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# The Relationship Between Social Support and Resilience Among School Nurses

Kathryn Vargo Hsu  
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Walden University

College of Social and Behavioral Sciences

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Kathryn Vargo Hsu

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the review committee have been made.

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2019

Abstract

The Relationship Between Social Support and Resilience Among School Nurses

by

Kathryn Vargo Hsu

MA, Caldwell University, 2012

BSN, William Paterson University, 1981

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Health Psychology

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## Abstract

Research exploring the relationship between social supports and resilience among hospital-based nurses and teachers has offered little to illuminate how school nurses identify and access social support and the impact it may have on their ability to manage ongoing daily stressors or develop resilience. The social networks and social support model suggest that access to social support may underscore the development of effective coping. This study explored the relationship between social supports as measured by a self-report questionnaire, and resilience as measured by the Conner-Davidson Resilience Scale (CD-RISC). It was hypothesized that a positive correlation would exist between use of personal, professional, and community social support and school nurse resilience scores. Additional hypotheses were that resilience would be positively correlated with longevity, perception of funding, and professional school nurse association activity. A convenience sample of 145 certified school nurses employed in one northeastern state's public schools completed an online survey that included a behavioral questionnaire and the CD-RISC. *t* tests and correlations were employed to examine the relationship between the variables. Both collaboration with multidisciplinary team members within the school setting and identification of personal and professional social support were significantly correlated with school nurse resilience. Results may influence positive social change for the individual school nurse via an improved ability to cope with workplace stressors. The bidirectional nature of resilience suggests interaction with a resilient nurse may influence the broader school community with an impact on cost, attendance, and learning.

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## Dedication

This dissertation is dedicated to those family members, friends, colleagues and acquaintances that comprise my social network and provided social support. There were those who thought I could, and who thought I could not. You were all an inspiration, even if you didn't mean to be. And to my son, who has always been my staunchest champion and my greatest accomplishment.

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## Chapter 1: Introduction to the Study

### **Introduction**

School nurses in New Jersey and across the country have been confronted with a series of challenges as school districts seek to find ways to increase fiscal responsibility. Too often this push to find ways to accomplish more with less leads to reductions in staffing. The School Health Policies and Practices Study (Centers for Disease Control and Prevention [CDC], 2014) focused on district level provision of services. Results from the study indicated a decline in the number of school nurses employed, from 93.7% in 2000 to 79.7% in 2014 (CDC, 2014). For school nurses this is particularly problematic given that the number of students with chronic conditions such as asthma, diabetes, and food allergies has increased. More students require medication and procedures during the school day in order to remain in class and on task with learning (American Academy of Pediatrics [AAP], 2016; National Association of School Nurses [NASN], 2015).

Unlike other states where teachers or classroom aides are tasked with providing medical care, New Jersey schools limit the administration of medication to the school nurse or the parent making sufficient staffing to safely meet student health needs of paramount importance (Camera, 2016). Additionally, school nurses across the country are mandated to monitor student immunizations and conduct annual health screenings in addition to managing ongoing student health office visits for accidents and injuries (NASN, 2015). Further, 66% of school nurses provide health prevention services through individual or small group settings (Camera, 2016).

School nurses regularly serve as integral members of interdisciplinary teams such as information and referral services, Section 504 committees, and wellness committees

where their expertise is essential for developing programs that support staff and student health (NASN, 2016; Zimmerman, 2013). As a consequence of the number of roles the school nurse plays, the challenge to meet all the expectations and demands can become overwhelming, resulting in the potential for burnout and attrition (Markowitz & Senn, 2016).

Nationally, 37.9% of elementary schools, 47.5% of middle schools, and 58.1% of high schools comply with the recommendation for school nurse staffing (CDC, 2014). Although 37 states failed to meet minimum standards of staffing one nurse per 750 well students, New Jersey schools rank among the top third in the nation with approximately 674 students per school nurse (NASN, 2009). However these numbers provide only a starting point and do not adequately account for students with medical needs where minimum staffing ratios are significantly lower (NASN, 2015). Nationally, only 33.7% of school districts require employment of a full-time school nurse (CDC, 2014). While New Jersey has a robust number of full- and part-time school nurses, school districts are only required to employ one full-time nurse per school district (Markowitz & Senn, 2016).

Dividing school nurse workload between school buildings, or across districts, leaves students vulnerable during the times when the nurse is not on location. Similarly, the use of health office assistants or noncertified nurses only marginally reduces the strain on the school nurse who must then supervise and monitor the work of the subordinate in addition to performing their own duties (Markowitz & Senn, 2016). This intensification of job demands, in conjunction with understaffing, has been shown to lead to negative health outcomes, such as individual burnout, which is detrimental not just for the individual nurse but for the school system as a whole (Markowitz & Senn, 2016;

Schelvis, Zwetsloot, Bos, & Wiezer, 2014). The functioning of the classroom depends in large part on the health and well-being of the teacher and the students; districts that employ full-time school nurses have improved attendance, graduation rates, and test scores (Davis & Komara, 2017). Yet funding for New Jersey schools has continued to threaten school nurse positions and school nurse health (Rizzo, 2017; Smith, 2016). Improved understanding of how school nurse practices are influenced by state and district mandates, as well the identification of individual and institutional measures employed to cope with work-related stressors among school nurses, is necessary to effect positive social change that may influence the maintenance and promotion of healthy schools, healthy school nurses, and healthy students.

The remaining sections of this chapter will introduce the background of the topic and present a clearly defined problem statement. The research purpose will be identified along with the research question and the directional and null hypotheses. Next, the theoretical framework, which forms the foundation of the study, is discussed relative to the study variables, followed by an overview of the nature of the study. Salient definitions, research assumptions, delimitations and limitations are identified. The chapter concludes with a discussion of the significance of the study and an overview of the organization of the remaining chapters.

### **Background of the Study**

A study undertaken by Dean (2012) explored the relationship between work-related stressors and the incidence of burnout, noting that resilience underscored effective coping and positively impacted patient care. Further, the author noted that stressors identified by nurses were often unacknowledged by others unfamiliar with the nurse's

role, suggesting a role for peer supports. Lanz (2015) advanced this argument noting that resilience was a moderating factor for job related stressors and influenced burnout. These findings were consistent with those of Hart, Brannan, and De Chesnay (2014), who noted the bidirectional influence of resilience on quality of life, overall health, and adaptive coping.

For the hospital-based nurse, access to nurse peers may serve as a buffer for work-related stressors reducing individual nurse experience of burnout. What remains unclear is how this information may relate to nurses employed outside of the hospital setting, in particular, those within the school setting and this supports a need for further exploration of resilience among school nurses.

Challenges and work-related stressors experienced by school nurses might differ from those of the hospital-based nurse. Markowitz and Senn (2016) reported on the complex health needs of students in New Jersey schools, noting that of 2,522 public and charter schools, only 2,056 have full-time nurses. In addition to understaffing, direct care responsibilities, emergencies, exposure to trauma, and unpredictable workflows are among sources of stress for school nurses. A 2014 study of public school funding in New Jersey identified 32 “deeply inadequately funded” school districts noting school nurse responsibility for 21% more students than in adequately funded districts (Weber, 2014). This speaks directly to staffing and workload, suggesting that school nurses employed within districts with insufficient funding might experience more work-related stressors and be at greater risk for burnout than peers employed in districts with sufficient resources.



The development of resilience is seen as a necessary protective factor for burnout. Turner and Kaylor (2015) proposed a conceptual framework to measure nurse resilience, noting that the individual nurse constitutes the system. Sociocultural factors, specifically social supports, are strongly connected to resilience and constitute a secondary level of intervention. These findings were supported by Greenfield (2015), who noted that support might be derived from colleagues, leadership, or family. Collaboration with peers via mentoring of new nurses and nursing students may be one way to influence resilience development (Mc Cabe, 2016). This information suggests the need for increased understanding regarding the source of social supports for school nurses and provides the foundation for the study.

With an interest in exploring factors related to nurse burnout and resilience, Hylton-Rushton, Batcheller, Schroeder, and Donohue (2015) conducted a cross-sectional survey of hospital-based nurses assigned to high-intensity units. Results suggested resilience was protective for burnout, and higher levels of resilience were associated with decreased stress. The authors noted a need for future study in other health care cultures to support their results. The subspecialty of school nursing is an ideal culture to explore, given the varied work environment and autonomous practice.

This section presents a brief review of the literature related to workplace stressors and the role of resilience in the development of effective coping and reduced burnout for hospital-based nurses. Stressors encountered by nurses employed in venues outside the hospital setting may differ in type and intensity. The following section provides a background related to school nurses and concludes with a statement of the gap in the literature.

## **Problem Statement**

The United States Bureau of Labor Statistics (2014) noted that registered nurse positions are expected to increase 16.2% by 2024, yet school districts seeking to control expenses often look to consolidate or reduce school nurse positions (Camera, 2016; Smith, 2016; Weber, 2014). According to the NASN (2016), approximately 2.1% of registered nurses are employed in the subspecialty of school nursing. New Jersey is one of seven states that requires advanced certification beyond the bachelor's level in addition to holding valid registered nurse license and current CPR training (New Jersey State School Nurses Association [NJSSNA], 2016). As with other school employees, school nurse positions are funded by local boards of education and special education funds that directly influence the provision of personnel and material resources. Unlike hospital-based nursing, the practice of school nursing differs distinctly, in that it is primarily an independent and autonomous practice that blends public health nursing, healthcare, and education (NASN, 2016).

An initial review of the literature reveals that personal and professional social supports are foundational to overcoming stressors such as high workload, lack of resources, and physical and emotional exhaustion among hospital-based nurses (Hart et al., 2014), while for teachers, the overall attitudes of staff influence individual teacher resilience positively and negatively (Gibbs & Miller, 2014). Further, both teachers and hospital-based nurses provided access to supportive peers were better at managing emotions and/or stressors than those without access (Greenfield, 2015; Mc Allister & Mc Kinnon, 2009). They also experienced reduced levels of absenteeism (Gibbs & Miller, 2014; Hart et al., 2014). Unlike hospital-based peers or teachers, the school nurse

practices independently and often in isolation within the school setting. Research specific to school nurse resilience is scarce; however, a qualitative study conducted in the wake of multiple natural disasters suggests a role for preparedness and community commitment (Broussard & Myers, 2010).

Therefore, the problem, or gap in the literature, is that while the importance of social support for teachers and hospital-based nurses, and in a limited way for school nurses coping with natural disasters is known, there is a lack of information about how school nurses identify and access social support and the impact this may have on their ability to manage ongoing daily stressors or develop resilience. Given the burden of responsibility on school nurses, and the limited access to peer support, there is a need for research illuminating the influence of social support. The following section will discuss the purpose of the study.

