Van et al. 2010) attending schools and under the care of school nurses, the higher work load might be of concern.

Work environment and perceived organizational support. Work is an essential part of most adults' lives. During adulthood, a person will spend a great amount time and daily life at work. The quality of one's work life contributes to a person's total life quality (World Health Organization (WHO), 1998). Moos (2008) emphasizes the importance of the work environment for adulthood. He states that the workplace affects an adult's cognitive functioning, intellectual development, morale, well-being, and life satisfaction. Cognition is defined as the mental process of knowing,

including aspects such as awareness, perception, reasoning, and judgment (Webster's New World College Dictionary, 2010).

Moos (2008) presents a conceptual framework for the work environment, where there are three factors that interact together within the work environment: Organizational System, Personal Factors, and Work Related Outcomes. In this framework, the organizational system directly impacts employee and organizational outcomes. Organizational systems affect employees' work morale and performance as well as their job satisfaction and life quality (Moos, 2008). Moreover, the organizational system plays a significant role on organizational outcomes like quality of services and consumers' satisfaction (Moos, 2008).

A major environmental factor that challenges school nurse practices is a lack of support from school districts (Croghan et al, 2004; Krause-Parello & Samms, 2009; Maughan, 2009; Broussard, 2007; Smith & Firmin, 2009). According to Moos' (2008) Conceptual Model of Organization, Personal Factors, and Work Related Outcomes, perceived organizational support is one of the important factors that may affect school nursing practice. Rhoades and Eisenberger (2002) define perceived organizational support (POS) as the employees' global beliefs about the extent to which the organization values their contributions and cares about their well-being. Rhoades and Eisenberger state that POS is associated with employees' performance and organizational outcomes. POS comes from social exchange theory. The following section will briefly introduce the theory of social exchange.

Social exchange theory. Human gatherings are governed by the law of supply and demand (Thisen, 1987). The rule of supply and demand is necessary for an

efficient and long-term relationship. Within the work place, there are a number of social exchanges that may occur between individuals and the organization. The relationship inherent in the organization-employee exchanges is conceptualized as perceived organizational support (Eisenberger, Huntington, Hutchison, & Sowa, 1986). The Social Exchange Theory suggests that how people perceive rewards and costs from a relationship will affect the decision of whether or not the people want to maintain the relationship. An individual also has a tendency to try to maximize his/her gains from social interactions (Blau, 1964). An employee's commitment to the employer is a two-way street or a reciprocal relationship (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhodes, 2001). Employees trade off effort and loyalty for tangible and socioemotional benefits from the organization. Tangible benefits include pay, while socioemotional benefits include esteem, approval, and respect (Schermerhorn, 2007). Blau (1964) states that social exchange requires trusting others to reciprocate; failure to reciprocate engender loss of credit and trust. In social exchange relationship, each participant hopes to gain much at little cost; therefore, both must come to some mutual agreement (Blau, 1964). In summary, the principle of social exchange includes mutual reciprocity. The quality of an exchange depends on trust, and trust does not simply exist; it is earned. Therefore, the social exchange relationship needs time to build up trust between both parties. Another key point is social exchange tends to engender feelings of personal obligation, gratitude, and trust; this distinguishes it from a short-term or purely economic exchange (Blau, 1964).

Employee and organizational exchange relationship. The relationship between an employee and an organization starts with a work contract. A work contract

sets forth the terms of expectations between employee and employer; it binds the parties to a reciprocal obligation. It is a mutual agreement that consists of a bargain for exchange. From the work contract, both parties offer an open-ended and long-term investment to each other (Shore, Bommer, Rao, & Seo, 2009). The employee and organization exchange relationship is a long-term social exchange relationship; the relationship is not a short term or simple economic exchange. After an employee signs a work contract, both the organization and employee need to continue working on maintaining a strong social exchange relationship for mutual benefit and to overcome extensive environmental challenges (Blau, 1964).

Some empirical research applies supply and demand principles to explain employee and organizational exchange relationships. For example, in Hodges, Troyan, & Keeley (2010) study on nursing care in an acute care setting, the authors found that nurses with a baccalaureate-prepared education are in demand in health care settings because they provide better patient care. The study reflects a need for producing, at minimum, nurses who have a baccalaureate level of education.

Both employee and organization utilize the supply and demand domains during the exchange process. According to Maslow's Human Needs Theory, an employee demands physical, safety, belonging, esteem, and self-actualization (Buston & Stichler, 2010). The organization's demands include the job tasks, standards, goals, objectives, and missions. Organizations require appropriate human resources and recruitment to supply qualified individuals to meet the organization's demands. In the supply domain, employee and organization both offer certain currencies or benefits for exchange. Cole, Schaninger, & Harris (2002) describe this as the Framework for the Workplace Social

Exchange Network (WSEN). In this framework, the currencies that individuals exchange with organizations are citizenship, performance, attendance, membership, loyalty, and positive attitudes. Organizations supply support, security, advancement, pay, benefits, employment, social identity, job assignment, and information. The individual and organizational exchange relationships are explained further in the following table.

Table 1

Organization and Employee Supply and Demand Exchange Relationship

	Organization	Employee
Demands	<ul style="list-style-type: none"> • Standards • Tasks • Goals • Objections • Organizational Mission <p>(Schermerhorn, 2007).</p>	<ul style="list-style-type: none"> • Physiological needs • Safety needs • Belongingness needs • Esteem needs • Self-actualization needs <p>(Maslow's Human Needs)</p> <p>(Buston & Stichler, 2010).</p>
Supplies	<ul style="list-style-type: none"> • Support • Security • Advancement • Pay • Benefit • Employment • Social Identity • Job Assignment • Information <p>(Cole, Schaninger, & Harris, 2002)</p>	<ul style="list-style-type: none"> • Citizenship • Performance • Attendance • Membership • Loyalty • Positive Attitude <p>(Cole, Schaninger, & Harris, 2002)</p>

The supply and demand concept provides lenses to view the organization and employee exchange relationship. The relationship is a collaborative partnership with a long-term expectation (Svensson, Randle, & Binnich, 2009). This relationship develops through the connection of formal and informal communication (Svensson, et al., 2009). Both parties need to constantly evaluate the supply and demand balance in a cost-efficient way in order to obtain consensus on maintaining a successful exchange relationship (Schermerhorn, 2007).

Factors contributing to and outcomes of perceived organizational support.

There are empirical studies that found factors contributing to POS and how POS relates to work-related outcomes. Studies found that employees who have opportunities to participate in decision making obtain fairness rewards that may contribute to POS (Johlke, Stamper, Shoemaker, 2006). The amount of organizational recognition received and the quality of task-related training is associated with POS (Johlke et al, 2002; Wayne, Shore, Bommer, & Tetrick, 2002). A supervisor's support is positively related to subordinates' POS (Rhoades & Eisenberger, 2006). Justice and trust positively related to POS (Ristig, 2009). Kanter's concept of empowerment which is defined as how organizations provide adequate opportunities, information, support, and resources to employees is positively associated with POS (Patrick, & Laschinger, 2006).

The results of the following studies provide support for how POS has positive and negative outcomes for employees' work. The positive relationships with POS include job satisfaction (Aryee, Budhwar, & Chen, 2002; Burke, 2003; Muse & Stamper, 2007; Patrick et al, 2006); work commitment and performance (Bryne, & Hochwarte, 2007; Eisenberger et al, 2001; Muse et al, 2007; Joiner, 2007; Rhoades et al, 2001; Wayne et

al, 2002), and less depression and anger (Richardson, Yang, Vanderberg, DeJoy, & Wilson, 2008). POS also showed an association with innovation, citizenship and entrepreneurial behaviors (Eisenberger, Cummings, Armeli, & Lynch, 1997; Peel, 2007; Zampetakis, Beldekos, & Moustakis, 2009). One study showed POS related to safety commitment and communication (Hofmann & Morgeson, 1999). POS was negatively associated with absenteeism and turnover intention (Aryee et al, 2002; Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Jawahar & Hemmasi, 2006; Rhoades et al, 2001). Eisenberger et al. (1986) suggests an employee's belief of perceived organizational support is related to his or her willingness to exert extra effort and be more committed to the organization. The following figure presents the factors that contribute to POS and the outcomes of POS from the literature review.

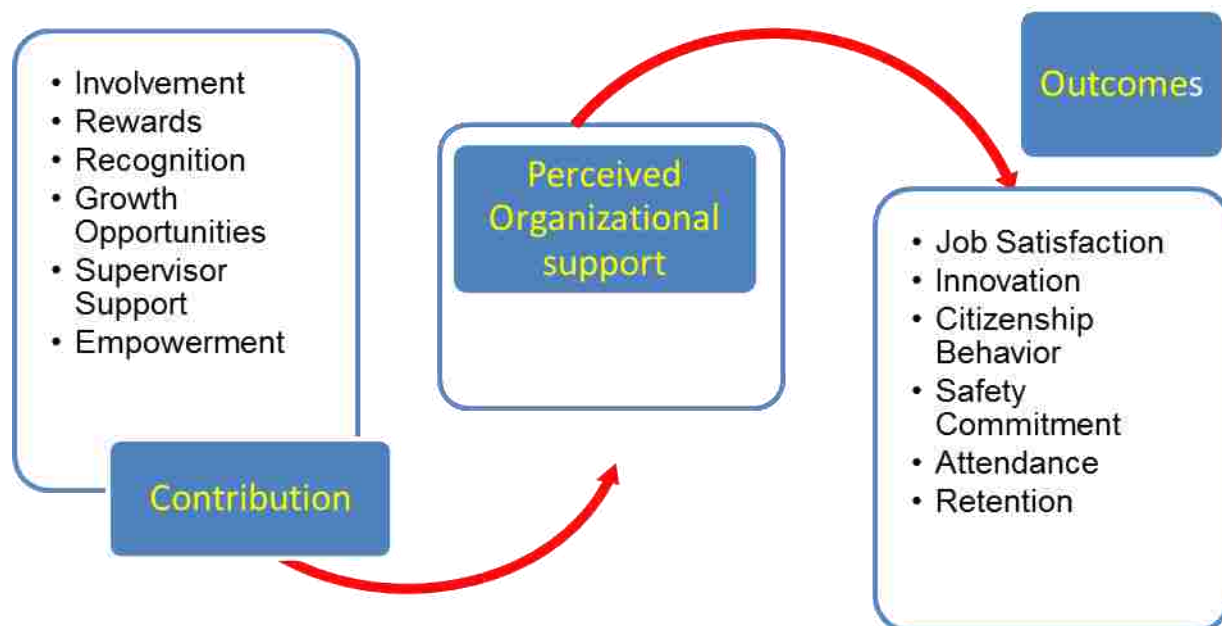


Figure 2. Contribution and Outcomes of Perceived Organizational Support

(Created by Pao-Chu Tseng, 2014)

Summary of perceived organizational support. POS is based on social exchange theory and is a work environment factor. Most POS studies are conducted by academics. Previous research attempted to find the factors that contribute to POS and identify the ways in which POS can affect an employee. They found that POS may come from trust, justice, recognition, rewards, participation, and opportunity for training. POS relates to employees' job satisfaction, commitment, behavior, safety, performance, and retention. It negatively relates to anger, depress, and turnover.

There is no literature on perceived organizational support of school nurses. The investigation of school nurses' POS and their job satisfaction will offer a new perspective on school nursing in the literature. In the Concept Model of Work Environment, Moos argued that another factor in the work environment is personal factor (Moos, 2008). A person in an organization will interact with his/her work environment and the relationships of these two factors affects work related outcomes. The next section will discuss the concept of self-efficacy.

Self-efficacy

Introduction. Hiller & Hambrick (2005) propose that self-efficacy is a positive factor among human personality qualities and the construct of positive human personality qualities consists of four positive self-concepts or core self-evaluations. These four personality traits or the core self-evaluations are – self-esteem, general self-efficacy, locus of control, and emotional stability (Judge, Erez, Bono, Thoresen, 2003). Judge et al. (2003) studied how core self-evaluation related to job satisfaction and job performance. In this research, self-efficacy had the highest correlation coefficient value

among the other three traits of self-esteem, locus of control and emotional stability when it came to job satisfaction and job performance. In school settings, school nurses work independently without a nursing cohort. Self-efficacy is an important personal characteristic that may affect school nurse's perceived organizational support and job satisfaction.

Albert Bandura (2003) introduced the concept of self-efficacy in 1977. He defines perceived self-efficacy as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p.3). According to this definition, self-efficacy can be characterized by three main ideas. First, self-efficacy is competence-based which arises from one's capability. Second, self-efficacy is a perspective of one's judgment and expectation. Third, self-efficacy is an action or behavior related to one's sense of accomplishment or performance (Bandura, 2003).

Bandura (2003) explains Social Cognitive Theory as human behavior involving continuous reciprocal interaction between cognitive, behavioral, and environmental influences. Usually school nurses are solo medical professionals in schools, performing nursing activities alone in the school environment. Self-efficacy might influence a school nurse's ability to perform and accomplish goals. Thus far no studies have explored if general self-efficacy and job satisfaction are related in a school nurses' population.

Self-efficacy as defined by Albert Bandura. Many researchers have applied Social Learning Theory, later known as Social Cognitive Theory, to their research. The following presents a brief review from Bandura's *Self-efficacy: The Exercise of Control* (Bandura, 2003).

According to Bandura (2003), the control center in human lives is self-efficacy. This is the main concept of Social Cognitive Theory. People's level of motivation, affective states, and actions are based more on what they believe than on what is objectively true (Bandura 2003). Self-efficacy influences how people feel, think, behave, and motivate themselves. People's belief that they can produce desired effects provides the incentive for people to act. Therefore, according Bandura, belief in efficacy is the major source of action.

The four principal sources of developing self-efficacy are experience, verbal persuasion, determinant modeling, and psychological arousal (Bandura, 2003). These four sources are the key to building up personal self-efficacy beliefs. Individuals with high levels of self-efficacy are more willing to take on challenges, persist with commitments and perform tasks to reach goals. Therefore, self-efficacy contributes to a personal belief of capability, and it has effects on performance and personal accomplishments.

The influence of self-efficacy on nursing practice. Nursing care self-efficacy is a task-specific self-efficacy for nurses. It is related to the nurse's competence in performing nursing care. Manojlovich (2005) & McQuade (2009) conducted research with hospital nurses and found nursing self-efficacy associated with overall job performance.

Fisher (2006) examined school nurses' self-efficacy in providing care to students with diabetes. The results of this study revealed that the surveyed school nurses perceived a moderate level of self-efficacy in providing diabetes education. Fisher

recommends that school nurses improve diabetes care self-efficacy in order to provide better care and education to students and their families with diabetes issues.

Lauder et al. (2008) used nursing students' samples to study pre-registered nursing students' self-efficacy; nursing competencies; social support; and objective, structured clinical examinations. The results showed self-efficacy was positively associated with all domains of objective, structured clinical examinations. And all sources of support were positively associated with self-efficacy.

The above research studies show that self-efficacy is associated with a nurse's skills, care, and performance. Self-efficacy is also positively associated with social support.

Self-efficacy study on non-nursing samples. Lippke, Wiedermann, Ziegelmann, Reuter, & Schwarzer (2009) studied relationships between self-efficacy, intention, and behavior with a sample of 812 adults. They found that self-efficacy is a moderator between intention and behavior. Lippke et al. (2009) proposes that when people set up a goal or intention, self-efficacy is a moderator for real action or behavior. The result explains why low self-efficacy is a barrier for behavior changes; when people set up an intention, self-efficacy is an important factor between the relationship of intention to real action or behavior.