### **Purpose of the Study**

The purpose of this quantitative study was to describe the relationship between social support and resilience among school nurses employed in a cross-section of New Jersey public school systems. In particular, there is a need to know more about the specific experiences of school nurses, whose job description and role position them as health care experts within the education setting, but under limited access to collaboration and support from nurse peers. Specifically, this study evaluated the relationship between the moderating variables of school nurses' self-reported access to, and use of, social support and resilience scores to quantify and understand the relationship. Access to and use of social support was divided into personal, professional, and community support systems, both within the school setting and

outside of work hours. This distinction is important to understand as support may be accessed across multiple levels and venues.

This section presents the purpose of the study and introduces the variables the study sought to correlate. The following section will present the research questions and associated null and directional hypothesis.

### **Research Question and Hypotheses**

The study was driven by four quantitative research questions and associated hypotheses. Quantitative research questions seek to understand the relationship between the variables being studied (Creswell, 2009). Further, quantitative query is frequently employed in survey research. Chapter 3 will present a more detailed discussion regarding the nature of the study.

**RQ<sub>1</sub>:** What is the relationship between resilience as assessed by the Connor – Davidson Resilience Scale ([CD-RISC], Connor & Davidson, 2003) and school nurse self-reported use of personal, professional, and community social support?

**H<sub>0</sub>:** There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported use of personal, professional, and community social supports

**H<sub>1</sub>:** There is a positive correlation between social support and resilience such that school nurses who report greater use of personal, professional, and community social supports score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ<sub>2</sub>: What is the relationship between longevity as a school nurse as measured by self-reported demographics and resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

*H<sub>0</sub>*: There is no relationship between school nurse self-reported longevity and resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

*H<sub>1</sub>*: There is a positive correlation between longevity and resilience such that school nurses who report greater longevity score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ<sub>3</sub>: What is the relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and professional school nurse association level of activity as measured by self-reported demographics.

*H<sub>0</sub>*: There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and self-reported professional school nurse association level of activity.

*H<sub>1</sub>*: There is a positive correlation between professional membership and resilience such that school nurses who report greater level of activity in professional school nurse association score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ<sub>4</sub>: What is the relationship between resilience as assessed by the CD-RISC

(Connor & Davidson, 2003) and school nurse perception of district funding as measured by self-reported demographics?

*H<sub>0</sub>*: There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse perception of district funding.

*H<sub>1</sub>*: There is a positive correlation between school nurse perception of district funding and resilience such that school nurses who report perception of adequate district funding score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

This section introduces the research questions that drove the study. Both null and directional hypotheses were presented. What follows is a discussion of the conceptual framework that supports the research questions.

### **Theoretical Framework**

In conceptualizing a theoretical perspective for the study, both the health belief model (Glanz, Rimer, & Viswanath, 2008) and social networks and social support model (Glanz et al., 2008) were relevant. The health belief model is predicated on the notion that decisions related to behavioral change are influenced by the perception of personal risk, perceived benefits and barriers, readiness to act, and self-efficacy (Glanz et al., 2008). Thus, the use of the health belief model would predict that school nurses cognizant of their psychological perception of a response to work-related stressors might be more likely to participate in wellness-related activities and programs that promote social interaction. Indeed, support for this model can be found in health

intervention studies related to cancer screening, risky health behaviors, and benefits of reminder cards or cues to action (Glanz et al., 2008).

The social networks and social support model predicts that reciprocal interactions with others provides emotional, instrumental, informational, and appraisal support (Glanz et al., 2008). Thus, collaboration with nurse and non-nurse colleagues may positively impact physical, mental, and social health via the provision of empathy, service, advice, and information (Glanz et al., 2008) It is this model upon which the study is grounded.

Social networks are the sources from which social support are derived. They can be evaluated across the characteristics of density or how well the members know each other; homogeneity or how demographically similar members are; geographic dispersion or proximity of members; and directionality or the measure of shared or equal power between members providing or receiving support (Glanz et al., 2008).

Social networks can also be evaluated based upon the characteristics of the relationship, such as reciprocity or bidirectional influence; intensity or the level of emotional closeness; complexity or the number of functions the network provides; and formality or the organizational structure of the relationship such as what might be provided through mentoring or professional membership (Glanz et al., 2008).

The use of the social networks and social support model in research has been common practice as far back as 1992 (Glanz et al., 2008). Research employing the model suggests that social support is foundational to the development of effective stress management and coping skills (Acton & Glasgow, 2015; Ponce et al., 2008; Richmond, Pampel, Wood, & Nunes, 2015). As applied to this study, the conceptual framework, or

model, suggests the variable of social support might impact or explain the variable of resilience. School nurses afforded the opportunity for engagement in social networks or access to social support from personal and professional sources may perceive an enhanced ability to cope effectively with, and overcome, workplace stressors.

This section introduces the conceptual model that was used to explain the relationship between variables in the study. A more detailed explanation is provided in Chapter 2. What follows is a discussion regarding the nature of the study.

### **Nature of the Study**

This quantitative research made use of a *quasi-experimental* correlational design. The term quasi-experimental refers to those studies in which the researcher is unable to randomize participants or manipulate variables. These studies employ statistical analysis to mimic the strength of the experimental posttest-only control group design (Frankfort-Nachmias, Nachmias, & De Waard, 2015). Correlational design is frequently combined with survey methods within social science research (Frankfort-Nachmias et al., 2015). In the correlational design, the researcher has an interest in answering questions regarding the relationship between two or more naturally occurring variables. The variables are not influenced or manipulated by the researcher but simply measured to identify the influence the variables have on each other. This type of research does not support statements of causation.

This design was an appropriate choice for the study in that a survey method was used. Further, school nurse participants are, by profession, members of an established group and no treatment or intervention was planned. Finally, this design allowed for the



exploration of relationship between the variables of social support and resilience, and results were used to respond to the research question and hypotheses.

The key variables in the study were both moderating variables. The goal of the study was to examine the relationship between the variables of social support and resilience among school nurses. The variable of social support was measured by self-reported use of personal, professional, and community social supports. These included those available within and outside of the school setting. The variable of resilience was measured by school nurse participant scores on the CD-RISC (Connor & Davidson, 2003).

An internet-based quantitative survey was used to solicit responses from school nurse participants employed in the New Jersey school districts of interest. The preceding discussion introduced the nature of the study. Specifics of the methodology are addressed in Chapter 3. The following section defines terms used in the study to ensure clarity.

### **Definition of Terms**

Within the study, the following terms were operationally defined as follows:

*Deeply inadequately underfunded New Jersey school districts* were defined as those districts in which funding is more than 20% less than the adequacy target levels as established by the School Funding Reform Act (Weber, 2014).

*Adequately funded New Jersey school districts* were defined as those districts in which funding is below target level by no more than 20% as established by the School Funding Reform Act (Weber, 2014).

*Well funded New Jersey school districts* were defined as those districts in which funding is at or above the adequacy target levels established by the School Funding Reform Act (Weber, 2014).

*Longevity* (2018) can be defined as length of time a position is held. For the purposes of the study it will refer to years of experience as a school nurse.

*Professional School Nurses' Association Membership* refers to membership in county, or state/national level school nurse associations meeting the employment and education criteria set forth by NJSSNA (2018).

*Resilience* is “a collection of dynamic interactions between four broad constructs: thoughts, relationships, actions, and challenges” (Greenfield, 2015, p. 52). Additional definitions suggest that resilience is an ability to “bounce back” or regain equilibrium following adversity (Turner, 2014) and involves behaviors, thoughts, and actions that can be learned or cultivated (American Psychological Association, 2017).

*School nurses* are the population of interest but the term is used loosely in common language to refer to anyone providing health care within the school setting regardless of educational background or qualification. For the purpose of this study the term school nurse was defined as individuals licensed as registered professional nurses, who have obtained a bachelors degree and hold state school nurse certification that are employed full-time by a public school district (NASN, 2016).

*Social support* refers to the function of social networks and the provision of emotional, instrumental, informational, and appraisal feedback intended to be helpful or of use to the recipient (Glanz et al., 2008). While social networks refer to the sources of support that may be personal or professional and include, colleagues, professional

organizations, family, or friends (Papatraianou & Le Cornu, 2014). For the purpose of this study, social support will refer to helpful feedback received from personal, professional and community sources within and outside of the school setting.

This section clarified the definitions in use for terms in the remainder of the dissertation. The following sections present a discussion regarding assumptions, scope and delimitations, and limitations imposed by the researcher.

### **Assumptions**

In developing this quantitative study, the assumption was that the collected survey data would represent accurate, honest, and complete responses from actual school nurse participants currently employed in school districts identified as within the area of interest. This was a necessary assumption given that the population of interest was school nurses and it would be fruitless to collect data from an alternate population. An additional assumption was that the chosen instrument was an adequate assessment of the study variables. Instrument validity was assessed based upon evidence from other studies.

### **Scope and Delimitations**

The aspects of the research problem addressed in the study include how school nurses identify and access social support. This focus was chosen to illuminate the impact it may have on school nurse ability to manage stressors or develop and sustain resilience. The boundary or delimitation introduced by the researcher for the purposes of sampling convenience includes narrowing the data collection to school nurse participants employed in a cross-section of New Jersey public school districts. While this delimitation was expected to influence generalizability to school nurses across the state of New Jersey, participant bias and both state- and school-district-imposed variables (e.g., staffing,

routines, and health mandates) may have impacted outcomes. Further, generalizability to school nurses in other states may be limited.

### **Limitations**

There were several limitations associated with the study. The first was the potential respondent bias associated with the use of self-report survey questionnaires. There was the potential for participant bias given that I am a school nurse. To address this limitation, the sample excluded school nurses known to the researcher. Another was the potential for limited generalizability of results to other populations. Access to the survey instrument was limited to school nurses employed in the districts of interest, so there was little concern regarding the representativeness of the target population. However, it is possible that demographic differences may impact the usefulness of the results to school nurse populations in other districts or states.

Temporal validity may present an additional limitation as tasks and stressors associated with health office routines vary across the school year. School nurse responsibilities such as student registration, grade-level- specific immunizations, and state- and district-mandated screenings might influence participant responses. To address this concern, survey responses were collected congruently from all participants.

The choice of correlational design limits the researcher's ability to make statements regarding causation related to the variables of resilience and social supports. This section presents a discussion about the assumptions, delimitations, and limitations of the study. The following section presents the significance of the study, specifically as it relates to positive social change.