Macnab & Worthley (2008) studied if there is a relationship between self-efficacy and internal whistleblowing with 939 adult professional employees. A whistleblower is a person who informs on another or makes public disclosure of a corruption or wrongdoing. Whistleblowing is important especially for health care professionals who encounter ethical issues. The research outcomes show self-efficacy as positively

related to internal whistleblowing. This research shows management and work experience significantly related to self-efficacy but not significantly related to internal whistleblowing. The research results also show that females demonstrate lower reported levels of self-efficacy and internal whistleblowing.

In a study of Iranian male high school students, Moeini et al. (2008) found that perceived self-efficacy was negative correlated with perceived stress and psychological distress, such as somatic symptoms, anxiety, and depression.

Schwarzer & Jerusalem (1995) in a study using an adult sample in different counties and found that general self-efficacy is positively associated with quality decision making, academic achievement, and increasing self-motivation. It is negatively associated with stress, depression, anxiety, burnout, and psycho-somatic complaints.

In another study, Judge et al. (2003) found that general self-efficacy has a positive relationship with job satisfaction and performance with an adult work group. In this study the result also showed general self-efficacy has a significantly higher correlation with job satisfaction than self-esteem, locus of control, and emotional stability.

Klassen et al. (2010) studied if there is a relationship between self-efficacy and job satisfaction with school teachers and found teachers' self-efficacy has a positive association with job satisfaction. Mathis & Brown, (2008) used online survey for employees of the Southeastern state agency, alumni of northeastern and southern university, and current graduate business students who were employed in diverse organizations and across various functional areas as sample of study and found that

job-focused self-efficacy mediates the relationship between work-family conflict and job satisfaction.

Summary of self-efficacy. From the above research outcomes, there is support that general self-efficacy is essential for behavioral change, for ethical awareness and to make a whistleblowing call. General self-efficacy is positively associated with motivation, achievement, and job satisfaction. Self-efficacy is also negatively associated with mental health and emotional problems.

There is no study concerning general self-efficacy utilizing school nurses' sample. General self-efficacy is particularly important in school nursing practice since school nurses work alone or independently without immediate nursing resources. It is important to understand nursing practice in the school environment, and self-efficacy can be an important factor for school nurses' professional performance and job satisfaction according to the previous research with other population samples.

Job Satisfaction

Introduction. Numerous job satisfaction studies have been done to assess health care providers, especially nurses who work in hospitals. The hospital nurses' job satisfaction levels were correlated with nurses' retention, recruiting, and quality of patient outcomes (Kovner, Brewer, Greene, & Fairchild, 2009). Very few studies have been conducted specifically on school nursing.

Several reasons have contributed to the question of school nurses' job satisfaction. First of all, current economic recession in the US has led to financial strains in public schools. Cutting or eliminating school nursing services threatens job security for school nurses and affects job satisfaction (Hu, 2010). Second, school nurses are a

minority in the nursing population. According to the data from 2013 from the Health Resources and Services Administration (HSRA) Bureau of Health Professions, only 2.2% of American RNs work as school nurses (HSRA Bureau of Health Professions, 2013). Therefore, it is understandable that there is little research concerning school nurses. Third, the heavy work load of school nurses that shows in the school nurse – students' ratio (U. S. Department of Education, 2013) suggests a need to study job satisfaction in this population.

A job is a specific task done as part of one's occupation and for an agreed price or income. Job Satisfaction is essentially the extent to which someone likes his or her job (Kreitner & Kinicki, 2007). Nurses' job satisfaction has been viewed as a main factor in nursing retention, and the majority of studies evaluate nurses working in hospitals (Sultz, & Young, 2009). These studies suggested that nurses' job dissatisfaction results in nurses' attempts to leave the position, the practice setting, or leave the profession (Davis, B. A., Ward, Woodall, Shults, & Davis, H. et al, 2007; Kovner, 2009; Ma, Lee, Yang, & Chang, 2009).

Job satisfaction for nurses in general. The 2008 National Sample Survey of Registered Nurses (NSSRN) noted that 51.8% of employed nurses report being moderately satisfied, and 29.3% report being extremely satisfied with their job (as cited in U. S. Department of Health and Human Services, Health Resources and Services Administration (HRSA) 2010). In comparing 2004 and 2008 survey results, the moderately satisfied population increased from 50.5% in 2004 to 51.8% in 2008. The extremely satisfied population increased from 27.5% in 2004 to 29.3% in 2008 (U. S. Department of Health and Human Services, Health Resources and Services

Administration(HRSA) 2006). The data show that American nurses' job satisfaction is improving.

A meta-analysis by Zangaro & Soeken (2007) found job satisfaction of hospital nurses was most strongly correlated with job stress, followed by nurse-physician collaboration and autonomy. This research concludes that improving the work environment through reducing job stress is the most important factor to increase nurses' job satisfaction.

Hospital nurses' job satisfaction. There are some factors that contribute to job satisfaction for hospital nurses. The factors include group cohesion, RN and physician communication, and supervisor support (Kotzer, Koepping, & LeDuc, 2006; Manojlovich 2005; Zangaro & Johantgen, 2009). Ethnicity is also a factor that affects the level of job satisfaction, and mainly non-Hispanic White nurses have a higher job satisfaction than other ethnicity groups (Kotzer et al, 2006). Kotzer et al. (2006) show that nurses' health conditions affect job satisfaction. Nurses who are in good health rate higher in job satisfaction than nurses who are in poor or fair health conditions. Differences in working units in hospitals did not show significantly different levels of satisfaction; however, different settings demonstrate significant differences. Nurses who work in educational settings including nursing educators and school nurses have a higher satisfaction level than nurses who work in hospitals (Davis et al, 2007; Kotzer et al, 2006). Shift differences also affect job satisfaction. Day shift nurses are more likely to stay with the organization than evening shift nurses (Ma et al, 2009). Educational levels affect opportunities for growth and job security, and nurses with bachelor or higher education levels show a higher level of job satisfaction (Rambur, McIntosh, Val Palumbo, &

Reinier, 2005). Routine or repetitive jobs had the strongest significant negative association with job satisfaction (Zangaro, et al., 2009).

School nurses' job satisfaction. Broussard (2007) applied grounded theory to find the professional empowerment experience of school nurses. The interview results show that school nurses feel the ability to make a difference in the health of children is the best feeling of job satisfaction, and promoting children's health also makes school nurses feel valued and worthwhile in their profession.

Smith and Firmin (2009) used a phenomenological study of twenty-five school nurses and found that good relationships with others, family-friendly schedules, early detection of student's health problems, and providing health-related resources for students and faculties contribute to job satisfaction.

Several negative factors affect school nurses' job satisfaction. These negative factors are high students to nurse ratio (Broussard, 2007; Staines, 2009; Vongleang, 1993); poor visibility in school settings (Pinckney 1996; Vongleang, 1993); and unrealistic expectations from students and school personnel (Broussard, 2007; Vongleang, 1993). School nursing was not perceived as an important function in school and insufficient funds (Broussard, 2007; Pickney, 1996); under pay (Broussard, 2007) and supervision by non-nurses educational administrators (Broussard 2007).

Summary of the Literature

In summary, this literature review covers the background of school nurses, perceived organizational support, self-efficacy, and job satisfaction, and provides information on what is known and what gaps remain in the literature on these topics.

In the literature review, from other than nursing areas, the studies show that perceived organizational support (Allen et al, 2003, Muse et al, 2007) and self-efficacy (Judge et al, 2001) relate to job satisfaction. There is a gap in the research using nurses as a sample for examining the relationship among perceived organizational support, self-efficacy, and job satisfaction. Among demographic variables, previous studies report that educational levels (Kotzer et al, 2006), work load (Rambur et al, 2005), and ethnicity (Kotzer et al, 2006), relate to job satisfaction in hospital settings. According to Bandura's (2003) theory, experience is one of the major sources for self-efficacy. Therefore, nursing experience is one of the demographic variables this study includes to explore whether there is a relationship between school nursing experience and self-efficacy.

From the historical perspective, school nursing has existed since 1902 (Selekman, 2006). The state of New Jersey started to require School Nurse Certification to work in public schools since 1972 (New Jersey Department of Education, N.J.A.C. 6A:9-13.3). Many laws, such as the Individual with Disabilities Education Act and No Child Left Behind Act legitimate providing nursing services in school settings. With chronic medical conditions among school-aged children increasing (Van Cleave, Gortmaker, & Perrini, 2010), school nursing services are necessary to protect school-aged children. Currently, all school districts in New Jersey are challenged with budget problems and the elimination and weakening of the school nurse certification is a threat to all school nurses (New Jersey Education Association, 2013).

This study examines the relationship among perceived organizational support, self-efficacy, and job satisfaction utilizing a sample of school nurses in New Jersey. The

research utilizes Moos' theory of Conceptual Framework of Work Environment as the conceptual framework in analyzing work environment issues, personal characteristics, and work -related outcomes for school nurses, specifically through the concepts of perceived organization, self-efficacy, and job satisfaction. The outcomes of this study should offer information to better understand the profession of school nursing practice in New Jersey.

CHAPTER III

METHODOLOGY

Introduction

This chapter presents the research methods applied to conduct the study. The information includes the research design, sample of school nurses in New Jersey, data collection procedures, research instruments, and data analysis methods.

Research Design

The research design is a descriptive, correlational, and cross-sectional web-based survey research design. The purpose of a descriptive, correlational research design is to describe study variables and examine relationships among them, and not to infer cause-and-effect relationships (Portney & Watkins, 2009). Descriptive research is used to obtain information concerning the current status of the phenomena and to describe “what exists” with respect to variables or conditions in a situation.

Demographic characteristics of the sample will be organized and summarized through a descriptive statement. Cross-sectional studies are used when data is collected only once to prevent testing or history effects. In this study a correlational design is used to explore if a relationship exists between perceived organizational support, self-efficacy, and job satisfaction among school nurses in New Jersey. The approval to conduct the research was obtained from the Institutional Review Board (IRB) at Seton Hall University before any study recruitment of data collection was initiated.

Study Sample

There are 21 counties in the state of New Jersey. According to the New Jersey State Department of Education (2014), there are about 1.35 million school-aged students enrolled in 590 school districts and 2500 public schools in the 2013-2014 school year. The exact number of school nurses is not available. However, based on the fact that most public schools have a school nurse, a reasonable estimate of the number of public school nurses in New Jersey is approximately 2500. With the permission of the New Jersey State School Nurse Association's president, the sample of this study was recruited from a volunteer convenience sample of active members in the New Jersey State School Nurse Association's (NJSSNA) electronic membership database. Adding NJSSNA members in addition to these direct recruitment efforts (because there are some school nurses in New Jersey public schools who are not members of NJSSNA), a snowball recruitment technique was also included. Those who received the email solicitation were asked to forward it to other school nurses who may not have received the invitation.

According to the IBM SPSS Amos 21 User's Guide (Arbuckle, 2011), the rule of thumb for testing a model is a minimum sample size of 200. This study intended to recruit 300 samples, which equates to about 12% of the New Jersey State public school nurses' population. After data analysis, the post hoc power analysis with G* Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) was performed to test the linear multiple regression results presented in the theoretical framework. The result in this test, with the R square of 0.43, reached the effect size of 0.75 and power equaled 0.999. It showed the sample size was adequate for this study.

The inclusion criteria were that school nurse participants hold a New Jersey School Nurse Certificate, are currently employed full time as school nurses by New Jersey public schools, and must have access to an Internet/web platform to access the survey online. The exclusion criteria included nurses who do not hold a New Jersey School Nurse Certificate, who work only part time, who work in non-public school settings, or who don't have access to an Internet/web platform to access the survey online.

Data Collection Procedure

The Primary Investigator (PI) evaluated benefits versus risks of using a web-based survey through SHU's ASSET survey system. The reasons to apply a web-based survey for this research included advantages for the participants such as anonymity, privacy, and convenience in terms of time and location (Illieva, Baron, & Healey, 2002). Most important, because the research topic involves the sensitive nature surrounding an individual's work environment and personal characteristics, using a web-based survey would more likely encourage participants to make disclosures of this personal information. Illieva et al. (2002) also presents advantages for researchers in using a web-based survey that includes a higher response rate, less financial needs on the postal service, and a shorter response and data processing time. The disadvantages of a web-based survey include the amount of time needed to develop the survey and the need to thoroughly evaluate the instrument to ensure it works properly. Additionally, online surveys may exclude the person who might not be able to access the Internet or e-mail. Post-evaluation of the pros and cons for a web-based survey supported the PI's

decision to implement the ASSET SHU online survey tool for data collection for this study.

The PI garnered authority to use all the established and available survey tools, including the Perceived Organizational Support Short Form, to measure perceived organizational support (Eisenberger et al, 1986; see Appendices A & E), the General Self Efficacy Survey to measure self-efficacy (Schwarzer & Jerusalem, 1995; see Appendices A & F), and the Minnesota Satisfaction Questionnaire (MSQ) Short Form (MSQ Manual, 1977; see Appendices A & G) to assess job satisfaction. The PI also sent all of the ASSET on-line surveys to the three original authors, asking for approval to use the survey according to copyright law. The PI created a Demographic Questionnaire (see Appendix A) for demographic information collection.

The President of NJSSNA sent the Participant Solicitation Letter (see Appendix C) to all active members of the New Jersey School Nurse Association by e-mail to recruit the prospective research participants. After two weeks, the E-mail Reminder Memo (see Appendix D) was e-mailed out to the New Jersey School Nurse Association members by the president of the association.

Measurement Tools

Perceived organizational support (POS). POS was measured by using a Survey of Perceived Organizational Support (SPOS). It was revised by Eisenberger et al. in 1986. The original form of the SPOS was thirty-six items in length. The shortened, eight-item version of SPOS has high internal reliability (Rhoades & Eisenberger, 2002). The shortened version of SPOS is one-dimensional. The SPOS has been used primarily to assess the experiences of support among employees in large corporations. SPOS

has been used in nursing populations (Burke, 2003); this research examines the relationship of POS and job satisfaction among hospital-based nursing staff supervisors. The 8-item Survey of Perceived Organizational Support is presented in Appendix A.

Self-efficacy. There are many task-specific self-efficacy scales available. The task-specific self-efficacy scale is for specific task self-efficacy measurement such as the Physical Exercise Self-Efficacy Scale and Counselor Self-Efficacy. However, this study only focuses on general self-efficacy or a general sense of perceived self-efficacy. There are two General Self-efficacy Scales found in a review of the literature.

General self-efficacy scale. The first one is Schwarzer's 10-item General Self-efficacy Scale (GSE; Schwarzer & Jerusalem 1995) (Appendix A). The scale is designed for a general adult population and is a self-administered scale. The scale was first developed in 1979 by Matthias Jerusalem and Ralf Schwarzer. The GSE was later revised and adapted to 30 other languages by various co-authors. It is a 4-point Likert-style scale (1 = Not at all true, 2 = Hardly true, 3 = Moderately true, 4 = Exactly true). The responses to all 10 items are summed up, yielding one score. The total score can range from 10 to 40. Higher scores indicate a greater sense of self-efficacy. The internal consistency of Cronbach's alpha ranges from 0.76 to 0.90. Criterion-related validity has been documented in numerous correlation studies (Schwarzer & Jerusalem, 1995).

The self-efficacy scale. The other general self-efficacy instrument is the Self-Efficacy Scale. This scale was developed by Sherer & Maddus (1982) and consists of 23 items with two distinct sub-scales. The General Self-efficacy subscale has 17 items and the Social Self-efficacy subscale has 6 items. The Self-Efficacy Scale uses a 5-point Likert style scale (1, Not at All to 5, A Great Deal). Reversed items were converted

for scoring. Higher scores on the scale indicated higher levels of perceived general self-efficacy. The internal consistency of Cronbach's alpha was 0.86. Criterion-related validity has been documented in numerous correlation studies (Sherer & Maddus, 1982).