### **Significance of Study**

The intention of this study was to understand the influence of social support on the development of resilience in and among school nurses. The study was unique in its focus on school nurses who, while members of both education and medical/nursing communities (Wolfe, 2013), have limited access to nurse peer support within the school setting. The potential for positive social change extends beyond that of the individual school nurse to include students and teaching staff as well as the broader school community.

Unlike teachers or hospital-based nurses, school nurses are often the only health care provider in the school setting, and daily workload may limit collaboration or interaction with peers (Camera, 2016; NASN, 2015). According to Dean (2012), healthcare workers are three times more likely to suffer from stress, depression and anxiety, suggesting the need for measures to improve health outcomes. Results from the study may support development of initiatives that directly address the physical and mental health concerns of the individual school nurse and indirectly influence the well-being of students and staff.

The AAP (2016) noted that 95% of students seen by the school nurse are returned to the classroom as opposed to being sent home. School nurse presence affords teachers increased time on academic tasks as opposed to managing health issues, while students benefit from increased opportunity for learning. Beyond meeting student health needs, the overall wellness of teachers and school staff is directly influenced by the availability of school resources such as the school nurse (Zinsser, Christansen, & Torres, 2016). Improved understanding of how to support school nurse resilience is

salient to promoting health and positive academic outcomes for students and teachers alike (Cox, Solomon, & Parris, 2018; Zinsser et al., 2016).

The presence of a school nurse results in reduced costs related to preventable student illness as a result of health promotion, education, and health screenings (AAP, 2016). In the absence of a school nurse, the overall healthcare system is affected by an increase in avoidable visits. Parents and families risk loss of time from work and potential income when students remain at home to manage chronic or preventable health issues (Wang et al., 2014)

While the burden of stress placed upon school nurses and the value of a school nurse in supporting teacher efficacy and student academic success is known (AAP, 2016; Camera, 2016; Dean, 2012; NASN, 2015; Zinsser et al., 2016), there is a lack of information regarding the relationship between school nurse access and use of social support and the development or maintenance of resilience. Insights from the study might effect positive social change by influencing decision making at the institutional level specific to school nurse staffing.

School districts might use the results to inform policy that promotes school nurse mentoring and collaboration within the school setting with a focus on impacting productivity, absenteeism, attrition, and health care costs. Enhanced understanding of the role of social supports on resilience among school nurses may also be salient to improved self-efficacy, attendance, and health outcomes (Hart et al., 2014) for the individual school nurse. Teachers and students might benefit from increased systemic support and opportunity for social-emotional learning provided by the school nurse. Results from the study may be of interest to multiple stakeholders, such as parents,

teachers, school and district administrators, local health organizations, and professional school nurse associations.

This section presented a discussion of the significance and potential for positive social change of the study. The subsequent section provides a summary of the chapter and an overview of the organization of the dissertation.

### **Summary**

The practice of school nursing is a unique subspecialty that differs from that of the hospital-based nurse with regard to scope of practice, autonomy, and access to peer support. Although employed within the educational system, the primary responsibility of the school nurse is the provision of health care as opposed to teaching. This distinction in job description and professional responsibilities limits school nurse inclusion in private learning communities and common planning activities during which teaching staff has opportunity for collaboration and support. The study sought to evaluate the relationship between access to and use of social support and resilience scores among school nurses.

Chapter 1 provided an introduction to the research problem for this quantitative study and a brief exploration of established research that grounds the problem. Following the problem statement, the purpose of the research along with research questions was presented and the theoretical framework was introduced. The chapter concluded with a discussion of the nature of the study, definitions of salient terms as they apply to the study, assumptions, scope, delimitations, limitations and potential for positive social change.

Chapter 2 offers a review of the literature related to the concepts of social support, and resilience for teachers, hospital-based nurses, and school nurses. The chapter begins

with a description of social networks and social support theory, which is the theoretical framework for the study. Additionally, resilience development is discussed. The remainder of the chapter analyzes and synthesizes the extant literature to provide a deeper understanding of the topic as it influences the study.

Chapter 3 presents an in depth discussion of the methodology for the study. The results of the study are presented in detail in Chapter 4. Insights gained from the analysis are explored in Chapter 5 along with an interpretation of the findings in relationship to the literature review, conclusions, limitations of the study, and recommendations for future research.



## Chapter 2: Literature Review

### **Introduction**

The purpose of the study was to describe the relationship between social support and resilience among school nurses. There is a need to know more regarding the specific daily experiences of school nurses, whose job role positions them as healthcare experts within the education setting, but under limited access to collaboration and support from nurse peers. While the importance of social support for teachers and hospital-based nurses is known, there is a lack of knowledge about how school nurses identify and access social support. Nor is it yet clear how social support may influence school nurses' ability to manage daily work-related stressors or to develop resilience.

The relevance of the relationship between social support and resilience to work-related stressors and burnout is well established in the literature. Hospital-based nurses who scored higher on resilience scales were shown to employ more effective coping strategies, suggesting that resilience moderates work-related stressors (Dean, 2012; Lanz, 2015). Moderating stress and improving coping skills are important, not only to reduce school nurse burnout, and personal health outcomes, but also to improve the quality of care provided to staff and students. Research suggests that although social support may be derived from a variety of sources, for teachers and hospital-based nurses peer support was of paramount importance in reducing burnout and absenteeism (Gibbs & Miller, 2014; Greenfield, 2015). Recent trends indicate that increasingly complex student health needs and understaffing contribute to school nurse stress in the workplace (Markowitz & Senn, 2016), yet there is a lack of information on the development of resilience, specifically through access to social support. To address this gap, survey

responses from school nurse participants were examined to evaluate the relationship between school nurse self-reported access to and use of social support and resilience scores in order to quantify and understand the relationship.

The remainder of this chapter will introduce the literature search strategy, explore the theory that guides the study, and present a review of the current literature related to resilience and social supports for teachers, hospital-based nurses, and school nurses. The chapter concludes with a summary of major themes in the extant literature and their relationship to the study.

### **Literature Search Strategy**

The purpose of the study was to examine the relationship between social support and resilience among school nurses, yet there is little current research related specifically to the role of the school nurse. To address this issue, the focus of the literature review was expanded to include those studies conducted with teacher and hospital-based nurse participants.

The literature review was conducted via the following databases: Thoreau Multiple database search; EBSCO Host; Pro Quest; Google Scholar; Education--SAGE; PsycINFO, and PsycARTICLES. The search terms, alone and in combinations, were as follows: teacher, resilience, teacher motivation, well-being, self-efficacy, job satisfaction, stress, burnout, attrition, nurse, school, and school nurse.

The scope of the search strategy was primarily limited to peer-reviewed articles published in the last 5 years. Salient seminal works, newspaper articles, professional position statements, and government statistics were also used to support the study.

## Theoretical Foundation

The study was rooted in the theoretical framework of social networks and social support that suggest collaboration with nurse and non-nurse colleagues may positively impact physical, mental, and social health (Glanz et al., 2008). Terms such as *social networks* and *social support* are often used interchangeably within the current body of research but are rooted in Bowlby's early work on attachment theory as well as Barnes and Bolts's work on social networks (as cited in Berkman, 2004). More recently, health psychology research focused on the qualitative aspects of social relationships as factors that are foundational to the development of effective stress management and coping skills (Acton & Glasgow, 2015; Ponce et al., 2008; Richmond et al., 2015).

Rosenfeld and Richman (1997) presented early social support literature offering a conceptualization regarding the elements and facets of effective support systems. The authors identified salient elements of support systems indicating they must be tangible, informational, and emotional. This suggests that effective social support is provided in and through pathways that offer physical support such as shared resources; clarification such as through education and/or mentoring; and empathy. In addition to these identified elements, support can be viewed along seven distinct facets: listening, emotional, tangible assistance, task appreciation, reality confirmation, emotional challenge, and task challenge (Rosenfeld & Richman, 1997). The provision of listening support is akin to non-judgmental acceptance. The individual feels heard and understood. Emotional support is evident when the individual senses the other has a shared perspective or the ability to empathize with them. Tangible assistance may present as providing a helping hand or sharing material resources. Task appreciation suggests that one's "efforts or work

are recognized and acknowledged” (Rosenfeld & Richman, 1997, p. 135). Reality confirmation is present when others are in agreement with your perception of a situation or worldview. Emotional and task challenge are similar in that there is outside pressure to “alter attitudes, values, and feelings related to the perception of a situation or activity”(Rosenfeld & Richman, 1997, p. 136).

Papatraianou and Le Cornu (2014) expanded upon the work of Rosenfeld and Richman (1997). The authors argued that the type of support given and received was more salient than the source of support. A secondary analysis of data from two qualitative studies was employed. Participants were 87 female and 14 male early career teachers from South Australia and Western Australia school systems. The authors’ purpose was to challenge the notion that teacher support originated from a single entity such as personal or professional sources.

Controlling for gender, age, level of school, location of school, and type of employment, Papatraianou and Le Cornu (2014) noted both personal and professional sources of social support were identified across all facets proposed by Rosenfeld and Richman. While informal support derived from contact with colleagues, leaders, and support staff within the school setting was consistent with established mentoring and professional development practices for educators, themes related to support derived from students, parents of students, and social networks were equally represented. This evidence of support from less anticipated sources suggests the need for informal opportunities for staff interaction perhaps through home-school or community initiatives. Further, social support via Internet based social networking was also perceived as beneficial. Given that a collaborative school culture supports teacher resilience there is a

need to understand if this is generalizable to other school staff members, specifically school nurses.

Van Breda (2011) drew on social systems theory to suggest that the workplace might be construed as a social system and as such contributes to the development of resilience and employee health. The author proposed a preliminary model in which the resilience of the individual or the system as a whole is predicated upon balance between the risk of workplace demands and protective resources such as support networks. Specific to the school nurse, the workplace is the school and the health office within the school. Given the bidirectional nature of social support (Glanz et al., 2008), school nurse resilience likely influences and is influenced by the school climate and culture (Van Breda, 2011). This supports the notion that increased understanding regarding school nurse resilience is of social benefit beyond the individual nurse. It also suggests that the ways in which the school nurse identifies and accesses social support may extend beyond nurse peers to include the larger school community.

Strong social networks were identified as a core area of the resiliency framework posited by Schmidt and Nourse (2016). The authors argued that network breadth and depth underscore the ability to maintain and sustain emotional balance when faced with work-induced stressors. Breadth is operationalized as the number of contacts an individual has and includes colleagues and professional association memberships within and outside of the work environment (Schmidt & Nourse, 2016). Depth refers to how well the individual knows the source of support or the strength of the relationship specifically with regard to seeking assistance (Schmidt & Nourse, 2016). For school nurses, network breadth may be limited by the lack of school nurse peers within the work

setting suggesting a need for connection and collaboration with school nurses via professional memberships both in person at meetings and workshops as well as through access to members only Internet based blogs and webinars. Improving network depth appears to require familiarity and trust between individuals within the network. For school nurses, this suggests the need for a professional commitment to build and sustain supportive relationships with school nurse colleagues.