These two self-efficacy scales have been used in many research projects to examine behavior, motivation, and achievement (Sherer & Maddus, 1982; Schwartz & Jerusalem, 1995). However, Schwarzer's 10-item General Self-efficacy Scale has good reliability and validity and consumes less time and was more appropriate for this multiple variables study.

Job satisfaction. There are several measurement tools that have been developed for evaluating job satisfaction on general or specific workforces. The following introduces two popular job satisfaction measurement tools. These tools are the *Job Descriptive Index (JDI)* and the *Minnesota Satisfaction Questionnaire (MSQ)*.

Job Descriptive Index. The *Job Description Index (JDI)* is a Likert-type survey instrument. The *JDI* evaluates five important facets of a job. The five job facets are: Pay, Promotion, Coworkers, Supervision, and Work Itself. The reliability of the *JDI* has been established over years of research (Harwell, 2004). The range of test-retest coefficients are from 0.45 to 0.75. According to the *JDI* manual (Harwell, 2004), the original *JDI* was published in 1969 by Smith et al. from Cornell University. *JDI* can be used to monitor changes in a job situation, diagnose problems, and evaluate the effects of a job improvement program (Harwell, 2004).

The Minnesota satisfaction questionnaire (MSQ). Another job satisfaction scale is *The Minnesota Satisfaction Questionnaire (MSQ)*. It is an instrument that measures satisfaction using several different aspects of the work environment. Originally, this inventory was only available through paper-and-pencil inventory and can be administered to individuals or groups. This study is now a web-based survey. The long form of *MSQ* consists of 100 questions and takes approximately fifteen to twenty minutes to complete. The survey is considered gender neutral and is appropriate for use with a population that can read at the fifth grade level. The long version of the *MSQ* measures general job satisfaction in twenty subscales. The twenty subscales are: Ability utilization, Achievement, Activities, Advancement, Authority, Company policies, Compensation, Co-workers, Creativity, Independence, Security, Social service, Social status, Moral values, Recognition, Responsibility, Supervision (Human relationship), Supervision (Technical), Variety, and Working conditions. Each subscale represents a facet of job satisfaction. The five Likert-style alternatives are 1 = not satisfied, 2 = slightly satisfied, 3 = satisfied, 4 = very satisfied, 5 = extremely satisfied. The test-retest reliability coefficient of long form ranges from 0.66 to 0.91 and internal consistency ranges from 0.81 to 0.94 (*MSQ Manual, 1977*). The short form of *MSQ* is a 20-item self-report measure designed to measure an employee's job satisfaction. The *MSQ Scale* denotes the 20 dimensions of a job as shown in the following table (Table 2).

Table 2

MSQ Scale Denoting the 20 Dimensions of a Job

<i>Dimension</i>	<i>Definition of Dimension</i>
<i>Ability Utilization</i>	The chance to do something that makes use of abilities
<i>Achievement</i>	Feeling of accomplishment one gets from the job
<i>Activity</i>	The ability to keep busy all the time
<i>Advancement</i>	The chances for advancement on this job
<i>Authority</i>	The chance to tell people what to do
<i>Company policies/ procedures</i>	The way company policies are implemented
<i>Compensation</i>	Feelings about pay in contrast to amount of work completed
<i>Coworker</i>	How one gets along with coworkers
<i>Creativity</i>	The opportunity to try one's own methods
<i>Independence</i>	The opportunity to work autonomously
<i>Moral values</i>	The opportunity to do things that do not run counter to one's judgment
<i>Recognition</i>	Being recognized for a job well done
<i>Responsibility</i>	The freedom to implement one's judgment
<i>Security</i>	The way a job provides for steady employment
<i>Social service</i>	Being able to do things as a service to others
<i>Social status</i>	Having respect from the community
<i>Supervision</i>	The relationship between supervisors and employees
<i>Supervision/technical</i>	The technical quality of supervision
<i>Variety</i>	The opportunity to do different things
<i>Working conditions</i>	Physical aspects of one's place of employment

Source: Weiss, et al. (1977). Copyright 1977, Vocational Psychology Research, University of Minnesota. Reproduced by permission.

The *MSQ* short form can produce three scores, the Intrinsic Satisfaction score (12 items), the Extrinsic Satisfaction score (6 items), and the General Satisfaction score (20 items), inclusive of Intrinsic and Extrinsic scales plus 2 added items (Weiss et al, 1977). Intrinsic job satisfaction refers to certain factors that affect whether the employee is satisfied in the job setting. The 12 items are activity, independence, variety, social status, moral values, security, social service, authority, ability utilization, responsibility, creativity, and achievement. The 6 items of Extrinsic job satisfaction include the extent to which employees are satisfied with supervision received, institutional policies and practices, compensation, advancement, opportunities, and recognition. The two additional items are co-workers and work conditions. These two items in combination with the Intrinsic and Extrinsic Satisfaction scores make up the General Satisfaction score (Weiss et al, 1977). Higher scores indicate higher levels of intrinsic, extrinsic, and overall job satisfaction. The twenty facets of Short Form *MSQ* are presented in the following table (Table 3).

Table 3

Twenty Facets of MSQ

Category	Facets	#	Question
Intrinsic	Activities	1	Being able to keep busy all the time
	Independent	2	The chance to work alone on the job
	Variety	3	The chance to do different things from time to time
	Social status	4	The chance to be somebody in the community
	Moral value	7	Being able to do things that don't go against my conscience
	Security	8	The way my job provides for steady employment
	Social service	9	The chance to do things for other people
	Authority	10	The chance to tell people what to do
	Ability utilization	11	The chance to do something that makes use of my abilities
	Responsibility	15	The freedom to use my own judgment
	Creativity	16	The chance to try my own methods of doing the job
Achievement	20	The feeling of accomplishment I get from the job	
Extrinsic	Supervision relationship	5	The way my boss handles his/her workers
	Supervision technical	6	The competence of my supervisor in making decisions
	Company policies	12	The way company policies are put into practice
	Compensation	13	My pay and the amount of work I do
	Advancement	14	The chances for advancement on this job
	Recognition	19	The praise I get for doing a good job
	Extra	Work conditions	17
Co-workers		18	The way my co-workers get along with each other

Source: Weiss et al, (1977). Copyright 1977, Vocational Psychology Research, University of Minnesota. Reproduced by permission.

The reliability coefficients of internal consistency in the Intrinsic Satisfaction subscale range from 0.84 to 0.91. In the Extrinsic Satisfaction subscale, the reliability coefficients of internal consistency range from 0.77 to 0.82. In terms of the General Satisfaction, through summing up intrinsic, extrinsic and other satisfaction scores, the reliability coefficients of internal consistency range from 0.87 to 0.92. The *MSQ* had construct validity (Weiss et al, 1977).

Global conceptualization of job satisfaction. The other measure of job satisfaction is global conceptualization, which is measured by a single item: “all in all, how satisfied would you say you are with your job?” Kovner et al. (2009) states that it is not possible to outline all features of jobs factors; therefore, the global conceptualization of job satisfaction presents a single item to ask about the affection that people have toward their work.

In comparing the three measurement scales of job satisfaction, the PI found the five factors present in the *Job Descriptive Index* not appropriate for a study of school nurses. The first reason is that working hours and pay is steady and uncontrollable for school nurses. Second, promotion is less likely for nurses in school settings. Mostly, there is only one nurse in one school, and there are no higher nursing titles to attain in school settings. The third reason is that school nurses are under a variety of supervisors: some school nurses are under the physical education department, some are under the special services department, and others are directly under school principals (Broussard, 2007). For the above three reasons, the *JDI* is not appropriate for measuring job satisfaction for nurses in the school environment. The *Global Conceptualization of Job*

Satisfaction only presents a rough idea of job satisfaction for school nurses. Therefore, the *Global Conceptualization* measurement tool for job satisfaction was not appropriate for the study of school nurses.

In comparing the job satisfaction measurement tools, the *MSQ* was the best fit for the school nurse study. However, the long form of *MSQ* consists of 100 questions and takes approximately 20 minutes to complete. It may cause a time constraint and create difficulty concerning participant recruitment. The short form of *MSQ* with 20 items takes about 10 minutes to complete. It is gender neutral and can be administered to groups or individuals (Weiss et al, 1977). The short form *MSQ* produces three sub scores: intrinsic job satisfaction, extrinsic job satisfaction, and general job satisfaction (Appendix A). For these reasons, the short form *MSQ* was utilized for this study.

The three instruments utilized in the study: *Survey of Perceived Organizational Support (SPOS)*, *General Self-Efficacy (GSE)*, and the *Minnesota Satisfaction Questionnaire (MSQ)* short form are presented in the following table.

Table 4

Measurement Tools

Tools/Author	Designed for:	# of items	Dimensions	Reliability	Validity
<i>Survey of Perceived Organizational Support, short version(SPOS)</i> Eisenberger et al, 1986	Adults	8	Organization values employees' contributions and cares about their well-being. Ordinal scale	Internal consistency $\alpha = .87-.93$.	Construct, content, discriminant & convergent validity established.
<i>General Self-Efficacy Scale (GSE)</i> Schwarzer & Jerusalem, 1995.	Adults	10	General sense of self-efficacy. Ordinal scale	Internal consistency $\alpha = .76-.90$.	Construct, content, discriminant & convergent validity established.
<i>Minnesota Satisfaction Questionnaire (MSQ), short form</i> Weiss et al, 1977.	Adults	20	Intrinsic job satisfaction (12 items). Extrinsic job satisfaction (6 items). General job satisfaction (20 items)	Internal consistency $\alpha = .87-.92$. Test-retested $r = .89$ (one-week) $r = .70$ (one-year)	Construct, content, & concurrent validity established

Data Analysis

Data analysis was performed by using the Statistical Package for the Social Sciences (SPSS, 2013) version 22.0, and path analysis was performed by using the IBM SPSS Amos 22 statistical software programs.

All measured variables were calculated for means and standard deviation and were screened for normality, outliers, and significant skewness. These were examined to determine if the data met assumptions required for conducting proposed statistical procedures. Demographic characteristics were presented in tabular form using descriptive statistics reporting frequencies and percentages. Cronbach's alpha, as an index of internal consistency, was calculated for reporting the reliabilities of the three instruments that are used in this study. Path analysis was conducted by using IBM SPSS Amos 22 to test the theoretical framework.

The maximum likelihood method of parameter estimation was used with all analyses performed. Maximum likelihood estimation was able to account for measurement error in structural equation modeling. The chi-square statistic provided a test that examined if the model fit the data. Path coefficients were estimated and reviewed for statistical significance. Path coefficients were significant at the 0.05 level, if the absolute values of the t statistics exceeded 1.96 (Burns & Grove 2009).

Summary

This research used a descriptive, correlational, cross-sectional, web-based survey. Post SHU's IRB approval, the Letter of Solicitation (LOS) was emailed to New Jersey State School Nurse Association's (NJSSNA) 1147 members. A snowball technique was utilized by asking that NJSSNA recipients voluntarily forward the LOS to non-members. The sample size was set for 300. The measurement tools included a *Survey of Perceived Organizational Support*, *General Self-efficacy Scale*, and a *Minnesota Satisfaction Questionnaire* and *Demographic Survey*. The descriptive data

was analyzed utilizing IBM SPSS version 22, and the theoretical framework was tested utilizing IBM SPSS Amos 22.0. The significant level was set at $p < .05$ level.

CHAPTER IV

RESULTS

The purpose of this descriptive and correlational research is to explore how perceived organizational support in the work environment and self-efficacy interact to affect job satisfaction among public school nurses in New Jersey. This chapter presents the results of this study. The first section presents the descriptive statistics, reliability assessments of the study measures, and the correlations among study variables. The second section presents the results of structural equation modeling analysis. This section presents the test results of the relationship among perceived organization support, self-efficacy, and job satisfaction, used to determine if there is a reciprocal relationship between perceived organizational support and self-efficacy and if self-efficacy mediates the relationship between perceived organizational support and job satisfaction. The third section presents the answers of the research questions. The fourth section presents the summary of the findings.

Number of Participants

For this study, a solicitation letter was emailed to the 1147 New Jersey State School Nurse Association (NJSSNA) members by the membership chair on April 1st, 2014. A reminder memo was sent out on April 15, 2014. The survey closed on April 30, 2014. Not every school nurse belongs to the association; therefore, a snowball technique was applied by asking if NJSSNA members could forward the invitation to other school nurses who may be interested in participating in this study. A total of 316 school nurses responded to the ASSET survey, with 97 responding by the first week, 120 responding by the second week, and 99 responding after a two weeks reminder

memo was send out (see Table 5). Due to missing information or not meeting the inclusion criteria, only 300 of the responses provided usable data for analysis. The sample size of 300 cases meets the targeted number of the minimum sample size as discussed in Chapter 3 (no less than 200 for structural educational modeling analysis) (Lei & Wu, 2007). Post data analysis, the post hoc power analysis with G* power 3.1 (Faul, et al. 2009), was performed to test the linear multiple regression results presented in the theoretical framework with an R² of 0.43, effect size of 0.75, power of 0.9999. The G* Power analysis showed the sample size was adequate for this study.

Table 5 presents information regarding the number of responses in the different weeks during data collection period.

Table 5

Number of Participants who Responded per ASSET Survey in Different Weeks

Response	First week	Second week	Post reminder	Total
Number of Participants	97	120	99	316
%	30.70%	37.97%	31.33%	100%

Research Findings

Research Question 1. *What are the demographic characteristics of the current employed certified school nurses in New Jersey?*

Demographic Characteristics. In this school nurse sample, the gender of the school nurses consisted of 299 female and one male. According to the HRSA report (2008), nationally there are 9% of men in the RN workforce. Within the sample, 276

(92.3%) of the school nurses are non-Hispanic White/Caucasian; 11 (3.7%) are Black/African America; 6 (2%) are Hispanic/Latino; 4 (1.3%) are Asian, and 2 (0.7%) are others. According to Health Resources and Services Administration report (HRSA,2010), the U. S. Registered Nurse Population, 69.9% of nurses in the United Stated are reportedly Caucasian, 11.8% are Black/ African American, 14.2% are Hispanic/Latino, 4.8% are Asian (See Table 6).

The educational level achieved by nurses within this sample included those with a diploma in Nursing (6.3%), Associate degree (9%), Bachelor degree (61%), Masters degree (23.3%), and Doctorate (0.3%). School nurse in the sample also obtained degrees outside of nursing with 25.3 % Bachelors, 34% Masters Degree, and 1.3% Doctorate. Nationally, RN nursing-related educational preparations are 13.9% with a diploma, 36.1% with an Associate degree, 36.8% with a Bachelor's degree, and 13.2 % with Master's/Doctorate degree. Overall, the highest degree in this school nurse sample included 48.3% with a Bachelor degree, 50.3% with a Masters degree, and 1.3% with a Doctorate degree (See Table 6).

The work setting of school nurses in this sample include 4.7% in pre-K, 26.3% in K -5th, 17% in 6th-8th grade, 21% in 9th-12th grade, 17.7% in Pre-K-5th, 2.3% in 6th-12th. A number of the participants (11%) signified working in an "other" work setting, including floater, supervisor, K-7th, Pre-K-2nd, 7th-8th, and special education populations. From this sample, 48.7% of school nurse work in Pre-K to elementary school, and 40.3% work in secondary schools. For the school nursing certification, 282 (94%) hold only New Jersey State Certification, and 18 (6%) hold both New Jersey State and National School Nurse certification. For the school nurse association, 188 (62.7%) are part of both

county and state/national school nurse associations, 54 (18%) are part of a county association only, 28 (9.3%) are part of a state/national association only, and 30 (10%) of school nurses did not join any school nurse association. With regards to working in an Abbot school district, 218 (72.7%) are not part of one, 59 (19.7%) are part of one, and 23 (7.7%) are not sure if their school district is an Abbot school district or not. Abbott school districts are the New Jersey Supreme Court identified those districts that appear to qualify as poorer urban districts (Chakrabarti & Sutherland, 2013)(See Table 6).