As the selected theory for the research, social networks and social support (Glanz et al., 2008) and the resiliency framework (Schmidt & Nourse, 2016) were relevant lenses through which to explore how school nurses identify and access support and the impact that may have on resilience. Both relate to the research questions that seek to understand the relationship between resilience and the use of personal, professional, and community social support among school nurses. The answers to these questions are expected to illuminate the role of social support for school nurses and expand our understanding of the use of social support by school employees. Congruence between the results from research on resilience in teachers and results from this study on school nurses might suggest that institutional level intervention such as common planning, private learning communities, mentoring, and professional development would be of value to reducing school nurse burnout and attrition. Identifying the breadth of school nurse social support, i.e., professional membership (Schmidt & Nourse, 2016) might lead district, state, and national stakeholders to encourage and fund professional membership and mentoring for school nurses.

This section explored the theory of social networks and social support and provided an overview of the tenets of the theory. A critical exploration of the theory

among teachers was offered along with commentary regarding application to the study on the relationship between school nurse use of social support and resilience. The following section presents a review of the current literature related to resilience and social support for teachers, hospital-based nurses, and school nurses.

### **Literature Review**

The previous section presented an argument supporting the use of social networks and social support as the theoretical lens through which the study will make sense of the existing literature. In view of the fact that school nurses practice within the educational setting, studies related to the development of resilience and use of social support among teachers and within school systems are explored next. The review then turns to studies related to the development of resilience and the use of social support among nurses employed within the traditional hospital setting. The literature review concludes with a report of research specific to the development of resilience and use of social support within the school nurse population.

### **Teachers and Resilience/Social Supports**

Teachers, like school nurses, are employed by school districts and work in school settings. Most often there are multiple classroom teachers assigned to the same grade, and grade levels are coordinated by age such as elementary schools, middle or junior high schools, and secondary or senior high schools. This practice offers decided advantages to the teacher in that there are inherent support systems in place, and they are easily accessed during the school day. However, the experience of the teacher differs dramatically from that of the school nurse who is more likely to be the only healthcare professional assigned to the school building and who therefore lacks immediate access to

peer support from another school nurse (Markowitz & Senn, 2016). To better understand the role of social support for school nurses, it is important to first understand how their teacher colleagues identify and access social support and their relationship to resilience. To that end, what follows is a review of the literature salient to resilience and social support among teachers.

Gu (2014) hypothesized that teachers who perceived relationships with school leaders and colleagues as supportive would be more effective in the classroom as measured by student performance scores. To test this theory, the variable of teacher resilience as related to attrition rates and student performance were explored in a three-year longitudinal study that measured teacher effectiveness through the collection of survey performance data. Twice yearly semistructured, face-to-face interviews were conducted to collect qualitative data related to relational resilience.

Participants in the study (Gu, 2014) included 300 teachers from 100 schools in England. Half were employed in 75 primary schools and the other 150 teachers taught in 25 secondary schools. Results were statistically significant ( $\chi^2 = 7.155$ ,  $df = 1$ ,  $p < .01$ ) with teacher attrition and reduced work performance attributed to weak leadership support for 52.5% of respondents as opposed to increased commitment, morale, and motivation attributed to strong leadership, support, and recognition for 74% of respondents (Gu, 2014). The author noted that teacher resilience appears to be a dynamic process influenced by workplace demands. In addition to relationships with leaders, supportive and collaborative relationships with colleagues were also positively associated with increased work performance and were statistically significant ( $\chi^2 = 10.90$ ,  $df = 1$ ,  $p <$



.01) with 91% of respondents reporting support compared to 71% who reported a lack of support (Gu, 2014).

In light of the findings, Gu (2014) argued that teacher resilience was both context and role specific and was influenced by supportive relationships with colleagues in the workplace. Further, teacher resilience was not an innate trait but one that could be developed and nurtured within supportive and collaborative relationships. Within the study, resilient teachers exhibited greater vocational commitment as evidenced by an interest in lifelong learning and willingness for personal growth than less resilient peers (Gu, 2014).

This information is important in that relational resilience appears to support the development of professional commitment and motivation especially when environmental factors are unpredictable or beyond teacher control (Gu, 2014). Although this study was conducted among teacher participants in England, the results may be salient for teachers, and school nurses, in other English speaking countries. While the evidence suggests that fostering relational resilience within the work environment may be foundational to supporting student achievement and decreasing teacher attrition and poor performance, the specifics of how to accomplish this need further clarification.

Building upon published resilience studies in psychology and early teacher careers, Greenfield (2015) conducted a meta-ethnography of qualitative studies to develop a deeper understanding of how resilience might be fostered and supported within the school setting. Teacher resilience was operationalized as a balance between thoughts and actions. Of the six studies that met the researcher inclusion criteria, three were conducted in Australia, two in the United States of America, and one in England. Both

primary and secondary early career and experienced teachers were represented. Emergent themes from the study supported the notion proposed by Gu (2014) that supportive relationships are instrumental in affording teachers opportunities to explore solutions to professional challenges and confidently take action to resolve them. It appears that social support, particularly strong leadership, assists teachers with the development of positive self-esteem and self-efficacy that enables them to implement effective coping strategies.

According to Greenfield (2015), simply knowing that a network of support and collaboration exists both protects and fosters teacher resilience. For teachers, this network of support is inherent and easily accessed within the organizational structure of the school setting. Mentoring relationships, collaboration during common planning sessions with teacher colleagues, and individual conferences with school leaders offer opportunities for teachers to make sense of problems and formulate appropriate reactions/actions. Beyond identifying the value teachers derive from accessing professional support systems within the workplace, personal relationships were also identified as sources of support that fostered resilience (Greenfield, 2015; Papatraianou & Le Cornu, 2014) and served to highlight the importance of establishing a work-life balance and strong personal supports. The notion being that personal supports influence resilience by providing a distraction from work stressors and allowing opportunity for venting about work-related frustrations.

Using data from previously published qualitative studies, Papatraianou and Le Cornu (2014) explored the use of informal social support among 77 early career teachers in South and Western Australia. The authors hypothesized that informal sources of support were of equal value to professional sources with regard to developing resilience among early career teachers. Several types of support were identified including:

emotional, listening, tangible assistance, task appreciation, reality confirmation, and emotional and task challenge (Papatraianou & Le Cornu, 2014; Rosenfeld & Richman, 1997). The authors controlled for gender, age, grade level of school setting, type of employment and location of school to determine sources of informal support for teachers. Papatraianou and Le Cornu (2014) reported that social interactions, both within and outside of the work environment, were related to resilience development while lack of support was related to feelings of isolation. Further, evidence for each type of support was identified across professional and personal categories including support derived from unexpected sources such as students, parents of students, and Internet based social platforms. This information supported the value of both formal and informal support and advanced understanding that the type of support provided may be of greater value than the source of the support. As applied to the current study, this suggests that while there is evidence that teachers derive support from individual interactions within the work setting there is a need for exploration of social support at the institutional or systems level.

A secondary analysis of data from the Netherlands Working Conditions Survey 2010 (Koppes, De Vroome, Mol, Janssen, & Van den Bossche, 2011) indicated that increased educational demands coupled with decreased financing had a negative impact on teacher health resulting in increased burnout (17% of teachers as opposed to 13% of other workers) and the potential for a shortage of teachers due to attrition. Building upon earlier studies, Schelvis et al. (2014) reported on resilience as a social system within the school setting. The authors posited that resilience was an interpersonal asset that could be proactively fostered within the school systems of the Netherlands to address challenges faced by educators.

Schelvis et al. (2014) identified four pillars of resilience that cross the individual, team, and organizational level: the ability to anticipate and prepare, the ability to monitor, the ability to respond and recover, and the ability to learn and adapt. Within the professional setting, the ability to anticipate and prepare requires self-reflection and evaluation to identify trends and skills that might need to be learned. Skills deficits might be addressed through individual professional development or through organizational trainings. The ability to monitor is similar to the ability to anticipate and prepare but at the institutional level this speaks directly to the appropriation of resources to address training. The ability to respond and recover addresses the effective use of professional development to build skills and the use of team leaders, or those teachers who possess the needed skills, as facilitators or expert resources and support for teachers who have yet to build the necessary skills. The ability to learn and adapt suggests a dynamic quality to the system across all levels with ongoing evaluation. Resilience at the individual level requires an honest assessment of personal strengths and weaknesses and the courage to take reparative action. Resilience at the institutional or systems level requires an awareness of trends, identification of needs, and development of a responsive culture to continuously monitor and evaluate challenges and successes. These capabilities are seen as essential to develop and maintain resilience in the face of ever changing and challenging workplace environs.

It is already clear that teacher training and professional development along with supervisory support have a role as effective interventions for improving school climate and fostering resilience (Gibbs & Miller, 2014; Greenfield, 2015). Meanwhile, a lack of peer supports or a weak school climate was associated with poor morale, reduced

motivation, isolation, and ineffective coping for teachers (Papatraianou & Le Cornu, 2014; Van Breda, 2011). Gibbs and Miller (2014) reported on consultation as an example of how a social support intervention may enhance resilience. Recognition and validation of teacher perceptions of classroom and work-related stressors; assistance with reflection or evaluation of practice; and formulation of actions to revise practice were benefits of consultation. However more information is needed regarding the influence of school culture on teacher resilience.

Gibbs and Miller (2014) operationalized “staffroom culture” (p. 612) as the collective attitudes and beliefs of the school staff that have an influence on teacher resilience. Drawing on research published in the both the United States and the United Kingdom, staffroom culture was identified as influencing teachers’ self-assessment suggesting a role for social support in the development of self-efficacy beliefs and overall resilience. The authors posited that teachers who held higher efficacy beliefs in relationship to the development of effective classroom management would be better able to manage behavior issues. Ideally, the support from colleagues enhances self-efficacy but what happens if the prevailing school culture is more negative than positive? If collective attitudes and beliefs influence teacher resilience than it may be just as true that negative attitudes undermine appraisal and perception of self-efficacy.

Clara (2017) defined teacher resilience as both intentional and positive action to adapt to adversity and hypothesized that resilience was related to appraisal or the meaning teachers attached to negative or challenging events. Semistructured interviews with 18 teachers employed in four public schools in Barcelona were conducted to identify the use of reappraisal to increase or build resilience. Interviews were coded to understand

cognitive reappraisal and identify the discord between emotional reactions to perceptions of student behavior. Two participants, both exhibiting symptoms of psychological distress, were used as case studies.