On the continuous demographic variables, the school nurses in the sample range in age from 27 to 67 years ($M = 54.74$), the mean age of school nurses in this sample is older than the National RN work force of 44.6. In this sample, the school nurses had an average of 13.88 years of experience in school nursing, and an average of 14.88 years of experience other than school nursing. The school nurses in the sample had an average of 28.72 years work in nursing area. The ranges of students/nurse ratio are from 100-1374 with an average of 538.48. The Skewness and Kurtosis reports showed the continuous demographic variables are within the limited of normal distribution.

There are two tables to show the demographic variables. Table 6 presents information on demographic variables, categorical in nature. Table 7 presents the information regarding for continuous demographic variables.

Table 6
Demographic Characteristics of School Nurses: Categorical Variables

Categorical Variables	Frequency	Percentage	Nationally (%)
Gender			
Male	1	.3	9
Female	299	99.7	91
Race			
Caucasian	276	92.3	69.9
African American/Black	11	3.7	11.8
Hispanic or Latino	6	2	14.2
Asian	4	1.3	4.8
Other	2	.7	
Missing	1		
Highest level of Nursing education			
Diploma	19	6.3	13.9
Associate Degree	27	9.0	36.1
Bachelor's Degree	183	61.0	36.2
Master's Degree	70	23.3	13.2
Doctorate	1	.3	1
Highest degree of other education			
Bachelor's Degree	76	25.3	
Master's Degree	102	34	
Doctorate	3	1	
No degree other than in nursing	119	39.7	
Over all Highest level of education			
Bachelor's Degree	145	48.3	
Master's Degree	151	50.3	
Doctorate	4	1.3	
Grade levels of students			
Pre-Kindergarten	14	4.7	
Kindergarten-5 th	79	26.3	
6 th -8 th	51	17	
9 th -12 th	63	21	
Pre-K to 5 th	53	17.7	
6 th -12 th	7	2.3	
Others	33	11	
Type of School Nurse Certificate			
New Jersey State Certified	282	94	
National Certified	18	6	
Type of School Nurse Membership			
County School Nurse Association	54	18	
State/National School Nurse Association	28	9.3	
None	30	10	
Both	188	62.7	
Type of school district			
Abbot	59	19.7	
Not Abbot	218	72.7	
Not sure	23	7.7	

Table 7

Demographic Characteristics of School Nurses: Continuous Variables

Variable	N	M	SD	Range	Skewness	Kurtosis
Age	294	54.74	6.67	27-67	-1.17	2.23
Years of School Nurse experience	299	13.88	7.32	1.0-33	.40	-.35
Years if other nursing experience	299	14.88	7.35	1-34	-.03	-.72
Total Nursing experience	298	28.72	8.89	2-47	-.71	.91
Student/Nurse Ratio	295	538.48	253.5	100-1374	.76	.33

Research Question 2: *What is the level of perceived organizational support, self-efficacy, and job satisfaction of New Jersey State public school nurses?*

RQ 2a: Level of perceived organizational support. The Survey of Perceived Organizational Support (SPOS) consists of 8 questions, all of which make up the total Perceived Organizational Support (POS) score. The sum of all responses gives a total score ranging from 0-48 points. The PI analyzed the POS score based on all 8 questions from the SPOS. Table 4 shows that mean scores ranged from 2.83-4.32 on a 0-6 scale. The POS mean was 3.38, SD was 1.27; according to the instrument guidance, if the mean score is below 4 (Slightly Agree Level) there is an indication of not agreeing that there is organizational support. The mean of POS was 3.38, under 4 (Slightly agree level), which indicates that the school nurses did not agree that there is perceived support from their school districts. When examining the mean scores, the lowest mean average (2.83) came from question 2, which is “*The organization fails to appreciate any extra effort from me*”. Another low mean score (3.08) came from question 7 “*The organization shows very little concern for me.*” These two questions are reverse scored. The highest mean score (4.32) came from question 1, “*The organization values my contribution to its well-being*”. The descriptive statistics results of POS are presented in Table 8.

Table 8

Descriptive Statistics of SPOS (N = 295)

Strong disagree	0
Moderately disagree	1
Slightly disagree	2
Neither agree nor disagree	3
Slightly agree	4
Moderately agree	5
Strongly agree	6

#	Question	Mode	Mean	SD
1	The organization values my contribution to its well-being	5	4.32	1.95
2	The organization fails to appreciate any extra effort from me (R)	4	2.83	1.80
3	The organization would ignore any complaint from me (R)	1	3.41	1.69
4	The organization really cares about my well-being	5	3.48	1.64
5	Even if I did the best job possible, the organization would fail to notice (R)	1	3.17	1.94
6	The organization cares about my general satisfaction at work	5	3.20	1.77
7	The organization shows very little concern for me (R)	3	3.08	1.73
8	The organization takes pride in my accomplishments at work.	4	3.58	1.65
Total			Mean:3.38	1.27

(Rhoades & Eisenberger, 2002).

RQ 2b: Level of Self-efficacy. The General Self-efficacy survey (GSE) consists of 10 questions, all of which make up the total Self-efficacy score. The sum of all responses gives a total score ranging from 10 to 40 points. The researcher analyzed the Self-efficacy score based on all 10 questions from the GSE. Table 9 indicates mean scores ranging from 2.82 - 3.54 on a 1-4 scale. According to Scharzer (2011) the norm for the total score for GSE is 29.48 and standard deviation is 5.13. In this school nurse

sample, the mean was 3.32, SD was 0.30 which indicates that the school nurses in this sample had a higher level of self-efficacy compared to the US adult population (mean=2.95). Hiller and Hambrick (2005) argued that self-efficacy is a positive factor in human personality quality, meaning that greater self-efficacy generally leads to greater belief in self and greater personal successes. The general self-efficacy scores showed school nurses in general believe in their own abilities to carry out their functions and take action to fulfill their own responsibilities. The descriptive statistics of GSE are presented in Table 9.

Table 9

Descriptive Statistics of GSE

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

#	Question	Mode	Mean	SD
1	I can always manage to solve difficult problems if I try hard enough	3	3.35	0.56
2	If someone opposes me, I can find the means and ways to get what I want.	3	2.67	0.64
3	It is easy for me to stick to my aims and accomplish my goals.	3	3.22	0.60
4	I am confident that I could deal efficiently with unexpected events.	4	3.54	0.58
5	Thanks to my resourcefulness, I know how to handle unforeseen situations.	4	3.44	0.60
6	I can solve most problems if I invest the necessary effort.	4	3.42	0.62
7	I can remain calm when facing difficulties because I can rely on my coping abilities.	4	3.43	0.58
8	When I am confronted with a problem, I can usually find several solutions.	3	3.35	0.56
9	If I am in trouble, I can usually think of a solution.	3	3.31	0.57
10	I can usually handle whatever comes my way.	4	3.49	0.56
Total			33.19	3.02
	<i>US-American Adult Population: N=1,594 (Schwarzer, R. 2011)</i>		29.48	5.13

(Schwarzer & Jerusalem 1995)

RQ 2c: Level of job satisfaction. Perceived level of job satisfaction of school nurses in New Jersey public schools was measured using the Minnesota Satisfaction Questionnaire (MSQ) short form, which consists of 20 questions. MSQ scores also can produce three sub-scores: intrinsic satisfaction, extrinsic satisfaction, and other satisfaction scores. The general satisfaction score is a sum of responses from all 20 questions of the MSQ. The general satisfaction total score mean in this sample was 75.55, SD is 11.67. Generally, the school nurse in this sample overall satisfied score mean is 3.78 and SD is 0.58 on a 1-5 point scale. The scores indicate that the New Jersey school nurse participants in general were satisfied with their job.

The intrinsic job satisfaction score was determined from examining 12 items identified as intrinsic questions (See Table 10). The mean scores ranged from 3.47–4.57 on a 1-5 point scale. The intrinsic satisfaction mean was 4.10, SD was 0.55, which indicates that the school nurses are very satisfied on intrinsic satisfaction; in other words, the school nurses are satisfied with the kind of work they are doing, the ability utilization, social services, and security of employment. The highest average score (4.57) in intrinsic satisfaction was social services, which is “The chance to do things for other people”. The lowest average score (3.46) is authority, which is “The chance to tell people what to do”.

The extrinsic job satisfaction score was obtained by examining 6 items identified as extrinsic questions (See Table 11). The mean scores ranged from 2.65-3.31 on 1-5 point scale. The extrinsic satisfaction mean was 3.16; SD was 0.85; which indicates that the extrinsic satisfaction level was satisfied with the pay, recognition, and supervision. The one item from extrinsic satisfaction, “The chances for advancement,” is the lowest

score from all MSQ questions in this sample. The chances for advancement in this school nurses sample may be a major concern for their job satisfaction.

The two other MSQ questions, working conditions ($M=3.85$) and co-worker relationships ($M=3.68$), indicate that school nurses in this sample were satisfied with working conditions and co-worker relationships.

In summary the MSQ results revealed that school nurses had more intrinsic satisfaction than extrinsic satisfaction, work conditions, and co-worker relationships. This suggests that school nurses in this study are more satisfied by their work itself, than they are by their external rewards, working environment or co-worker relationships. The Descriptive Statistics of Intrinsic Satisfaction, Extrinsic Satisfaction, and other Satisfaction are shown in Tables 10, 11, and 12.

Table 10

Descriptive Statistic of Intrinsic Satisfaction

1 = not satisfied, 2 = slightly satisfied, 3= satisfied, 4 = very satisfied, 5 = extremely satisfied

Category	Facets	#	Question	Mode	Mean	SD
Intrinsic	Activities	1	Being able to keep busy all the time	4	4.24	.81
	Independent	2	The chance to work alone on the job	4	3.79	1.03
	Variety	3	The chance to do different things from time to time	4	4.11	.90
	Social status	4	The chance to be somebody in the community	4	3.80	.95
	Moral value	7	Being able to do things that don't against my conscience	4	4.09	.94
	Security	8	The way my job provides for steady employment	5	4.49	.73
	Social service	9	The chance to do things for other people	5	4.57	.65
	Authority	10	The chance to tell people what to do	3	3.46	.74
	Ability utilization	11	The chance to do something that makes use of my ability	5	4.32	.86
	Responsibility	15	The freedom to use my own judgment	4	4.11	.93
	Creativity	16	The chance try my own methods of doing the job	4	4.11	.85
	Achievement	20	The feeling of accomplishment I get from the job	4	4.09	.95
	Total					4.10

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Table 11

Descriptive Statistics of Extrinsic Satisfaction

Category	Facets	#	Question	Mode	Mean	SD
Extrinsic	Supervision relationship	5	The way my boss handles his/her workers	4	3.22	1.33
	Supervision technical	6	The competence of my supervisor in making decision	4	3.09	1.31
	Company policies	12	The way company policies are put into practice	4	3.23	1.04
	Compensation	13	My pay and the amount of work I do	4	3.28	1.28
	Advancement	14	The chances for advancement on this job	3	2.65	1.11
	Recognition	19	The praise I get for doing a good job	3	3.31	1.16
Total					3.16	.85

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Table 12

Descriptive Statistics of Other Satisfaction

Category	Facets	#	Question	Mode	Mean	SD
	Working Conditions	17	The working conditions	4	3.85	1.06
	Co-worker	18	The way my co-workers get along with each other	4	3.68	1.09

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Exam for Normality

The scores of the study instruments were examined for any violations of normality that might have precluded the use of inferential statistics. Skewness values for study scales ranged from -0.23 to -0.75, while kurtosis values ranged from -0.09 to -0.44. SPSS (2002) asserts that skew indices greater than 1 and kurtosis indices greater than 3 may have a concern of normality. In addition, histograms and Q-Q plots

were examined for normality assumptions. The results of these procedures suggested that further statistical analyses could proceed without violating assumptions of normality. Note that the total number of respondents was less than 300 for each questionnaire because of occasionally missing data. Descriptive statistics for study variables are presented in Table 13.

Table 13

Descriptive Statistics for Study Variables

Scale	N	M	SD	Range	Skewness	Kurtosis
POS	298	27.02	10.15	0-46	-.53	-.17
SE	298	33.19	3.02	20-40	-.46	.40
MSQ Intrinsic	290	49.19	6.55	25-60	-.75	.79
Extrinsic	295	18.97	5.08	6-30	-.28	-.44
General	290	75.55	11.67	36-99	-.38	-.09

Note.

POS: Perceived Organizational Support

SE: General Self-efficacy

MSQ: Minnesota Satisfaction Questionnaire

Intrinsic: Intrinsic Job Satisfaction

Extrinsic: Extrinsic Job Satisfaction

General: General Job Satisfaction

Instruments' Reliability

Scale reliabilities were measured using Cronbach's alpha coefficients.

Cronbach's alpha coefficients were calculated for each scale of SPOS and GSE; the Cronbach's alpha coefficients were calculated for each subscale of the MSQ, as well as the entire scale. In this study, SPOS Cronbach's α coefficients is 0.88, in previous studies, it ranged from 0.87-0.93 (Rhoades & Eisenberger, 2002). In this study, GSE Cronbach's α coefficients is 0.70, while previous study reports of Cronbach's α coefficients ranged from 0.76 -0.90 (Schwartz & Jerusalem, 1995). In this study, the MSQ Cronbach's α coefficients are intrinsic satisfaction 0.86, Extrinsic satisfaction 0.80, and General Satisfaction 0.90. According to the MSQ manual, the range of Cronbach's α coefficients in general satisfaction was 0.87-0.92 (MSQ Manual, 1977). None of the reliability coefficients fell below the value of 0.70, suggesting that all study measures were reliable (Portney & Watkins, 2009). The reliability test results of each scale or subscale appear in Table 14.

Table 14

Instrument Reliability Coefficients

Scale	Number of items	Cronbach's α coefficients in this study	Cronbach's α coefficients in previous study
SPOS	8	.88	.87-.93
GSE	10	.70	.76-.90
MSQ			
Intrinsic Satisfaction	12	.86	
Extrinsic Satisfaction	6	.80	
Other Satisfaction	2	.68	
General Satisfaction	20	.90	.87-.92

Note

POS: Perceived Organizational Support

SE: General Self-efficacy

MSQ: Minnesota Satisfaction Questionnaire

Research Question 3: *What are the influences of demographic variables, particularly nursing education levels, school nursing experiences, student/nurse ratio, and ethnicity on the three study variables?*

A correlation matrix was generated to begin to understand relationships among study variables. Bivariate correlation analysis of Pearson Correlation Coefficients results revealed that POS had a negative relationship in respect to ethnicity. The sample was divided between White (92%) and Not White (6%), and the difference between the two groups was significant in relationship to the POS ($r = -0.16, p < .01$). Extrinsic and general job satisfaction also had a negative relationship with ethnicity ($r = -0.13, p < 0.05$) (See Table 15). These results are supported when using structural equation modeling analysis (See Table 16). The only difference was in the structural equation modeling. The school nursing experience (C.R. = 2.25, $p < 0.05$), other nursing experience (C.R. = -2.18, $p < 0.05$), and total nursing experience (C.R. = 2.25, $p < 0.05$) were associated with extrinsic satisfaction.