Outcomes from those case study interviews (Clara, 2017) indicated that for teachers in Barcelona, direct assistance from social supports, for example collaboration with more experienced, and presumably positive colleagues, was valuable in improving teacher ability to normalize and cope with challenging events. It may be that validation of experiences supported reappraisal and ultimately improved teacher well-being and retention. While this information may or may not generalize to English speaking cultures it has utility for school leaders and teacher educators as it underscores the need for and value of a supportive practicum experience and ongoing mentoring, particularly for early career teachers. Further, it serves to underscore the value of formal and informal social support derived from interaction with peers and professional learning communities within the school setting.

This section presented a review of research specific to social support and resilience among teachers. Although many of the studies (Greenfield, 2015; Gu, 2014; Papatraianou & Le Cornu, 2014) reported on the experiences of teachers in industrialized, English speaking countries outside of the United States, the challenges faced within the global educational sector are congruent with those in the United States particularly with regard to increased job demands, attrition, and negative health outcomes (Easthope & Easthope, 2000).

Despite differences in job description and role within the school setting, the research on teachers provided invaluable insight regarding workplace factors that may

influence the experience of the school nurse while also illuminating differences in access to social support. Teacher ease of access to peer support within the work setting is in direct contrast to that of the school nurse for whom there is often a lack of nurse leadership and nurse colleagues within the school setting. The non-nurse administrator lacks a nuanced understanding of the role of the school nurse that may limit their ability to effectively provide support and may create an ironic scenario in which the school nurse must educate and support the supervisor. The review of the literature in the next section will explore research on resilience and social support specific to hospital-based nurses.

### **Nurses and Resilience/Social Supports**

While teachers share a common work setting with school nurses, their roles overlap solely with regard to health education. The reverse can be said of the hospital-based nurse whose role as a healthcare provider is aligned with the school nurse in terms of health education but whose job setting is more focused on urgent and critical care as opposed to preventive care and provision of first aid. An additional difference is that the hospital-based nurse has the benefit of ready access to the entire team of peers for collaboration and support unlike the experience of the school nurse who is generally the sole healthcare provider in the school. What follows is a review of studies focused on resilience and social support specific to hospital-based nurses.

Dean (2012) reported on the relationship between work-related stressors and the incidence of burnout among 2,554 nurses who responded to a survey in the United Kingdom noting a three-fold increase in mental health issues such as stress, depression, and anxiety over non-health care workers. Reorganization of healthcare systems and low staffing levels were identified as factors that contributed to workplace stress for hospital-

based nurses. Further, the author noted that role specific stressors identified by nurses, including lack of value placed upon their work by others, were often unacknowledged by those unfamiliar with the nurses role. Fostering resilience through mentorship with a nurse supervisor was identified as an important intervention that underscored effective coping and positively impacted patient care. Additionally, informal social support provided by staff wellness programs such as exercise, weight loss, and meditation classes were essential in reducing staff absences from 5.34% to 3.2% over a 5 year period. This supports the notion that awareness and self-reflection are important underpinnings of resilience (Schelvis et al., 2014).

Pines et al. (2012) explored the correlation between stress resiliency and psychological empowerment and conflict management among baccalaureate level student nurses. Participants were 166 predominately female undergraduate nursing students enrolled in a Catholic university in the southwestern United States (Pines et al., 2012). The authors hypothesized conflict management style (accommodation, avoidance, collaboration) among nursing students would differ based upon previous experience with work-related conflict as well as across demographic variables. Findings indicated that students who scored low on self-governance with regard to work-related tasks (psychological empowerment) perceived a higher level of intrapersonal and interpersonal stress and were more likely to use avoidance strategies to manage conflict.

This information raises questions regarding long and short-term health impact, particularly burnout, for nurses who choose to avoid workplace conflict and/or to accommodate unrealistic work place demands. Conflict resolution skill development, specifically peer collaboration was observed primarily in more experienced nursing



students (Pines et al., 2012). Conflict management styles were identified as an important area of primary prevention which underscores the importance of resilience education for nurses, especially nursing students, congruent with that advised for early career teachers (Papatraianou & Le Cornu, 2014; Pines et al., 2012). The importance of these findings is that while nurses who lack confidence in their ability to manage work demands/stressors may benefit from social support or collaboration with peers, avoidance and accommodation were more common choices.

This notion that perception plays a role in resilience for nurses is aligned with that for teachers (Gibbs & Miller, 2014; Gu, 2014). Resilient thinking, defined as openness to change and an ability to readily adapt, can be cultivated through mindfulness practices (Zolli & Healy, 2012). The benefits of cultivating resilience thinking may extend beyond the individual in that beyond the positive impact of supportive relationships, negative thinking or lack of resilience may also negatively impact peers (Dean, 2012). This argument is consistent with that proposed by Gibbs and Miller (2014) regarding the potential bidirectional nature of staff culture within the school setting and supports the value of reappraisal in fostering resilience (Clara, 2017). As applied to hospital-based nurses, this suggests the perception of ability or empowerment of the individual may influence the healthcare team as a whole. Or, the possibility exists for social support to both positively and negatively influence individual resilience. The idea that workplace culture influences resilience has implications for the health and well being of the individual nurse, as well as the patient, and healthcare organization at the systems level.

To better understand the qualities of the resilient nurse, Turner (2014) conducted a review on the concept of resilience specific to nurses. Increased nurse resilience was

associated with improved personal and professional engagement and decreased posttraumatic stress disorder and burnout. According to Turner (2014), traumatic events may compromise the professional caregiver role. Implementing best practices and standard protocol in the face of adversity may require flexibility to address a lack of material or personnel resources. The author defined resilience as an ability to successfully evaluate and adapt to adversity noting the resilient nurse employs effective coping rather than ineffective coping strategies.

An example of effective coping is seeking support from colleagues and resilient mentors (Turner, 2014). Reflecting on anecdotal experience during 35yrs of practice as a hospital-based nurse and Red Cross volunteer during Gulf Coast hurricanes from 1980 to 2000, Sanders (2015) argued that nursing diagnoses related to coping and stress tolerance are indicative of impaired resilience. Resilience studies conducted in other professions and cultures suggested that nurses might benefit from the application of resilience development interventions (Sanders, 2015). Interventions that support resilience span individual, team, and institutional levels and include positive nurturing professional relationships and networks, self-care measures, and ongoing professional development. These proactive measures are thought to be integral to the development of resilience and are consistent with results from research in the field of education (Gibbs & Miller, 2014; Greenfield, 2015; Gu, 2014). Sanders (2015) argued that educating nurses regarding self-care measures was integral to the maintenance of a healthy nurse workforce. Further study is needed to quantify the characteristics of resilience within the nursing profession.

Hylton-Rushton et al., (2015) conducted a cross-sectional survey of hospital-based nurses assigned to high intensity units, identified as pediatrics, oncology, and

critical care, with the purpose of exploring factors related to nurse burnout and resilience. They hypothesized a link between individual resilience and healthy workplace environments suggesting a systems approach similar to that proposed by Schelvis et al. (2014), who argued that for teachers, resilience was reliant upon action at the individual, team, and organizational level to access, respond, and evaluate changing needs within the organization. Increased resilience at the individual level might therefore increase overall organizational health and promote a supportive workplace environment.

Participants (Hylton-Rushton et al., 2015) were 114 hospital-based nurses assigned to 6 high-intensity units. The authors posited that resilience involves use of both internal and external strategies to reduce stress. Internal strategies were defined as ways of thinking or processing that may be supported by mindfulness (Sanders, 2015; Zolli & Healy, 2012). External strategies include development of problem-solving skills and engagement suggesting that social networks and social support underscore resilience.

Data were gathered using the 25-item CD-RISC (Connor & Davidson, 2003). Results indicated that resilience was significantly negatively correlated with emotional exhaustion ( $r(114) = -0.31, p < .01$ ) while significantly positively correlated with personal accomplishment ( $r(114) = 0.59, p < .01$ ). Resilience was protective for burnout while years of experience did not appear to influence resilience scores. These results were interesting because they contradict the notion that experience alone influences perception of workplace stress and overall resilience (Pines et al., 2012). The authors noted a need for future study in other health care cultures to support their results. The sub specialty of school nursing is an ideal culture to explore given the varied workload and autonomous practice.

More recently, Turner and Kaylor (2015) explored nurse resilience from the perspective of the Neuman Systems Model (Neuman, 1995) noting that the individual nurse constitutes the system. The dynamic quality of the system as a whole is a result of interaction between multiple variables of which sociocultural factors, specifically social support, were connected to resilience (Turner & Kaylor, 2015). The promotion of social support constitutes a secondary level of intervention, the notion being that strong peer support in the workplace fosters adaptation to stressors. Support outside of the workplace may influence self-care measures and improved coping (Turner & Kaylor, 2015). These findings were supported by Greenfield (2015) who noted that for teachers, support might be derived from colleagues, leadership or family. This information suggests the need for increased understanding regarding the source of social support for school nurses.

What seems apparent thus far is that the notion of resilience for hospital-based nurses is predicated upon both individual perception and workplace climate. As with teachers, hospital-based nurses benefit from collaboration with peers, particularly when faced with unexpected or traumatic scenarios. If resilience in teachers and hospital-based nurses is indeed bidirectional in nature, and if the “system” or culture of the workplace influences the individual, then more information is needed regarding resilience in and among school nurses and how they identify and access social support. The following section will report on what is currently known.

### **School Nurses and Resilience/Social Support**

As has been previously established, school nurses practice within the educational setting but unlike teacher peers, lack access to other health care providers for support within the workplace. Unlike hospital-based nurses, school nurses are generally the sole

member of the healthcare team. Although the role of the school nurse focuses on health maintenance and education, the increasing number of students with chronic and acute health issues in the school setting contributes to overall stress.

Markowitz and Senn (2016) reported on the complex health needs of students in New Jersey schools noting that of 2,522 public and charter schools, only 2,056 have full-time nurses. In addition to understaffing, direct care responsibilities; emergencies; exposure to trauma; and an unpredictable workflow are among the sources of school nurse stress. The authors' suggested the use of interventions that target basic health and safety measures including the recommendation for collaboration or debriefing after critical or traumatic events as a way to mitigate stress. What is not clear is with whom the school nurse would debrief. While collaboration with teachers or school staff may be of value in identifying roles and responsibilities, the responsibility for nursing functions can generally not be delegated to non-nurse staff.