Table 15

Summary of Pearson Correlation Coefficients

DV \ IV	1 W/N W	2 H/Ed	3 SN/Exp	4 Other/Exp	5 Total/EXP	6 Ratio
POS	-.16**	-.01	-.02	.02	.01	-.08
SE	-.10	.06	-.04	.08	.04	-.01
Intrinsic Sat.	-.09	-.01	.02	.11	.11	.00
Extrinsic Sat.	-.13*	.06	-.02	.07	.05	-.01
General JS	-.13*	.03	.02	.10	.11	.02

Note:

W/NW: White or non-white

H/Ed: Highest Education level

SN/Exp: School Nursing Experience

Other/Exp: Other Nursing Experience

Total/Exp: Total Nursing Experience

Ratio: Students/Nurse Ratio

POS: Total Score of Perceived Organizational Support

SE= Total Score of Self-efficacy

Intrinsic: Total Score of Intrinsic Satisfaction Score

Extrinsic: Total Score of Extrinsic Satisfaction Score

JS= Total Score of MSQ Job Satisfaction

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed)

Table 16

Relationship between Demographic Variables and Study Variables

	Estimate	S.E.	C.R.	P
SE_TOTAL <--- White_notwhite	-1.20	.66	-1.82	.07
JS_Intrinsic <--- White_notwhite	-1.99	1.45	-1.37	.17
JS_Extrinsic <--- White_notwhite	-2.61	1.11	-2.35	.02*
Total_JS <--- White_notwhite	-5.56	2.56	-2.17	.03*
Total_JS <--- Ratio	.000	.003	.18	.86
JS_Extrinsic <--- Ratio	.000	.001	-.20	.84
JS_Intrinsic <--- Ratio	.000	.002	-.09	.93
SE_TOTAL <--- Ratio	.000	.001	-.41	.68
Total_JS <--- Other_experience	-2.36	1.42	-1.67	.10
JS_Extrinsic <--- Other_experience	-1.33	.61	-2.18	.03*
JS_Intrinsic <--- Other_experience	-1.14	.80	-1.42	.16
SE_TOTAL <--- Other_experience	.65	.36	1.77	.08
SE_TOTAL <--- Highest_Degree	.49	.33	1.48	.14
JS_Intrinsic <--- Highest_Degree	.05	.74	.061	.95
JS_Extrinsic <--- Highest_Degree	.77	.56	1.37	.17
Total_JS <--- Highest_Degree	.95	1.30	.73	.46
SE_TOTAL <--- SN_Experience	.61	.37	1.66	.10
JS_Intrinsic <--- SN_Experience	-1.20	.81	-1.49	.14
JS_Extrinsic <--- SN_Experience	-1.38	.61	-2.25	.02*
Total_JS <--- SN_Experience	-2.46	1.42	-1.74	.08
SE_TOTAL <--- Total_Experience	-.62	.36	-1.70	.09
JS_Intrinsic <--- Total_Experience	1.24	.80	1.55	.12
JS_Extrinsic <--- Total_Experience	1.38	.61	2.25	.03*
Total_JS <--- Total_Experience	2.53	1.42	1.79	.07
POS_Total <--- White_notwhite	-6.37	2.21	-2.88	.00***
POS_Total <--- Highest_Degree	.35	1.12	.31	.75
POS_Total <--- SN_Experience	-1.68	1.22	-1.37	.17
POS_Total <--- Total_Experience	1.66	1.22	1.36	.17
POS_Total <--- Other_experience	-1.645	1.219	-1.349	.18
POS_Total <--- Ratio	-.003	.002	-1.294	.20

SE Total = Total General Self-efficacy score

POS total= Total perceived organizational support score

Total JS= Total MSQ score

JS Intrinsic= MSQ Intrinsic total score

JS Extrinsic =MSQ Extrinsic total score

* $p < 0.05$ level (two-tailed test) , ** $p < 0.01$ level (two-tailed test), *** $p < 0.001$ level (one-tailed test)

Research Question 4: *What is the Relationship among Perceived Organizational Support, Self-efficacy, and Job satisfaction? (Results in Theoretical Framework Testing)*

Overview of the theoretical framework. The theoretical framework was tested with the Analysis of Moment Structures (Amos; version 22) statistical software package. The theoretical framework posited two possible configurations of paths for the relationship between Perceived Organizational Support and Self-efficacy. First, a possible reciprocal relationship was posited between Perceived Organizational Support and Self-efficacy. Alternatively, self-efficacy was put forward as a possible mediator in the relationship between perceived organizational support and job satisfaction. Both perceived organizational support and self-efficacy were thought to be positively related to job satisfaction.

The theoretical framework was nonrecursive, because of the possible reciprocal relationship between perceived organizational support and self-efficacy. In order to identify the model, an instrumental variable was needed (Angrist et al., 1996). An instrumental variable is a variable that is a direct effect of X and is not a direct effect of Y. For the above statement, a global perceived organizational support question “*Overall, my current school district supports me to accomplish my work*” was added to the Demographic Questionnaire. The only purpose of the global perceived organizational support question was for path analysis; therefore, global perceived organizational support was not included in any analysis. Global perceived organizational support should be strongly related to perceived organizational support and should be less strongly related to self-efficacy. Correlation coefficients generated for perceived

organizational support, self-efficacy, and global perceived organizational support confirmed that global perceived organizational support would be an appropriate instrumental variable to use in the model. Global perceived organizational support was highly correlated to the total perceived organizational support score ($r = 0.80$) but not significantly related to self-efficacy ($r = 0.18$).

Model specification and result of theoretical framework testing. In the testing, path significance is based on values of the critical ratio (C.R.), which is the ratio of the unstandardized parameter estimate to the standard error of that estimate. Critical ratios over 1.96 were considered to be significant, using a one tailed test, since a direction was proposed for each relationship. The standardized effect is β from Amos output. The standardized effect is coefficient saying how many standard deviation variable B increases, if variable A increases with 1 standard deviation. Both perceived organizational support ($\beta=0.57$, C.R. =12.76, $p<0.001$), and self-efficacy ($\beta= 0.24$, C.R. =5.23, $p<0.001$) were significant predictors of job satisfaction. This means that if perceived organizational support increases one standard deviation, job satisfaction will increase 0.57 standard deviation. In fact, Perceived Organization Support was a stronger predictor of job satisfaction than self-efficacy by its higher beta coefficient.

The path from perceived organizational support to self-efficacy was significant as well ($\beta = 0.23$, C.R. = 3.17, $p< 0.001$). However, the path from self-efficacy to perceived organizational support was not significant ($\beta=-.04$, C.R. = -0.95, $p>0.05$). These initial theoretical framework test results failed to support the notion of a reciprocal relationship between perceived organizational support and self-efficacy (See Figure 3)

This model predicted 43% ($R^2 = 0.43$) of the variance in job satisfaction. By the conclusion of this theoretical framework testing, there was mixed support for the theoretical framework. Both perceived organizational support and self-efficacy directly and significantly contributed to job satisfaction, but only perceived organizational support contributed directly and significantly to self-efficacy. Therefore, there is not a reciprocal relationship between perceived organizational support and self-efficacy. The results also suggested a stronger contribution from perceived organization to job satisfaction than from self-efficacy to job satisfaction.

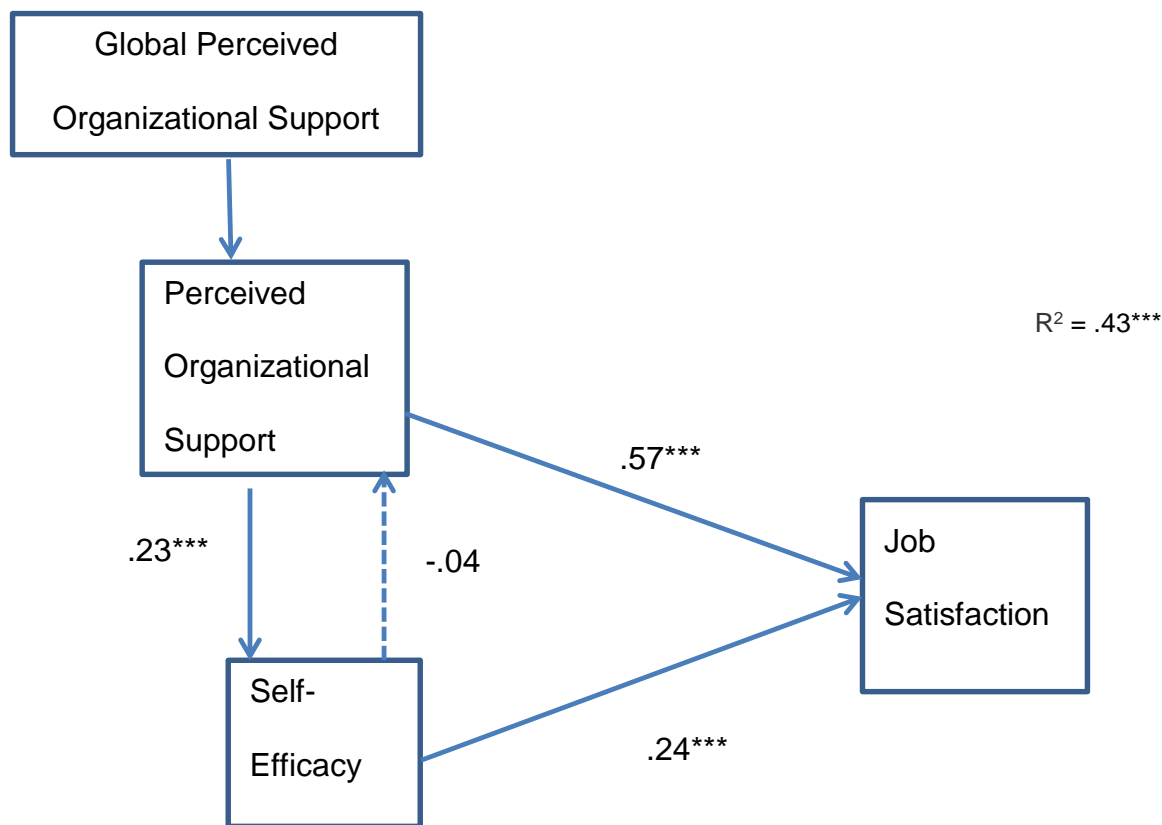


Figure 3.

Results of Theoretical Framework

An asterisk (*) indicates a significant path coefficient.

(Created by Pao-Chu Tseng, 2014)

Results of Tests of Goodness-of-Fit. Amos software would provide analytical results for the initial theoretical framework and estimate for the model fit. Reporting CMIN, RMSEA, and one of the baseline fit model is usually to assess the agreement between sample data and implied population data. CMIN is chi-square value. As a result of the Goodness-of-Fit test, $\chi^2 (1, N= 300) = 0.60, p > 0.05$. This result shows the framework fits the data well. Another model fit index is called the *root mean square error of approximation* (RMSEA). A $RMSEA \leq 0.05$ indicates an acceptable model (Arbuckle, 2011). Baseline Comparisons of CFI (Comparative Fit Index), NFI (Normed Fit Index) values need to be above 0.95 to indicate a good fit (Arbuckle, 2011). Compared to the recommended values for the Goodness-of-Fit test, the theoretical framework proposed in this study, the $CFI=1.00$, and $NFI=0.999$ indicate this framework was good for fit (See Table 17).

Table 17

Results of Goodness of Fit Test

Model	Chi-Square	df	p-Value	CFI	RMSEA	NFI
Study Model	.60	1	.44	1.00	.000	.999
Recommended Value			$p >.05$	$> .95$	$< .05$	$>.95$

Research Question 5: Does Self-efficacy Mediate the Relationship between Perceived Organizational Support and Job Satisfaction? Before testing the mediation relationship, it is necessary to check whether the relationships among the variables are significant. In this model, the relationship from independent variable (POS) to dependent variable (Job satisfaction), the relationship from independent variable to

mediate variable (self-efficacy), and from mediate variable to dependent variable need to be significant. In this model, the independent variable to dependent variable path is significant ($\beta = 0.62, p < 0.05$), independent variable to mediate variable path is significant ($\beta = 0.18, p < 0.05$), and the mediate variable to dependent variable path is significant ($\beta = 0.24, p < 0.05$). The relationship among these variables is presented in Figure 4. From the analysis results, self-efficacy may only partially mediate the relationship between perceived organization and job satisfaction. In order to demonstrate complete mediation, the previously significant direct path from independent variable to dependent variable would have to become insignificant (Zhang, et al., 2013). Table 14 provides information on direct, indirect, and total effects of each path in the basic mediator model.

Table 18

Standardized Effects of Perceived Organizational Support and Self-efficacy on Job Satisfaction

Predictor	Outcome Variable	Direct effect	Indirect Effect	Total Effect
POS	SE	.18	NA	.18
POS	JS	.58	.04	.62
SE	JS	.24	NA	.24

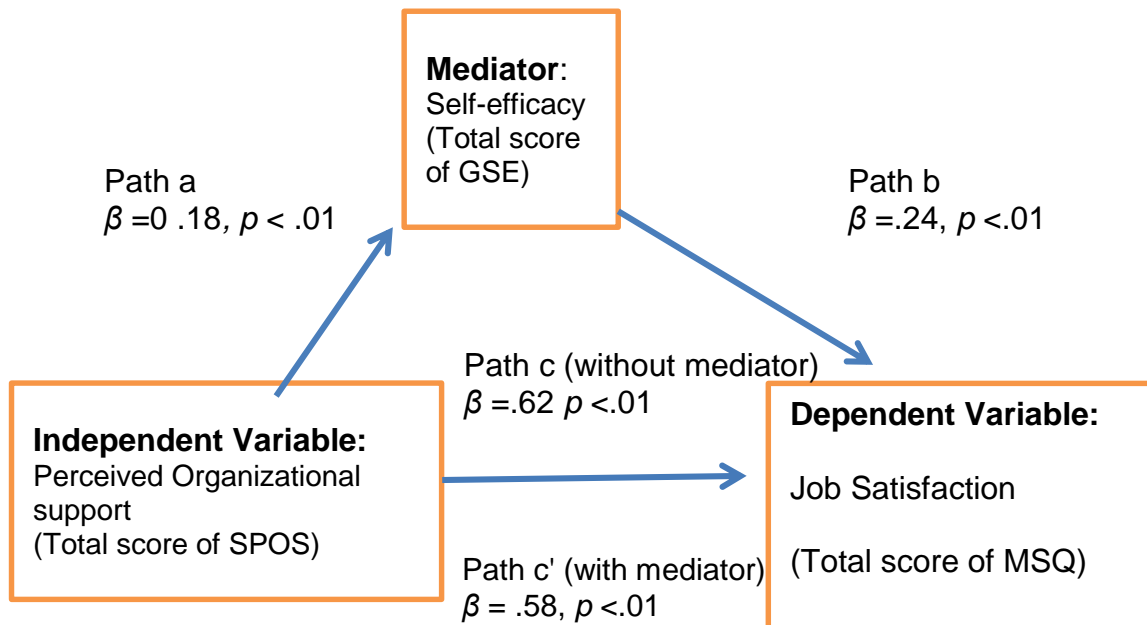


Figure 4

Partial Mediating Effect of Self-efficacy on the Relationship between Perceived Organizational Support and Job Satisfaction

(Created by Pao-Chu Tseng, 2014)

Summary of Study Findings

The purpose of this study was to understand the level of perceived organizational support, self-efficacy and job satisfaction on a school nurses sample. It also attempts to find if there is a relationship between demographic variables and the three study variables. The study tests a theoretical framework that proposes to better explain variation in job satisfaction of school nurses. A structural equation model was used for the main statistical analysis because of its ability to demonstrate direct and indirect relationships simultaneously, as well as its ability to infer causal relationship. Through structural equation analysis, more information about the relationships under investigation was gathered than would otherwise be possible in a non-experimental study.

In response to research question 2: The descriptive statistics from the Survey of Perceived Organizational Support showed that school nurses did not perceive their work environment as supportive. General self-efficacy scale results showed school nurses had higher levels of self-efficacy than the US adult population. The Minnesota Satisfaction Questionnaire indicated that school nurses were more intrinsically satisfied than extrinsically satisfied by their job.

In response to research question 3: In the demographic variables, only ethnicity related to perceived organization support and extrinsic and general job satisfaction. And Non-White groups had a negative relationship on *Pearson correlation coefficients* results. From the structural equational modeling analyses, the results were similar with the Pearson correlation coefficient results, only finding that nursing

experiences from school nursing and other nursing experience were associated with extrinsic job satisfaction.

In response to research question 4: The theoretical model posited a possible reciprocal relationship between perceived organizational support and self-efficacy. Study findings did not support the theoretical assumption that there was a reciprocal relationship between perceived organizational support and self-efficacy. However, results indicated that there was a relationship between these two variables, and that the direction from perceived organization to self-efficacy was statistically significant, not the direction from self-efficacy toward perceived organizational support. Both perceived organizational support and self-efficacy were found to have a significant effect on job satisfaction and, in fact, the direct effect of perceived organization on job satisfaction was greater than the direct effect of self-efficacy on job satisfaction.





In response to research question 5: Self-efficacy was put forward as a possible mediator in the relationship between perceived organizational support and job satisfaction. The examination of both direct and indirect effects of perceived organizational support on job satisfaction revealed that self-efficacy partially mediated the relationship between perceived organizational support and job satisfaction. Thus, the effect of perceived organizational support on job satisfaction occurs partially through self-efficacy.

In summary concerning research question 4 and 5. The path from POS to self-efficacy, the path from POS to job satisfaction, and the path from self-efficacy to job satisfaction were all positive and supported as predicted relationships. The path from self-efficacy to POS was not supported as a predicted (See Table 19). A more complete

discussion of these findings, implications for school nursing practice, and possible directions for future research will be presented in the next chapter.

Table 19

Summary of Structural Equation Model Testing

Path #	Path	Predicted Relationship	Result
1	Perceived Organization Support  Self-efficacy	Positive	Supported
2	Self-efficacy  Perceived Organizational support	Positive	Not supported
3	Perceived organization support  Job satisfaction	Positive	supported
4	Self-efficacy  Job satisfaction	Positive	supported

CHAPTER V

DISCUSSION

Since the 1980s, researchers have found evidence that work environment and low job satisfaction levels of nurses are at the root of current nursing shortages (Friese, 2005). Existing research has primarily focused on nurses in hospital settings. School nurses constitute a minority, representing only 2.2% of the RN workforce (HRSA, 2013), which may contribute to a common phenomenon of invisibility and non-recognition in both educational and health care sectors. This study sought to address this gap in school nurse research. The first purpose of this study was to describe the demographics of school nurses. The second purpose was to examine the level of perceived organizational support, self-efficacy, and job satisfaction of school nurses. The third purpose of this study was to better understand the relationship between demographic variables and these three study variables. The fourth purpose was to test for relationships among perceived organization support, self-efficacy, and job satisfaction and to examine if self-efficacy mediates the relationship between perceived organizational support and job satisfaction.

This chapter will discuss the study findings, implications for school nursing practices and theory, and limitations. This chapter also includes recommendations for future research and presents the conclusions for this study.

Research Findings and Discussion

Findings from RQ 1: Demographic characteristics. In this sample of 300 survey participants, 99.3% were female, 92.3% were White/Caucasian, 48.3% held a

Bachelor's degree as their highest degree obtained, 50.3% held Master's and 1.3% Doctorates, 94% were certified school nurses for New Jersey State only, and 6% also held a National School Nurse certificate. In terms of professional memberships, 10% did not join any school nurses associations, 18% were members of their county's association only, 9.3% joined state/national associations only, and 62.7% joined both county and state/national associations. Other demographic variables include a mean age of 54.74, an average of 13.88 years of school nursing experience, 14.88 years of other nursing experience, and a total of 28.72 years of nursing experience. The mean students/nurse ratio is 538.48; this number meets the NASN recommendation of 1:750 school nurse to students ratio.

Discussion of RQ 1: Demographic characteristics. In comparison with the national RN work force (HRSA, 2013), this sample had more White (92.3% versus 69.9%), more female (99.7% versus 91%), older (54.74 versus 44.6), and more educated (51.6% with Masters Degrees or higher versus 10.6%) nurses than averages in the national RN work force (HRSA, 2013). This sample had a mean of 28.72 years of experience working as a RN. To understand if this study's demographics of school nursing participants are unique, other published school nurse research was reviewed. The PI found that for research conducted in 2014-2015 if the sample was larger than 100, the demographic characteristics were similar to this study. For example, in a school nurse study by Quelly (2015) with a sample of 171, the mean age was 51.1, 86% were White, 12.7% with Master or higher degree, 100% were female. It may be that older nurses are attracted to the school nursing environment as there may be less safety and health hazards than in the hospital environment. This could also be the

reason for the greater female presence. The school nurse groups had higher education levels than the national RN work force. This may be because school nurses require more training for advanced certification. However, the predominance of White nurses may require additional study. The mean of nurse/students met the NASN recommendation ratio of 1:750 (NASA, 2013). However, the range of students to one nurse was wide, from 100 to 1374. Why is the range so wide? Do the responsibilities of school nurses differ depending upon the number of students? These questions will need further research to discover.

Findings from RQ 2a: Levels of perceived organizational support. The mean score from the Survey of Perceived Organizational Support was 3.38. This score indicates that the sampled school nurses did not agree that their school districts valued their contributions or cared about their well-being (Eisenberger et al, 1986).

Discussion of RQ 2a: Level of perceived organizational support. Participants did not perceive that the school districts valued their contributions or cared for their well-being. Lack of support from school districts is a challenge for school nursing (Broussard, 2007; Maughan, 2009b; Smith, 2009). School nursing services are not a primary function in the school setting. Some studies found that school nurses reported the feeling of professional undervaluing by their peers or other school employees (Crihan et al, 2004; Krause-Parello, 2009). Do nurses in other settings have better work environments? Geiger-Brown et al. (2004) identifies themes nurses expressed in open-ended comments on a working conditions survey in the US. The content analysis was from 309 usable comments. The themes that emerged from these comments were: excessive work demands, injustice or unfairness, and nurses' personal solutions to their

work environments. In this study, excessive work demands arose from injuries, such as a back injury from work. And Injustice or unfairness issues related to compensation and benefit issues. In the same study, nurses noted the lack of efficient leadership in the hospital and the need of nurses to work on their own solutions for issues such as change of jobs, returning to school, or retirement. Management strategies founded on workers' viewpoints may improve the work environment for nurses. According to Moos (2008), the work environment affects job-related outcomes, such as employees' job satisfaction as well as the satisfaction of patients. This study uses the results of quantitative measurements to present school nurses' work environment issues and offers some information to understand these nurses' work environment.

Findings from RQ 2b: Levels of self-efficacy. The mean total score from The General Self-Efficacy Scale was 33.19, which is higher than the US-American Adult Population mean score of 29.34 (Schwarzer, 2011).

Discussion of RQ 2b: Levels of self-efficacy. This sample of school nurses had mean years of experience in nursing of 28.72. A study by Macnab & Worthley (2008) showed a similar result of work experience significant related to self-efficacy. This school nurses' sample with plenty years of nursing experience may contribute to the high scores of self-efficacy.

Findings of RQ 2c: Level of job satisfaction. The mean score of intrinsic satisfaction from the Minnesota Satisfaction Questionnaire was 4.10, which suggests that the sampled school nurses were very satisfied with the tasks they were performing. The extrinsic score mean was 3.16. The general job satisfaction score mean was 3.78, which suggests that, overall, school nurses are satisfied their jobs.

Discussion of RQ 2c: Level of job satisfaction. Comparing the difference between the intrinsic and extrinsic scores of job satisfaction revealed that school nurses perform more for their own sake rather than a desire for an external reward. From a ground theory study (Broussard, 2007), school nurses felt that the ability to make a difference in the health of children was the best feeling of job satisfaction (Broussard, 2007). A phenomenological study found that the family-friendly schedules and locating resources for students and parents contributed to job satisfaction (Smith, et al, 2009). These are examples of intrinsic satisfaction for school nurses. Research from Kovner (2006) found that nurses who work in environments other than hospitals had better job satisfaction scores. And Ma (2009) found that day-shift nurses had higher job satisfaction than night-shift and evening-shift nurses. The regular hours, non-weekends and holidays schedules may provide for better integration of work and home life. These may also contribute to the job satisfaction for school nurses. Some of the extrinsic issues causing dissatisfaction for school nurses were: a sense of second-class status in school (Broussard, 2007), high caseloads or students/nurse ratios (Staines, 2009), poor visibility or disconnection with other school programs (Pinckney, 1996), no professional leaders and low pay (Broussard, 2007). The lowest extrinsic satisfaction factors in this study were regarding the chances for advancement on this job, the competence of my supervisor in making decisions, and the praise I get for doing a good job. School settings do not have a ladder to promote school nurses. However, if school nurses could expand their role from health care provider to educator, then a wider career path may be found. By switching focus, school nurses may be able to find another path of advancement.

Findings from RQ 3: The relationship between demographic variables and study variables. The Pearson Correlation coefficients showed ethnicity was associated with perceived organization support, extrinsic and general job satisfaction, with White participants indicating higher levels of organizational support and extrinsic and general job satisfaction.

Discussion of RQ 3: The relationship between demographic variables and study variables. This study sample was composed of 7.7% of non-White school nurses (3.7% African American, 2% Hispanic or Latino, 1.3% Asian, and .7% others). In this sample, Caucasians are a majority. There is no research reporting the perceived organizational support score differences among ethnicities. However, there are other related research findings. Sultz (2009) and Kotzer et al. (2006) presented outcomes of their studies and found non-Hispanic White nurses had higher job satisfaction than other ethnicity nurses. Kirsh (2000) reported that minority workers in workplaces could be perceived more different than others. Kirsh (2000) reports that feeling accepted in the work system is important for job satisfaction; therefore, the integration of minorities into workplaces may be a task for management and might increase cultural competence, which is important in workplace leadership.

This study used students/nurse ratios to represent school nurses' workloads, and the results showed the students/nurse ratio did not associate with all three study variables. Through post-data analysis, PI found this ratio may not be able to reflect the workload for school nurses in its entirety. This result is inconsistent with prior research. Previous research related workloads to nurses' job satisfaction (Broussard, 2007). The workload of school nurses is very diverse, with many issues affecting workload, such as

school levels and level of student acuity. On the high school level, school nurses may need to deal with teenage pregnancy. In 2011, according to a report from the CDC (2013), there were 329,797 live births to adolescents. In elementary school, school nurses devote a lot of time to caring for children with Type 1 diabetes. There is no standard practice in school nursing; the assignments and requirements vary from district to district. Some school districts ask school nurses to regularly teach health, while others do not. Therefore, the workload for school nurses cannot simply be determined by one indicator, such as the students/nurse ratio. These findings may contribute to the literature that students/nurse ratios cannot simply represent school nurses' workloads. Many factors may need to be factored in to calculate how many nurses are needed in a school for better students' health outcomes.

Previous studies revealed that education levels impacted hospital nurses' job satisfaction (HRSA, 2010; Kovner et al, 2006; Rambur et al, 2005). This study did not show a significant relationship between educational level and job satisfaction. The different results from this study may be because the samples of previous studies were hospital nurses; in a hospital setting, a nurse possessing a higher educational level may hold a variety of positions or titles other than bedside nursing care. Nurses with higher educational levels in hospitals may perform tasks with more autonomy and less physical demands than bedside nursing care providers (Rambur et al, 2005). There may be more career opportunities offered to nurses in hospitals with different pay or compensations. Unlike nurses in hospitals, in this study, school nurses hold the same position while caring for school-aged students; and in school settings, there is a lack of opportunities for advancement for school nurses. The above reasons may begin to

explain why educational levels did not relate to job satisfaction for school nurses in this study.

There is no significant relationship finding between demographic variables and self-efficacy in this study. Because Bandura proposes that experience is one of principal sources of developing self-efficacy (2003), the lack of any statistically significant relationships between demographic variables of educational levels, years of nursing experience, ethnicity, and students/nurse ratios with self-efficacy is a surprise. Does experience matter? If possible, after certain years of experience, self-efficacy could be significantly developed; therefore, adding more years of experience may not influence self-efficacy. Further research is required to better understand the relationship between experience and self-efficacy.

Findings from RQ 4a & 4b: The reciprocal relationship between perceived organizational support and self-efficacy. The path analysis results showed the path from perceived organizational support to self-efficacy was significant ($\beta = 0.23, p < .001$); however, the path from self-efficacy to perceived organizational support was not significant ($\beta = -0.04, p > .05$). These results failed to support the notion of a reciprocal relationship between perceived organizational support and self-efficacy.

Discussion of RQ 4a & 4b: The reciprocal relationship between perceived organizational support and self-efficacy. Based on Bandura's Social Cognitive theory (2003) and Moos' Work Environment Conceptual Framework (2008), individuals and their environment should have a reciprocal interaction or relationship.

According to the social exchange theory, the quality of an exchange depends on trust, and trust does not simply exist, it is earned; therefore, a reciprocal relationship

takes times to build up; it will not exist in short-term exchange relationships (Blau, 1964). The other reason why a reciprocal relationship did not exist in this study perhaps lies with the cross-sectional research design, which could not show the long-term reciprocal relationship. The relationship between organizations and individuals may need a longitudinal approach to gather a better understanding of the nature of this relationship. However, this research found perceived organizational support may contribute to self-efficacy. This finding emphasizes the importance of organizations offering support to their employees in order for them to work more effectively. One possible reason for a lack of significance from self-efficacy to perceived organizational support may be due to a lack of a formal leadership title or power as a school nurse. School nurses are low on the organizational hierarchy (Broussard, 2007); they may not feel they are able or may not have opportunities to have an effect on their organization or school district. MacNab & Worthley (2008) conducted a study with a group of professional employees to examine if self-efficacy is a predictor for internal whistleblowing. In their study, work experience can predict self-efficacy, and self-efficacy positively related to whistleblowing. MacNab & Worthley (2008) also report gender differences; professional females' employees reported lower levels of self-efficacy and internal whistleblowing. In the current school nurse sample, 99.3% of school nurses were female; they reported high self-efficacy; however, when they did not perceive organizational support, they did not whistleblow on their existing problems in the organization/school district; school nurses did not whistleblow to express the lack of support from school districts or that school districts did not value their contributions or care about their well-being.

Findings from RQ 4c & 4d: Relationship between perceived organizational support, self-efficacy and job satisfaction. This study's results showed perceived organizational support and self-efficacy significantly relate to intrinsic, extrinsic and general job satisfaction.

Discussion of RQ 4c & 4d: Relationship between perceived organizational support, self-efficacy and job satisfaction. Previous studies have shown that perceived organizational support is associated with job satisfaction (Aryee et al, 2002; Burke, 2003; Muse et al, 2007; Patrick et al, 2005). In the study of Judge (2003), general self-efficacy is positively related to job satisfaction and job performance. These results support that school nurses will have more job satisfaction if they perceive more organizational support and self-efficacy. In these two factors, perceived organizational support contributed more than self-efficacy to nurses' job satisfaction. School districts can view these outcomes and offer more support for school nurses to increase their job satisfaction.

Findings from RQ 5: Self-efficacy mediates the relationship between perceived organizational support and job satisfaction. The study found that self-efficacy partially mediates the relationship between perceived organizational support and job satisfaction. It appears that the relationship between perceived organizational support and job satisfaction occurs partially through self-efficacy.