Lanz (2015) noted that resilience was a moderating factor for job related stressors and influenced burnout. These findings were consistent with Hart et al., (2014) who noted the bidirectional influence of resilience on quality of life, overall health, and adaptive coping. This information supports a need for further exploration of resilience in school nurses.

Mc Cabe (2016) and Matthey (2017) reported on the character trait of grit, a synonym for resilience. The authors noted that resilience reflects a positive psychological state that is the result of persistence and motivation. Qualities of school nurse grit include stamina, motivation, and lifelong learning. These develop over the course of ones career but can be fostered in novice and student nurses though mentoring. This suggests that

school nurses may benefit from the opportunity to interact with school nurse peers, both in the workplace and through membership in professional associations, and access to online resources (Papatraianou & Le Cornu, 2014).

Broussard and Myers (2010) conducted a qualitative study that explored the experiences of five Louisiana school nurses in the aftermath of a natural disaster. Findings were congruent with the experiences of Sanders (2015) and indicated a proactive practice in which nurses were able to collaboratively anticipate community needs and resources in advance of the disaster was helpful in establishing the perception of control and reducing stress. Both personal and professional social support contributed to school nurse ability to overcome obstacles to providing care and maintaining professional practice. This information is reminiscent of that proposed by Schelvis et al. (2014) who suggested that the ability to anticipate, monitor, recover, and adapt were functions of the social support system for teachers. Broussard and Myers (2010) recommended future study on school nurse resilience in relation to other situations to improve understanding of the basic elements of resilience and the development of protective factors. The goal of this study was to do just that, exploring the relationship between social support as a protective factor on resilience among school nurses.

### **Summary and Conclusions**

The preceding sections provided a historical context for this study on the relationship between social support and resilience among school nurses. What seems evident for teachers and hospital-based nurses is that strong, supportive leadership and collaborative relationships with colleagues serve to foster resilience and enhance productivity (Gu, 2014; Zolli & Healy, 2012). Further, resilience in both teachers and

hospital-based nurses appears to be influenced by the overall workplace or “staffroom” culture (Gibbs & Miller, 2014). School nurses might derive some measure of support from non-nurse colleagues and like teachers, relationships with students, families, and community members (Papatraianou & Le Cornu, 2014).

Strong leadership and mentors are beneficial to developing resilience and reducing attrition and burnout for both teachers and hospital-based nurses (Clara, 2017; Dean, 2012; Greenfield, 2015). What remains unknown is how this might apply to school nurses. In contrast to the classroom teacher, school nurses often lack strong nurse leadership and access to nurse support. If resilience is developed within relationships, the question becomes a matter of identifying who school nurses are developing relationships with.

This is an important area for health psychologists to study because the health of the individual school nurse has an impact across multiple levels including teachers, students, family members, and the larger academic and healthcare community. Improved resilience among school nurses may influence others within the work setting (Zolli & Healy, 2012) leading to more productivity and improved health outcomes.

Chapter 2 presents a review of extant literature in the field of social support and resilience specific to teachers, hospital-based nurses, and school nurse practices. Access to social support was identified as an integral component in workplace interventions that support healthy coping and resilience for teachers and hospital-based nurses. Synthesis and review of the available literature support the need for this study on the relationship between social support and resilience among school nurses to expand understanding

regarding the challenges imposed by the independent, and often solitary, practice of school nursing.

Chapter 3 will present an in depth discussion of the methodology for the study.



## Chapter 3: Research Method

### **Introduction**

The literature review provided insight into the importance of social support for teachers, hospital-based nurses, and in a limited way, for school nurses coping with natural disasters (Broussard & Myers, 2010; Gu, 2014; Papatraianou & Le Cornu, 2014; Hylton-Rushton et al., 2015). The problem, or gap in the literature, was the lack of knowledge about how school nurses identify and access social support and the impact social support may have on their ability to manage ongoing daily stressors or develop resilience. Therefore, the purpose of this quantitative study was to describe the relationship between social support and resilience among school nurses employed in New Jersey school systems. This chapter presents the research design for the study and provides a rationale for its use. Sampling and population procedures are described. The remainder of the chapter explains instrumentation, research questions and hypotheses, data collection and analyses, threats to validity, protection of human subjects and ethical procedures. The chapter concludes with a summary of the study.

### **Research Design and Rationale**

The study employed a quantitative design to test the hypotheses. A survey method was used. The key variables in the study were moderating variables. The study sought to examine the relationship between the variables of social support and resilience among school nurses. The variable of social support was measured by self-reported use of personal, professional, and community social support including those available within and outside of the school setting. The variable of resilience was measured by school nurse participant scores on the CD-RISC (Connor & Davidson, 2003). The purpose of the

methodology was to employ the survey results to identify areas where personal and institutional changes may influence behaviors and improve outcomes. The choice of a survey method is consistent with earlier research on resilience among teachers and hospital-based nurses (Papatraianou & Le Cornu, 2014; Hylton-Rushton et al., 2015).

A survey was a logical choice for the study as the purpose of survey research was to understand demographics, attitudes, and behaviors of a sample population (Creswell, 2014). Data collection methods included the use of questionnaires, which can be implemented online (Frankfort-Nachmias et al., 2015). Advantages inherent in the use of survey methods include the ability to reach a large or dispersed sample, with the goal of generalizing the findings from the sample to a broader population (Creswell, 2014).

There are several options for administering a survey; participants might be provided with the survey via mail, either electronically or hard copy. The use of an online survey method improves participant anonymity and reduces interviewer bias; however, low response rates and nonresponse bias must be considered (Gravetter & Forzano, 2006). Disadvantages of a self-administered survey include researcher inability to respond to participant questions or concerns, literacy level of the participants, and participant access to the internet (Creswell, 2014). By virtue of their education and professional status, it was assumed that school nurse participants were able to comprehend the survey questions. Further, school nurses regularly use computers and technology in the process of their daily function within the school setting.

Heerwegh and Loosveldt (2006) noted that participants who are acquainted with the interviewer through a past relationship are more likely to respond to surveys. Given that the study involves school nurses, and I am a school nurse, care was taken to collect

data from school nurse participants who were unfamiliar to the researcher. However, noting my school nurse background in the introductory letter to potential participants might have enhanced cooperation and higher response rate.

Psychographic questions were employed in the demographic/behavioral survey (Appendix B) regarding school nurse participant access to and use of social supports. Psychographic research questions enquire about participant activities, interests, and opinions and allow for population segmentation (Bradburn, Sudman, & Wansink, 2004). As applied to this research, this suggests that, accounting for potential bias, examination of self-reported survey data from a purposeful sample of school nurses regarding resilience and access to social support might illuminate issues salient to developing policy or procedure for staffing, mentoring, and orientation of school nurses.

## **Methodology**

### **Population**

The population of interest for this study was school nurses. The sample was drawn from a cross-section of school nurses employed in both funded and underfunded New Jersey school districts. In addition to school nurse staffing concerns for school district across New Jersey (Markowitz & Senn, 2016), school nurses employed in underfunded districts are additionally burdened by an increased workload as compared to those in adequately funded districts (Weber, 2014). This suggests that school nurses employed in insufficiently funded districts might experience more work-related stressors and be at greater risk for burnout than peers employed in districts with adequate resources.

In the state of New Jersey, school nurses must hold a current and unencumbered license as a registered nurse, a minimum of a bachelor's degree, and a current CPR/AED certificate (NJSSNA, 2018). Additionally, they are required to complete a post baccalaureate program of study to obtain certification as a school nurse in the state of New Jersey. Although two levels of certification are possible, instructional and non-instructional, either met the qualification criteria for participation. Noncertified registered nurses are also permitted to work under the supervision of the school nurse however their capacity within the school setting is limited and they were not included in the study. Inclusion criteria for the convenience sample included certification as a school nurse in New Jersey and current employment in a New Jersey school district of interest.

### **Sampling and Sampling Procedures**

Sampling is a process that allows researchers to determine who will be included in the research. In survey research the sample are those individuals that are interviewed or asked to complete questionnaires. Probability sampling occurs when there is an equal chance that all individuals of a known population may be selected to participate (Frankfort-Nachmias et al., 2015). There are several types of probability sampling including simple random, systematic, stratified random, proportionate stratified and cluster types (Gravetter & Forzano, 2006). Nonprobability sampling is the practice of selecting individuals who are easily identifiable and conveniently accessible (Gravetter & Forzano, 2006). Probability sampling offers the advantage of reduced sampling bias but this does not necessarily guarantee a representative sample. Groves et al., (2009) argued the ability to estimate standard errors with confidence that they are representative of the frame population is an identified strength of probability sampling.

In considering sampling strategies for the study, non-probability or convenience sampling was used. An inherent weakness of non-probability sampling is the potential for overrepresentation of one aspect of the population (Stueve, O'Donnell, Duran, San Doval, & Blome, 2001). School nurse participants were assumed to be fairly homogeneous. While this resulted in a biased sample, school nurses were the population of interest. Research suggests that respondent interest in the topic being studied influences representation 40% (Groves, Presser, & Dipko, 2004). This might have an impact on the study, as school nurse participants were likely to hold a vested interest in the research results. For example, social desirability bias may influence school nurse participation and responses.

Data collection for the study began January 2019 once the appropriate approvals and permissions were granted. Participants for the study were identified as those school nurses employed in a cross-section of well-funded, adequately funded, and inadequately funded New Jersey school districts (Davis, 2017; Weber, 2014). The sections that follow will detail the use of power analysis to calculate the required sample size and the population of interest.

### **Calculation of Sample Size**

Calculation of sample size is predicated upon statistical power and acceptable margin of error (Trochim, 2006). Statistical power analysis using G Power software 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007) was used to obtain the sample size for the study. Using the accepted alpha level of .05 with an effect size of .30 (Cohen's *d*) and .80 power ( $\beta$ ), a minimum of 66 participants was needed for correlation tests. The use of a

highly representative sample, school nurses, decreases the need for a high response rate (Trochim, 2006).

### **Participants**

For the purposes of the study, the participants were school nurses employed in a cross-section of funded and underfunded New Jersey school districts (Davis, 2017; Weber, 2014). These school nurses represent a non-probability, convenience sample. The size of the potential participant pool was small. Based upon an Internet search, the 64 school districts of interest comprised a total of 274 schools. The potentially small sample may limit data analysis and generalizability.

### **Procedures**

Data from the Education Law Study (Weber, 2014) identified 32 New Jersey school districts as being deeply inadequately underfunded. An additional 32 New Jersey school district were identified as well funded (Davis, 2017). Professional e-mail addresses were obtained directly from the school district websites. Once permissions were granted by the IRB, an invitation to participate (see Appendix A) in the study was sent to the identified school nurse participants via e-mail.