Discussion of RQ 5: Self-efficacy mediates the relationship between perceived organizational support and job satisfaction. From this finding, both organizational support and self-efficacy are significant in terms of job satisfaction. Previous studies report that self-efficacy mediates the relationship between intention

and action (Lippke et al, 2009), between traumatic experiences and the development of PTSD (Howell, 2006), and between psychosocial intervention and health outcomes (Raggi et al, 2010). Self-efficacy is an important personal characteristic in one's job or daily life. Although this study shows that self-efficacy only partially mediates the relationship between perceived organizational support and job satisfaction, in this sample, with low perceived organizational support scores, higher self-efficacy may help to promote job satisfaction.

Implications for School Nursing Practice

School nursing is a specialty area in nursing. This study gathered information from currently practicing school nurses in New Jersey public schools. The findings may have implications for school nurse practices, especially in terms of promoting organizational support, self-efficacy, and job satisfaction in order to improve overall school nursing practice.

The study once again underlies the important role that organizational support plays in job satisfaction or job-related outcomes and psychological contracts (Byrne et al, 2011; Eisenberger et al, 2009; Muse et al. 2005; Patrick et al, 2007). The results of this study reveal that school nurses do not perceive their work environment as supportive. Several researchers stated that lack of support from school districts is a major factor challenging school nurse practice (Croghan, 2004; Krause-Parello, 2009; Broussard 2007; Maughan, 2009a; Smith, 2009). Organizational support theory is a variant of social exchange theory and relies on two central tenets: the norm of reciprocity and the personification of organization (Eisenberger & Stinglhamber, 2011).

Social exchange theory views employment with an organization as the exchange of effort on the part of the employee in return for rewards provided by the organization (Blau, 1964). According to the Survey of Perceived Organizational (Rhodes & Eisenberger, 2002), school districts could heighten support by treating school nurses with respect, offering appreciation for their efforts or good services, and asking or using school nurses' input in decision making. Team-building retreats or professional development opportunities may foster skills that promote a supportive work environment and enhance job satisfaction (Birnbaum et al, 2001). In Birnbaum's research, team-building retreats were conducted for nursing faculty, and it significantly increased job satisfaction and group cohesion. Since the school nurse is often the only medical expert in the school building, the nurse must work in collaboration with other educators and parents to facilitate appropriate care and interventions. A similar program or continuing education courses could be developed to support the training needs of school nurses. Promoting perceived organizational support can enhance commitment, psychological contracts, and trust (Aselage & Eisenberger, 2003; Jawahar, 2006; Risting 2009); therefore, it is worthwhile to school districts to offer this training to benefit school nurses and the customers they serve.

Extrinsic satisfaction is an issue for school nurses. The lowest score from the MSQ on this domain was Advancement, or the chance for job advancement. Advancement may mean different things to individuals. Advancement for some people may mean climbing the organizational ladder until they reach the top; for others, they may simply want to do a great job and be recognized. There is no research to show what advancement means for school nurses. According to the study results, school

nurses were not satisfied in regard to advancement. If school nurses are aware of a lack of opportunities for growth, they should take their development into their own hands and get creative to find opportunities to grow. School nurses may sign up for a project within or outside of the usual school nursing domain to learn new knowledge or skills. Another way to view advancement is that school nurses may need to extend their role from a health care provider to an educator. By re-focusing their role as a school nurse, they may discover other paths for advancement in educational settings. Besides being dissatisfied in terms of advancement, the supervisor technical in MSQ question #6, "The competence of my supervisor in making decisions" (MSQ Manual, 1977) is an issue. Most school nurses' supervisors or educational administrators are not medically trained; they may not understand the nursing profession and may not be able to offer support for promoting school nurses. In hospital settings, nursing leadership is associated with nurses' job satisfaction (Roche et al, 2010). There are nursing leaders in hospital settings. Nursing leadership can support nurses; in school settings, school nurses need to be leaders, and leadership training is necessary for them to lead in a school setting. Another aspect is that school health issues may need to be included in basic teacher training. All school educators, including all administrators, should understand the importance of school health, which includes the school nurse's role in the school environment. This understanding can enable the school team to work together and integrate school nursing into the educational system. Therefore, school administrations can lead school nurses on the right track.

Professional organizations, such as a county's school nurses association and State/National school nurses organizations may need to work on improving the

participation rate and their function as a support for school nurses. The Mission Statement of the *New Jersey State School Nurse Association* (NJSSNA) states that the organization is seeking to improve health and educational outcomes for children and improve the school nurses' capacity to promote wellness and deliver high quality healthcare in the school setting (NJSSNA, 2014). The most important benefit of membership is to obtain the latest information on school nursing practice. Hampton (2004) conducted a study on Nurse Midwives, showing that those who participated in a professional association had greater job satisfaction. Participation in a professional association should contribute positively to a school nurse's career. An obvious problem is the low participation rate of joining the school nurse association. The total number of school nurses in New Jersey is estimated at about 2,500 (New Jersey Public School Fact Sheet, 2014), and the number of NJSSNA members is 1147. The numbers indicate that only about 46% of school nurses have joined the association (1147/2500). School nurses should work more extensively with school nurse associations to develop a state work plan, with an emphasis on how school nurses can influence student success by using school nursing services. Greater numbers can form a stronger and more powerful voice to advocate for the advancement of the school nurse profession. Belonging to an association may promote school nurses' positive sense of self and professional commitment to serving others (Pierce, 2011). Increasing school nurses' participation in school nurse associations and strengthening school nurse associations' abilities to support school nurses or advocate for school nursing are equally important for advancing the specialty of professional school nurses. The collective effort will directly

affect the health care school nurses can offer to our students as well as the whole community.

School nurse credentials or certificates are an issue in school nursing practice. New Jersey was one of the first states to require specialized training and certification for registered nurses who practice in schools in 1972 (NJDOE, N.J.A.C. 6A:9-13.3), but some schools still hire noncertified nurses or even hire Licensed Practical Nurses (LPNs) to deliver nursing services in school settings (NJEA, 2013). The different entry points for school nurses have a harmful effect on the progression of the school nursing profession. While national certification for school nursing has existed since 1991 (NBCSN, 2011), many state departments of education do not recognize the credential, and in this sample only 6% (18/300) hold the National School Nurse Certification. School nurses need to be proactive in working towards certification; this can enable school nurses to become more visible members of a school's team as all other educators are certified.

The school nurse certification program in New Jersey may need to modify the curriculum to meet the needs of practicing school nurses. Currently, there are 11 colleges that offer school nurse certificate programs in New Jersey areas (NJSSNA, 2014). As mentioned before, the state of New Jersey started to require the school nurse certification in 1972. The only recent change in the programs of school nurse certification is that all the programs offer online courses with practicums to obtain field experience. The curriculum is required by *The New Jersey State Department of Education*, which includes foundation/prerequisite courses on community health and health assessment, core courses including health education, school nursing and

educational psychology, and student teaching. School nurses must be leaders to lead health services in a school setting. The current leadership training courses are lacking (NJDOE, 2014).

At the same time, the *New Jersey State Board of Education* has proposed to weaken the school nurse certification (*New Jersey Education Association* (NJEA), 2013). Under the proposal, there is no longer a required practicum for obtaining a school nurse certificate. Although NJEA and NJSSNA argued that these amendments would put the health and safety of public school students and staff at risk. This proposal threatens to weaken the quality of school nurses. The weakened school nurse certification mainly is *New Jersey State Board of Education's* attempt to cut the pay for school nurses by eliminating school nurses in the teacher's pay scale and benefits. This proposal originated from budget strains and attempts to meet the financial bottom line of school budgets.

In this study, the mean age of school nurses was 54.74 with an average of 13.88 years of school nursing experience and an average of 28.72 years' experience as Registered Nurses. It is evident that turnover within school nursing will happen in the next few years. A comprehensive educational program is necessary to train highly qualified school nurses to become experts in the fields of health care, education, technology, and the promotion of student health. After these training programs, the newly recruited school nurses should be able to articulate the role and responsibilities of the profession. Current school nurse continuing education, staff development, and new school nurse orientations all need to reflect the current school nurse role, responsibilities, and diverse needs of student populations.

Limitations to the Study

Like any research, this study has certain limitations. The following limitations need to be considered when interpreting the findings of this study.

1. The sample was not randomized. A convenience sample or volunteer sample is an inexpensive way of ensuring sufficient numbers for a study; however, it can be highly unrepresentative (Portney & Warkins, 2009). The school nurses from this sample did not receive any incentives to participate in this study. Despite the lack of incentives, an adequate sample size was achieved in order to perform the desired statistical analysis. However, the nonresponses are a problematic indicator of nonresponse bias, and the nonresponse bias that exists in any survey study sometimes is underestimated or unpredictable.
2. The data was obtained from the New Jersey State and County School Nurse Association. Given the unique nature of the organization - the New Jersey State Public School nurses, the results or findings from this study may not be generalized to other populations such as other states or other countries' school nurses.
3. The design of this study was cross-sectional and, as a result, it was not possible to determine causality. A longitudinal approach would give deeper insight into the subject matter and the corresponding relationship. However, due to time constraints, this was not possible. A recommendation for future research, therefore, is the replication of the same study over a longer period of time.
4. All research variables were reported by participant school nurses themselves. The report of this study was based on the assumption that the school nurses would respond honestly and interpret the instrument as intended. The self-reporting data

might lead to a problem of common source bias. Common source bias is unlikely to cause a problem for well-developed instruments (Portney & Watkins, 2009). This research used established questionnaires and online surveys to ensure anonymity and confidentiality to minimize the effects of common source bias.

5. For the inclusion criteria and online survey design, in order to access the survey, only school nurses who have access to the Internet/web platforms were included in this study. How many were excluded for this reason is unknown.

Recommendations for Future Research

Based on the analysis and interpretation of the data from this research, there are several areas where future research is needed.

1. A longitudinal and qualitative approach may give deeper insight into the subject matter and the corresponding relationships. Longitudinal and qualitative studies may inform our understanding of how perceived organizational support, self-efficacy, and job satisfaction develop in one's career.
2. Perceived organizational support and self-efficacy explained 43% of variance to predict job satisfaction in this study. There are other variances or other variables to predict school nurse job satisfaction which can be investigated in future work. From the work environment prospect, the PI has found that the Work Environment Scale (WES) by Moos (2008) can offer more detailed information to evaluate a person's work environment. The WES consists of 10 subscales that can measure the actual, preferred, and expected social environment of work settings. These 10 WES subscales assess three underlying sets of dimensions: relationship dimensions, personal growth dimension, and system maintenance and change dimensions. It contains more domains of the work environment. This research applied perceived organizational support that only represents one work environment issue. However, WES contains 90 questions; it is very time consuming to answer all 90 questions. In the future, if other researchers attempt to find more detail about school nurses' work environments, WES may help discover the necessary information.

Another recommendation is including other job satisfaction scales in future studies. Another job satisfaction scale may be able to uncover other issues of job satisfaction for school nurses.

3. Male nurses are underrepresented as school nurses. Of the 300 sampled in this study, only one participant was male. According to the American Community Survey (2011), 9.6% of registered nurses are male, but in terms of nurse anesthetists, 41% are male, and they hold a median Income of \$162,900. There has not been a study analyzing why male nurses do not want to be school nurses. It is worth studying gender issues in this profession to increase understanding of the factors deterring men from even considering school nursing as a professional option. Smith (2009) used a phenomenological study consisting of interviews with 25 school nurses, asking questions such as the reasons for their vocational choice. Smith found that a flexible work schedule benefitting family life is one of the major reasons interviewees chose school nursing as a career. It would be interesting to study what areas attract male nurse. Increased diversity or gender balance in the school nursing profession may promote the school nursing profession.
4. Extrinsic satisfaction is an issue for school nurses, especially opportunities for advancement on the job. Discovering paths or possible opportunities beyond school nursing are worthy to investigate. This is another way to help school nurses advance their nursing profession or their career.
5. Job satisfaction is associated with consumer's outcome (Moos, 2008). Ongoing research is needed for empirical evidence about the relationship between perceived organizational support, self-efficacy and job satisfaction of school nurses and their

students' health or school nursing outcomes. School nursing needs more research to obtain data to show their impact on students' success. Only evidence-based information can promote school nursing as an integral part of the world of education.

6. There are other health-related professions in school settings, such as occupational therapists, physical therapists, guidance counselors, and social workers. School health is currently not a central part of the fundamental mission of schools in America (Basch, 2010). A comparative study across these professions using the same variables may provide insight into other professions in school settings.
7. There is a need to modify school nursing programs to meet the needs of current school nursing practices. With the complex and rapid changes in the health care and educational systems, school nurse training curricula need to be modified constantly. However, the advancements and training requirements for school nurses is an area needing further research in order to prepare future nurses to work in current school environments.

Conclusion

The study sample consisted of 300 currently employed school nurses working in New Jersey public schools. The results of this present study indicate that perceived organizational support and self-efficacy were significant predictors of job satisfaction. Perceived organizational support appeared to be a stronger predictor than self-efficacy. The path of perceived organizational support towards self-efficacy was significant; however, the path from self-efficacy to perceived organizational support was not significant. This study also shows that self-efficacy partially mediates the relationship between perceived organizational support and job satisfaction.

Using structural equation modeling analysis, this study is the first in the literature to investigate the relationship of perceived organizational support, self-efficacy, and job satisfaction for school nurses and extended the research by investigating the role that perceived organizational support and self-efficacy play in determining the job satisfaction of school nurses in New Jersey public schools. Although many questions about the nature of school nurses' job satisfaction remain unanswered and need ongoing study to discover, this study provides insights into current school nurses' working environments and sheds light on the challenges associated with being a school nurse. Despite these challenges, school nurses indicated intrinsic job satisfaction from promoting health, supporting the school community, and preparing children for the future. Finding ways to improve school districts in recognizing, respecting, and supporting school nurses role is essential to promote general job satisfaction for school nurses. School nurses with high self-efficacy make a commitment to this profession and will continue to provide health services for our future citizens.

The results of this study may help school districts show leadership in crafting future initiatives to promote support for school nurses. As the same time, this study's outcomes recommend the need to promote the voice and visibility of school nurses as an essential part of the world of education. Lastly, this research reveals several avenues for future research, such as modifying school nurse training programs, in-service-training, and new school nurses orientations, which may impact future school nursing services and benefit all school-aged children, their families and communities.

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Appendix A
Asset Survey Instrument



NJ School Nurse Survey

Objective: This questionnaire is to explore the relationships between perceived organizational support, self-efficacy, and job satisfaction among school nurses.

1. What is your gender?

- Male
- Female

2. What is your current age?

3. What is your race/ethnicity? Please check the one option that best describes you.

- American Indian or Alaska Native
- Native Hawaiian or Other Pacific Islander
- Asian
- Black or African American
- Hispanic or Latino
- Non-Hispanic White/Caucasian
- Other: please specify

4. What is the highest educational degree you completed in nursing?

- Diploma in Nursing
- Associates degree in Nursing (ADN)
- Bachelor degree in Nursing (BSN)
- Master degree in Nursing (MSN)
- Doctor of Nursing Practice (DNP)
- Doctor of Nursing (PhD, EdD)

5. What is the highest other than nursing educational degree you completed?

Bachelors

Masters

Doctoral

None

6. Please indicate how many years you have worked as a RN before become a Certified School Nurse.

7. Please indicate how many years you have worked as a full time Certified School Nurse in New Jersey.

8. Please indicate the grade levels of students you currently service as a school nurse. (Select all that apply).

Pre-Kindergarten

Kindergarten - Grade 5

Grade 6-8

Grade 9-12

Other: Please specify

9. Please indicate what type of School Nurse certification you hold, if any. (Select all that apply).

CSN- New Jersey State Certified School Nurse

NCSN-National Certified School Nurse

None of above

10. What are the students to school nurse ratio in your current position?

11. Are you a member of any of the following school nurse associations? (Select all that apply)

County School Nurse Association

State/National School Nurse Association

None of above

12. Is your school in an Abbott district?

Yes

No

Not sure

13. What is your agreement level of the following statement? Overall, my current school district supports me to accomplish my work.