The link to the informed consent and the online survey was embedded within the invitation to participate. School nurse participants could choose to complete the survey at any time during the data collection period. School nurse participants were first presented with the informed consent and required to provide electronic consent prior to being given access to the survey. Upon providing consent, school nurse participants entered into the two-part survey. The first section of the survey included the demographic and behavioral survey questions (see Appendix B) in which participants were asked to provide

information regarding gender, longevity, professional nurse association activity, and use of social support. The second section collected responses to the CD-RISC (Connor & Davidson, 2003) used with permission. The median time for participants to complete the survey was 5.28 minutes. No incentives were offered for participation.

### **Data Collection**

For the purposes of the study, data were collected from school nurses employed in a cross-section of New Jersey school districts identified as funded and deeply underfunded (Davis, 2017; Weber, 2014). An Internet-based quantitative survey was used to solicit responses from school nurse participants employed in the districts of interest. School nurse participants were contacted via their professional school e-mail addresses and received an invitation (see Appendix A) to participate in the study during the months of January to March of 2019. School nurse participants who chose to participate were linked to the informed consent page. The informed consent included a brief introduction to the study, procedures for participation, discussion of confidentiality with online data collection, the voluntary nature of participation, and ethical concerns.

School nurse participants who provided online informed consent were granted access to the online survey. The first section of the survey collected responses to the demographic and behavioral survey questions (see Appendix B) in which participants were asked to provide information as to gender, longevity as a school nurse, professional nurse association activity, and use of social support. The second section included the CD-RISC (Connor & Davidson, 2003) used with permission. It was anticipated that completion of the survey would take approximately 5-10 minutes (Connor & Davidson, 2003). Participants exited the survey by logging off and closing the browser.

Contact information for the researcher was provided in the invitational e-mail in the event participants had questions or concerns. Additionally, participants interested in receiving a summary of the results of the study may contact the primary researcher and results will be shared when available.

### **Instrumentation**

*Demographic/Behavioral Questionnaire.* Within social science research, phenomena being measured are generally not easily observed. Constructs specific to the theory or theories foundational to the research might be useful in developing questions and scales. De Vellis (2012) suggested that scales may be developed to measure specific behaviors or constructs but are often created to determine a more general measure. No matter the intent, ensuring validity requires that scales accurately reflect the construct intended (Groves et al., 2009).

According to De Vellis (2012), psychometric measurement in the social sciences makes use of the questionnaire for data collection and relies on theory to inform variables studied. This suggests psychometrics are foundational to scale development and assessment given that without properly identified and operationally defined variables it would be impossible to determine what to measure or how to measure it. Further, psychometrics impacts how reliability and validity are defined and measured.

Question/response formats common to survey research include open-ended questions, and closed questions with ordered response scales, or those with categorical response scales (Groves et al., 2009). The study made use of simple checklists to obtain demographic data such as gender, years of experience as a school nurse, and professional nurse association activity. Likert questions or semantic differential questions are



commonly used to measure opinions, beliefs, and attitudes (Bradburn et al., 2004). This was an appropriate format given my interest in psychographic data relative to use of social support. School staff familiarity with instruments that employ this format might reduce perception of difficulty and improve response rate.

A demographic/behavioral questionnaire was used to assess information regarding participant gender, longevity as a school nurse, professional nurse association activity, perception of funding, and use of social support. The instrument was piloted with a small group of school nurses to ensure comprehension and validity.

CD-RISC (Connor & Davidson, 2003) was originally developed and tested as a means to assess or screen for resilience. The original scale consists of 25 items rated on a 5-point Likert-type scale where lower scores indicate lower resilience and higher scores indicate higher resilience (Connor & Davidson, 2003).

The 25-item scale has a mean score in United States general population of 80.7 and has been employed and validated in studies of numerous populations (Connor & Davidson, 2003). Among hospital-based nurses, mean scores vary according to specialty area with a total mean score of 74.3 (Hylton-Rushton et al., 2015). The 25-item scale can be completed in approximately 5-10 minutes and exhibits good internal validity (stress  $r = 0.32$ ; social support  $r = 0.36$ ) and reliability (Cronbach  $\alpha$ , 0.64-0.76) across multiple populations (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003). The factor structure and mean scores of all versions vary with the setting and separate scoring of subscales is not recommended. The CD-RISC (Connor & Davidson, 2003) is available for use with permission from the authors. Individuals interested in using the instrument are requested to complete a project information form and submit a signed agreement and

fee. Upon receipt the instrument and scoring directions are made available to the researcher.

The study measured school nurse resilience based upon the scores on the 25-item CD-RISC (Connor & Davidson, 2003). Permission to use the instrument was requested and received from the author.

### **Research Questions**

This study was driven by four quantitative research questions and associated hypotheses. Quantitative query seeks to understand the relationship between two or more variables being studied and is frequently employed in survey research (Creswell, 2009).

RQ<sub>1</sub>: What is the relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported use of personal, professional, and community social support?

*H<sub>0</sub>*: There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported use of personal, professional, and community social support.

*H<sub>1</sub>*: There is a positive correlation between social support and resilience such that school nurses who report greater use of personal, professional, and community social support score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ<sub>2</sub>: What is the relationship between longevity as a school nurse as measured by self-reported demographics and resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

*H<sub>0</sub>*: There is no relationship between school nurse self-reported longevity and resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

*H<sub>1</sub>*: There is a positive correlation between longevity and resilience such that school nurses who report greater longevity score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ<sub>3</sub>: What is the relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and professional school nurse association activity as measured by self-reported demographics.

*H<sub>0</sub>*: There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and self-reported professional school nurse association activity.

*H<sub>1</sub>*: There is a positive correlation between professional membership and resilience such that school nurses who report greater activity in professional school nurse associations' score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ<sub>4</sub>: What is the relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported perception of district funding as measured by self-reported demographics?

*H<sub>0</sub>*: There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported

perception of district funding.

*H<sub>1</sub>*: There is a positive correlation between school nurse self-reported perception of district funding and resilience such that school nurses who report perception of adequate district funding score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

### **Data Analysis Plan**

All data collected from the demographic/behavioral questionnaire (see Appendix B) and CD-RISC (Connor & Davidson, 2003) was entered, stored, and analyzed using the MAC Statistical Package for the Social Sciences (version 25.0) and stored on external drive. To protect participant information, data collected during the study has been stored using a password protected personal computer and a portable thumb drive. The data and will be secured in a locked file for 5 years, after which time the data will be deleted in accordance with the guidelines of the Walden University Office of Research Integrity and Compliance.

For the purposes of the study, the demographic/behavioral questionnaire (see Appendix B) contained the demographic, descriptive, and moderating variables of longevity and social support access and use, professional school nurse activity, and perception of funding. The CD-RISC (Connor & Davidson, 2003) contained the moderating variable of resilience. Data were screened for non-response. Normality was examined through the use of descriptive statistics to compare means and standard deviations (Gravetter & Forzano, 2006). Correlational statistics explored the relationship between the variables of longevity, social supports, professional school nurse activity,

perception of funding, and resilience scores. The strength of the correlation between the moderator variables and significance are discussed in more detail in chapter 4

### **Statistical Tests**

The MAC Statistical Package for Social Sciences (version 25) was used to conduct bivariate correlations to examine the relationship between individual school nurse resilience scores on the CD-RISC (Connor & Davidson, 2003) and the moderator variables of use of social support, longevity as a school nurse,-professional nurse association activity and perception of funding. The Spearman correlation co-efficient was used to measure the strength and direction of a relationship between variables (Creswell, 2014). A correlation matrix was used to report the results.

Descriptive statistics were used to explore results from the demographic and behavioral survey relative to school nurse use of social support, longevity as a school nurse,-professional nurse association activity, and perception of funding. Mean comparisons, frequency distributions, and standard deviations were reported.

### **Threats to Validity**

External validity is threatened when the researcher assumes that what is true for one population or setting will also hold true for another (Creswell, 2014). Data was collected from school nurse participants employed in a cross-section of New Jersey school districts identified as funded and underfunded. Because the study was geographically limited to school nurses in New Jersey, the generalizability of results to school nurses in other states or countries may be limited.

The use of a convenience sample was another noted external validity threat (Creswell, 2009) however using an alternate sampling strategy would not provide access

to the school nurses of interest. The small sample size may also limit the utility of the results and was addressed via the use of post-hoc statistical analysis. Internal validity refers to the researchers ability to understand the population of interest based upon data collected from the participants (Creswell, 2009). Threats include the possibility for participant experience with other online surveys, or with the CD-RISC (Connor & Davidson, 2003).

Construct validity refers to the psychometric qualities of psychological tools (Creswell, 2009). This suggests the choice of instrument should be one that measures the variable of interest and has been tested with the population of interest. The CD-RISC (Connor & Davidson, 2003) has been validated as a measure of resilience in studies including nurse participants (Connor & Davidson, 2003; Hylton-Rushton et al., 2015).

### **Ethical Procedures**

Prior to collecting data from school nurse participants, approval from the Walden University Institutional Review Board (IRB) was obtained (Approval No. 01-04-19-0413232; expiration January 3, 2020). Following Walden University IRB approval, participants received an invitation to participate (see Appendix A) via their professional school e-mail. Participants who had an interest in participating were instructed to follow the embedded link to the online survey. Upon arriving at the survey site, participants were first required to review the informed consent, which provided information regarding the purpose and intent of the study, the voluntary nature of participation, and the ability to opt out at any time during the study without penalty. Participants who provided electronic consent were given access to the survey containing the two instruments.

### **Protection of Human Subjects**

School nurses are not considered to be a vulnerable group. To protect the confidentiality and anonymity of participants the survey was conducted via an online format (Survey Monkey). Per the guidelines of the Walden University Office of Research Integrity and Compliance, data collected during the study will be stored in a password-protected hard drive and portable thumb drive for 5 years and then deleted. A copy of the results of the study will be available to interested participants following the completion of the study.

### **Ethical Considerations**

Informed consent was obtained from all participants. The informed consent clarified that participation in the study was both voluntary and confidential. Potential risks and benefits of participation were presented along with my contact information should a participant require further information before choosing to participate in the study.

There were no anticipated physical risks associated with participating in the study. Participants were instructed that they were not required to answer any questions that made them feel uncomfortable. Participants were required to provide electronic consent for participation before accessing the online survey. Information gathered from the participants will be kept private, secure, and anonymous.

Researcher bias in scoring was avoided by using an online survey. Additionally, permission to use the CD-RISC (Connor & Davidson, 2003) was obtained from the authors. Permission to include the instrument in the dissertation appendix was not given.

Following completion of the study, a summary of results will be available by contacting the researcher and may be presented at professional workshops and/or conferences.