<i>effort from me</i>							
3. <i>The organization would ignore any complaint from me</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. <i>The organization really cares about my well-being</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. <i>Even if I did the best job possible, the organization would fail to notice</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. <i>The organization cares about my general satisfaction at work</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. <i>The organization shows very little concern for me</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. <i>The organization takes pride in my accomplishments at work</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

NJ School Nurse Survey

Objective: This questionnaire is to explore the relationships between perceived organizational support, self-efficacy, and job satisfaction among school nurses.

The General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995)

15. To complete this section, please rate how strong you agree or disagree with each of the following statements.

The response formats are:

1 = Not at all true

2 = Hardly true

3 = Moderately true

4 = Exactly true

	1	2	3	4
1. <i>I can always manage to solve difficult problems if I try hard enough.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. <i>If someone opposes me, I can find the means and ways to get what I want.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. <i>It is easy for me to stick to my aims and accomplish my goals.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. <i>I am confident that I could deal efficiently with unexpected events.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Thanks to my resourcefulness, I know how to handle unforeseen situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I can solve most problems if I invest the necessary effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. When I am confronted with a problem, I can usually find several solutions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. If I am in trouble, I can usually think of a solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I can usually handle whatever comes my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Previous Next

NJ School Nurse Survey

Objective: This questionnaire is to explore the relationships between perceived organizational support, self-efficacy, and job satisfaction among school nurses.

Minnesota Satisfaction Questionnaire
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- 16. The purpose of this questionnaire is to give you a chance to tell how you feel about your present job, what things you are satisfied with and what things you are not satisfied with. Please decide how satisfied you feel about the aspects of your present job.**

The response formats are:

Very Dissat. = I am very dissatisfied with this aspect of my job.

Dissat. = I am dissatisfied with this aspect of my job.

N = I can't decide whether I am satisfied or not with this aspect of my job.

Sat. = I am satisfied with this aspect of my job.

Very Sat. = I am very satisfied with this aspect of my job.

	Very Dissat.	Dissat.	N	Sat.	Very Sat.
1. Being able to keep busy all the time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The chance to work alone on the job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. <i>The chance to do different things from time to time</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. <i>The chance to be "somebody" in the community</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. <i>The way my boss handles his/her workers</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. <i>The competence of my supervisor in making decisions</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. <i>Being able to do things that don't go against my conscience</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. <i>The way my job provides for steady employment</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. <i>The chance to do things for other people</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. <i>The chance to tell people what to do</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. <i>The chance to do something that makes use of my abilities</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. <i>The way my company policies are put into practice</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. <i>My pay and amount of work I do</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. <i>The chance for advancement on this job</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. <i>The freedom to use my own judgment</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. <i>The chance to try my own methods of doing the job</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. <i>The working conditions</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. <i>The way my co-workers get along with each other</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. <i>The praise I get for doing a good job</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. <i>The feeling of accomplishment I get from the job</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Submit Survey](#)

Appendix B

Letter of Authority from New Jersey State School Nurses' Association

(To contact the Association's membership through their e-mail list)



Pao-Chu Tseng
36 Tremont Dr.
East Hanover, NJ 07936

January 5, 2014

RE: Authorization by New Jersey State School Nurses' Association to use E-mail
Contacts for the Doctoral Research Project

Dear Mrs. Tseng:

The New Jersey State School Nurses' Association is very willing to assist you in your research endeavors by announcing your research to our members by e-mail notification as well as by alerting affiliate leaders to your needs for New Jersey State School Nurses' participation in your study.

Once you receive your IRB, we will ask you to submit your official research project details and fill out our research form.

Please send us the information our members will need to participate at your convenience and we will spread the word widely as possible. Please highlight the dates that your study will be operational so that we can ensure the widest range of possible participation outreach can be attained. We look forward to assisting you in reaching your research goals.

Sincerest regards,

MaryAnn Bacon, MSN, RN, NCSN
President, New Jersey State School Nurses
njssnapresident@gmail.com
Phone: 609-668-0994

Appendix C

Letter of Solicitation on Asset System

Participant Solicitation Letter



Date: January, 2014

Dear School Nurse Colleague:

Affiliation

I am a School Nurse in a New Jersey public school and also a graduate student in the PhD in Health Sciences program at Seton Hall University.

Purpose

Volunteers are needed to take part in a study examining a relationship between work environments, self-efficacy and job satisfaction among public school nurses. You are being contacted because I am seeking individuals who are currently employed as a New Jersey State Certified School Nurse, currently working within a New Jersey State Public School(s) for my doctoral research study on this topic.

Procedure

You will be asked to complete the following 4 electronic online survey questionnaires which are valid and reliable and used frequently in the literature:

1. Survey of Perceived Organizational Support (SPOS): the purpose of these 8 questions is to explore key factors that may contribute to the work environments of the school nurse.
2. The General Self-Efficacy Scale (GSES): the purpose of these 10 questions is to explore key factors that may contribute to the school nurses' sense of self-efficacy in performing their work.
3. Minnesota Satisfaction Questionnaire (MSQ): the purpose of these 20 questions is to explore key factors that may contribute to the school nurses' job satisfaction.
4. Demographic Questions: the purpose of this section is to collect demographic information including but not limited to gender, age and years of education.

Please approach the survey and your answers from your individual point of view to candidly express your thoughts regarding the above-mentioned topics. Please respond honestly to all the questions. It is important that you complete each section in its

entirety. Your participation will involve approximately 20 minutes of your time to answer 50 questions.

Voluntary participation

Your participation in the research study is voluntary. You may decide at any time not to participate in this study. If you decide not to participate or to withdraw from the study before finishing all the questions, you will not be penalized.

Additionally, I am requesting if you know other school nurses who may be interested in participating in this study, please forward this invitation to them.

Anonymity

You will not be asked to provide your name if you agree to participate in this study. Upon completion of the survey, data will be analyzed and reported without any personal identifying factors being revealed, and you will not be identified by name or described in any reports or publications about this study.

Privacy and Confidentiality

Privacy and confidentiality will be maintained throughout the duration of the research project. No personal identifying information will be collected from participants. Upon completion of the study, all electronic data will be stored on a USB memory key with access to the file protected by use of a password only known to the principal investigator. The memory key will also remain in a secured filing cabinet for three years, at which time the data will be destroyed.

Risks and Benefits of Participation

There are no foreseeable risk factors or discomfort, or any proposed or foreseeable direct benefits to you anticipated by participating in this research study. However, the results of this study will bring needed attention to the needs of school nurses in the New Jersey area and provide the impetus for making suggestions necessary to implement changes to justify continuing to provide services as well as improve currently provided school nursing services for school aged children.

Compensation

There will be no monetary or any kind of compensation for your participation in this study.

Ways to Participate

The questionnaires are available via an online ASSET® electronic survey. By accessing and completing the surveys through the link listed below, or by submitting a paper copy of the survey, you are conveying your informed consent to participate in this study.

You need an internet-accessible computer to participate. The survey link is:

<http://asset.tlhc.shu.edu/servlets/asset.AssetSurvey?surveyid=6234>

The User name is “guest”. Please click the “**Login**” button to complete the login process. (If you cannot click the link above, please copy and paste the URL in its entirety into your browser’s address bar and click the → at the end of the bar). When you have finished answering the surveys, please submit your survey responses by clicking on the “Submit Survey” button at the end of the survey.

Once you have completed your survey participation, please do not take the survey again. If you receive any subsequent communication asking you to participate in this survey again, please do not take the survey again.

Contact Information

As with all research studies initiated at Seton Hall University involving human participants, this project was reviewed and approved by the Institutional Review Board. You have the right to ask questions concerning this study at any time. If you have any questions concerning this study or your rights as a study participant, please contact the primary investigator, Pao-Chu Tseng, through the office of Dr. Terrence F. Cahill Dissertation Chair/Advisor in the Graduate Programs in Health Science Department at Seton Hall University School of Health and Medical Sciences at (973) 275-2440. Additionally, Dr. Mary Ruzicka, Chair of the Institutional Review Board, in the Office of the Institutional Review Board at Seton Hall University, may be reached at (973) 313-6314.

Thank you for considering participation in my dissertation research. Your time and consideration is greatly appreciated.

Sincerely,
Pao-Chu Tseng RN, CSN
Seton Hall University Doctoral Student
School of Health and Medical Sciences, GPHS Department

Appendix D

New Jersey State School Nurse Association's E-mail Reminder Memo

Dear Prospective Research Participant,

“If you are still interested in participating in the research study entitled “Relationships between Perceived Organizational Support, Self-Efficacy and Job Satisfaction among School Nurses” and have not already completed the survey, you still have time before the study is closed for enrollment. Please take a moment to review the participant Letter of Solicitation that is attached to this note before clicking on the link to complete the survey.

If you have already completed this survey, please disregard this email reminder message. If you have not already completed this survey, please try your best to complete the survey by April 30, 2014.

Thank you in advance for your consideration.”

Appendix E1
Permission Letter to Show Survey Questions in Dissertation

Permission Granted to Report the Result and Show Survey Questions in Dissertation

September 19, 2015

Pao-Chu Tseng
Seton Hall University
Sch of Health & Medical Sci
400 South Orange Ave
South Orange, NJ 07079

Dear Pao-Chu Tseng:

I give permission to report the perceived organizational support results (page 72) and show the *SPCS* questions in the *NJ School Nurse Survey* (page 136-137) in your dissertation report, which, following committee acceptance will be available on the Internet at the Seton Hall Library, as well as, at Dissertation Abstracts (Proquest).

Sincerely,



Professor Dr. Robert Eisenberger

Appendix F

Permission Letter to Use GSES Survey



Freie Universität Berlin, Gesundheitspsychologie (PF 10),
Habelschwerdter Allee 45, 14195 Berlin, Germany

Fachbereich Erziehungs-
wissenschaft und Psychologie
- Gesundheitspsychologie -

Professor Dr. Ralf Schwarzer
Habelschwerdter Allee 45
14195 Berlin, Germany

Fax +49 30 838 55634
health@zedat.fu-berlin.de
www.fu-berlin.de/gesund

Permission granted

to use the General Self-Efficacy Scale for non-commercial research and development purposes. The scale may be shortened and/or modified to meet the particular requirements of the research context.

<http://userpage.fu-berlin.de/~health/selfscal.htm>

You may print an unlimited number of copies on paper for distribution to research participants. Or the scale may be used in online survey research if the user group is limited to certified users who enter the website with a password.

There is no permission to publish the scale in the Internet, or to print it in publications (except 1 sample item).

The source needs to be cited, the URL mentioned above as well as the book publication:

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp.35-37). Windsor, UK: NFER-NELSON.

Professor Dr. Ralf Schwarzer
www.ralfschwarzer.de

Permission Letter to Show Survey Questions in Dissertation



Freie Universität Berlin, Gesundheitspsychologie (PF 10),
Habelschwerdter Allee 45, 14195 Berlin, Germany

Fachbereich Erziehungs-
wissenschaft und Psychologie
- Gesundheitspsychologie -

Professor Dr. Ralf Schwarzer
Habelschwerdter Allee 45
14195 Berlin, Germany

Phone +49 30 838 55630
Fax +49 30 838 55634
health@zedat.fu-berlin.de
www.fu-berlin.de/gesund
RS/

Permission Granted to Report the Result and Show Survey Questions in Dissertation

September 19, 2015

Pao-Chu Tseng
Seton Hall University
Sch of Health & Medical Sci
400 South Orange Ave
South Orange, NJ 07079

Dear Pao-Chu Tseng:

I give permission to report the General Self-efficacy results (page 73) and show the *GSES* questions in the *NJ School Nurse Survey* (page 137-138) in your dissertation report, which, following committee acceptance will be available on the internet at the Seton Hall Library, as well as, at Dissertation Abstracts (Proquest).

Sincerely,

Professor Dr. Ralf Schwarzer

Appendix G

Permission Letter to Use MSQ Survey

UNIVERSITY OF MINNESOTA

*Twin Cities Campus**Department of Psychology
College of Liberal Arts**N218 Elliott Hall
75 East River Road
Minneapolis, MN 55455**Office: 612-625-2818
Fax: 612-626-2079
www.psych.umn.edu*

October 25, 2012

Pao Chu Tseng
Seton Hall University
Sch of Health & Medical Sci
400 South Orange Ave
South Orange, NJ 07079

Dear Pao Chu Tseng

We are pleased to grant you permission to use the Minnesota Satisfaction Questionnaire 1977 short form on a secure web site in your research project as you requested.

Please note that each copy that you make must include the following copyright statement:

Copyright 1977, Vocational Psychology Research
University of Minnesota. Reproduced by permission.

Vocational Psychology Research is currently in the process of revising the MSQ manual and it is very important that we receive copies of your research study results in order to construct new norm tables. Therefore, we would appreciate receiving a copy of your results including 1) Demographic data of respondents, including age, education level, occupation and job tenure; and 2) response statistics including, scale means, standard deviations, reliability coefficients, and standard errors of measurement.

Your providing this information will be an important and valuable contribution to the new MSQ manual. If you have any questions concerning this request, please feel free to call us at 612-625-1367.

Sincerely,


Dr. David J. Weiss, Director
Vocational Psychology Research**Driven to DiscoverSM**

Appendix G1

Permission Letter to Use Survey Questions in Dissertation

UNIVERSITY OF MINNESOTA

*Twin Cities Campus**Department of Psychology
College of Liberal Arts**121B Elliott Hall
75 Egan River Road
Minneapolis, MN 55455
Office: 612-625-2518
Fax: 612-625-2079
www.psych.umn.edu
Email: psycstat@umn.edu*

September 23, 2015

Pao-Chu Tseng
Seton Hall University
School of Health and Medical Science
400 South Orange Ave
South Orange, NJ 07079

Dear Pao-Chu Tseng:

I give permission for you to report the job satisfaction results (page 76-77) and show the MSQ questions in the *N.I. School Nurse Survey* (page 138-139) in your dissertation report which, following committee acceptance, will be available on the Internet, at the Seton Hall Library, as well as at Dissertation Abstracts (Proquest).

Sincerely,



Dr. David L. Weiss Director
Vocational Psychology Research

Appendix H

Seton Hall University IRB Approval Letter



January 29, 2014

Pao-Chu Tseng
36 Tremont Dr.
East Hanover, NJ 07936

Dear Ms. Tseng,

The Seton Hall University Institutional Review Board has reviewed your research proposal entitled "The Relationships Between Perceived Organizational Support, Self-Efficacy and Job Satisfaction Among School Nurses" and has categorized it as exempt.

Enclosed for your records is the signed Request for Approval form.

Please note that, where applicable, subjects must sign and must be given a copy of the Seton Hall University current stamped Letter of Solicitation or Consent Form before the subjects' participation. All data, as well as the investigator's copies of the signed Consent Forms, must be retained by the principal investigator for a period of at least three years following the termination of the project.

Should you wish to make changes to the IRB approved procedures, the following materials must be submitted for IRB review and be approved by the IRB prior to being instituted:

- Description of proposed revisions;
- *If applicable*, any new or revised materials, such as recruitment fliers, letters to subjects, or consent documents; and
- *If applicable*, updated letters of approval from cooperating institutions and IRBs.

At the present time, there is no need for further action on your part with the IRB.

in harmony with federal regulations, none of the investigators or research staff involved in the study took part in the final decision.

Sincerely,

Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

cc: Dr. Terrence Cahill

Office of Institutional Review Board

Presidents Hall • 400 South Orange Avenue • South Orange, New Jersey 07079 • Tel: 973.313.6314 • Fax: 973.275.2361 • www.shu.edu

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