### **Summary**

This chapter presented the research design for the study and explored the rationale for the chosen design. Sampling and population procedures were described and information regarding instrumentation, research questions and hypotheses, data collection and analyses, threats to validity, and ethical concerns were discussed in detail.

The study made use of a quantitative survey method. For the purpose of this study, the relationship between resilience and social support for school nurses was explored. To address the research question and hypotheses results were analyzed using a variety of statistical analyses including descriptive and correlational.

The results of the study are presented in detail in Chapter 4.



## Chapter 4: Data Analysis and Results

### Introduction

The preceding chapters presented an overview of the research problem and explored the literature that underscores the importance of social support for teachers, hospital-based nurses, and in a limited way for school nurses coping with natural disasters (Broussard & Myers, 2010; Gu, 2014; Papatraianou & Le Cornu, 2014; Hylton-Rushton et al., 2015). As previously noted, the problem, or gap in the literature, is the lack of knowledge about how school nurses identify and access social support and the impact this may have on their ability to manage ongoing daily stressors or develop resilience. Therefore, the present quantitative study was designed to examine the relationship between social support and resilience among school nurses.

The study was guided by the following quantitative research questions and associated hypotheses:

RQ<sub>1</sub>: What is the relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported use of personal, professional, and community social support?

*H*<sub>0</sub>: There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported use of personal, professional, and community social support.

*H*<sub>1</sub>: There is a positive correlation between social support and resilience such that school nurses who report greater use of personal, professional, and community social support score higher in overall

resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ<sub>2</sub>: What is the relationship between longevity as a school nurse as measured by self-reported demographics and resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

*H<sub>0</sub>*: There is no relationship between school nurse self-reported longevity and resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

*H<sub>1</sub>*: There is a positive correlation between longevity and resilience such that school nurses who report greater longevity score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ<sub>3</sub>: What is the relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and professional school nurse association activity as measured by self-reported demographics.

*H<sub>0</sub>*: There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and self-reported professional school nurse association activity.

*H<sub>1</sub>*: There is a positive correlation between professional membership and resilience such that school nurses who report greater activity in professional school nurse associations' score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

RQ4: What is the relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse perception of district funding as measured by self-reported demographics?

*H<sub>0</sub>*: There is no relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse perception of district funding.

*H<sub>1</sub>*: There is a positive correlation between school nurse perception of district funding and resilience such that school nurses who report perception of adequate district funding score higher in overall resilience as assessed by the CD-RISC (Connor & Davidson, 2003).

The remainder of this chapter provides a review of the data collection method, the descriptive statistics that characterize the sample, and statistical tests employed to answer the research questions. The chapter concludes with a detailed analysis of the results.

### **Data Collection**

This study employed a quantitative design to test the hypotheses. An online, self-administered survey method was used to collect the data and examine the relationship between the variables of social support and resilience among school nurses. The variable of social support was measured by self-reported use of personal, professional, and community social supports available both within the school setting and outside of the school setting. The variable of resilience was measured by school nurse scores on the CD-RISC (Connor & Davidson, 2003).

Upon receipt of the Walden University IRB approval to conduct the study, school nurses employed in a cross-section of New Jersey school districts were contacted via their professional school e-mail addresses and invited to participate (Appendix A). School nurses who chose to participate were linked to the informed consent page where they were provided with a brief introduction to the study, procedures for participation, discussion of confidentiality with online data collection, the voluntary nature of participation, and ethical concerns. School nurses who provided online informed consent were then granted access to the online survey.

Data collection took place over an 8-week period between January and March of 2019. Invitational e-mail messages were sent to school nurses employed in the 64 districts of interest via their professional e-mail address. As a result of an inaccuracy in the formatting of survey questions within Survey Monkey, it was possible for participants to complete only the questions related to resilience before exiting the study. This error was identified within the first 2 weeks of data collection upon review of the responses and corrected. An additional 64 school districts (317 schools) that met funding criteria (Davis, 2017; Weber, 2014) were identified and school nurses employed in those districts were contacted and invited to participate as per the data collection procedures outlined previously. Overall, school nurses from 128 school districts, representing 591 schools, were invited to participate in the study.

A total of 537 invitational e-mail messages were sent. Of the messages sent, 10 (1.9%) bounced back, 162 (30.2%) remained unopened, and 363 (67.6%) were opened. Of the 363 invitational messages opened, two opted out of messages from Survey Monkey, 206 clicked through but did not consent to participate in the survey, 10 partially

completed the survey, and 145 (94.3%) completed the survey. The sample was assumed to be representative of the population of interest as results for gender and age were both congruent with data for school nurses in the United States, which indicate 98.4% are female, 59.8% between 40 and 60 years old (Willgerodt, Brock, & Maughan, 2018). The initial invitation yielded 67 incomplete data sets that included only participant responses to the CD-RISC (Connor & Davidson, 2003). In total, 78 complete data sets were obtained. This number exceeded the minimum of 66 participants required to conduct correlation tests as determined by statistical power analysis using G Power software 3.1 (Faul et al., 2007) and the survey was closed to additional participants.

### **Sample Demographics**

The sample consisted 145 school nurses employed in New Jersey public schools representative of a cross-section of funding. As a result of a formatting error, 67 school nurse participants were able to exit the survey without responding to standard demographic and behavioral items. After correcting the error, a total of 78 school nurse participants completed the questionnaire that included standard demographic and behavioral items. The first question asked participants to indicate gender as male, female, or non-binary. The results indicated female ( $n = 78$ ) represented the entire population. Participants were then asked to indicate their age in years. The mean age of the participants equaled 52 years ( $SD = 9.68$ ). The mean number of years as a school nurse was 22, ( $SD = 7.12$ ) with a 26.63% ( $n = 22$ ) reporting less than 5 years and 4.78% ( $n = 4$ ) reporting 25 or more years. When asked about professional membership in NJSSNA/NASN, 63.41% ( $n = 52$ ) indicated current membership. Participants reported a mean student population of 520 students ( $SD = 318$ ).

The next section explores participant responses to the remaining questions on the behavioral survey and offers data on school nurse resilience based upon participant responses to the CD-RISC (Connor & Davidson, 2003). A detailed discussion of the statistical analyses employed as they correspond to the research questions is also presented.

## Results

### Preliminary Analysis

Participants were asked to respond to a series of behavioral questions by making use of a 5-point Likert type scale in which 1 = not true at all; 2 = rarely true; 3 = sometimes true; 4 = often true; and 5 = true nearly all the time. The questions, along with median and most frequent responses are presented in Table 1. More than half of the participants responded feeling stress nearly always, often or sometimes, while almost a quarter of the participants reported rarely feeling stress.

Table 1

#### *Behavioral Questions, Median, and Most Frequent Response*

Question	Median response	Most frequent response (%)
Degree to which you think your school district is underfunded.	3.06	Sometimes true (43%)
Indicate your overall level of stress	3.00	Sometimes true (50%)

Making use of the same Likert type scale, participants were next requested to indicate how likely they were to seek helpful feedback, or social support from a variety of sources both within and outside of the school community. Within the school setting, more than one third of participants responded they were more likely to always or often seek

support from school nurses or secretaries and other school staff. Outside of the school setting, more than one third of participants responded they often or sometimes sought support from their personal family members or professional nurse association members, although they never sought support from faith based community members. Results are presented in Table 2.

Table 2

*Sources of Social Support, Median, and Most Frequent Response*

Variable	Median	Most frequent response (%)
Teachers in your school	3.30	Sometimes (51%)
School nurses in your school or district	3.90	Always (39%)
Secretaries and other school staff in your school building	3.54	Often (39%)
Nurse friends outside of your school district	3.57	Sometimes (32%)
Parents or family members of students	2.66	Sometimes (32%)
Your family members	3.44	Often (27%)
Your non-nurse friends	2.98	Rarely (26%)
Faith based community members	2.17	Never (40%)
Professional nurse association members	2.89	Sometimes (40%)

The next two questions related to participant perception of social support in their personal and professional lives. Almost half of the participants reported being able to identify close personal and professional relationships with someone. Results are presented in Table 3.

The last two questions on the behavioral survey asked about professional school nurse activity such as conference attendance and use of on-line or web-based professional resources. Almost 75% of participants reported participation in professional development opportunities provided by school nurse associations often or nearly all the time as compared to 50% of participants who reported use of on-line resources. Table 4 presents the median and most frequent response.

Table 3

*Perception of Social Support, Median, and Most Frequent Response*

Question	Median	Most frequent response (%)
In my personal support network I have more than one close, trusting relationship where I can share fears and dreams	3.17	True nearly all the time (42%)
In my professional support network I have more than one close, trusting relationship where I can share my fears and dreams	3.68	Often true (41%)

Table 4

*Professional Nurse Activity, Median, and Most Frequent Response*

Question	Median	Most frequent response (%)
I attend professional school nurse workshops or conferences (county/state/national) at least twice per school year	2.95	True nearly all the time (43%)
I access on-line professional resources (state or national school nurse-net or website) at least twice per week during the school year	2.46	True nearly all the time (24%)



### **Detailed Analysis**

Data analysis was conducted using the SPSS 25 software package. Exploratory data analysis using the Shapiro-Wilk's test for univariate normality indicated that all measures were normally distributed ( $p$ -values were all above .05). No univariate outliers were identified using a criterion of  $\pm 2.58$  standard scores. Normal Q-Q plots were evaluated to screen for skewedness and kurtosis with none being found. The level for statistical significance was set at  $p < .05$ , the confidence interval was set to 95% to limit type I errors. No post hoc analysis were conducted or deemed necessary.

Although only 78 data sets included the demographic and behavioral responses, 145 participants completed the CD-RISC (Connor & Davidson, 2003) and individual responses were calculated to determine a measure of resilience for each with a mean score of 77.76 ( $SD = 10.39$ ). A one-sample t-test was conducted comparing the sample ( $M = 77.76$ ;  $SD = 10.39$ ) to the United States national mean for resilience ( $\mu = 80.7$ ) on the CD-RISC (Connor & Davidson, 2003). The result ( $t(144) = -3.40, p = .001, d = -.28$ ) indicates the difference was significant with a small effect size. School nurses are less resilient than the general United States population. Similarly, a one-sample t-test was conducted comparing the sample ( $M = 77.76$ ;  $SD = 10.39$ ) to the hospital-based nurses mean for resilience ( $\mu = 74.3$ ) on the CD-RISC (Connor & Davidson, 2003). The result ( $t(144) = 4.01, p = .001, d = .33$ ) indicates the difference was significant with a small effect size. School nurses are more resilient than hospital-based nurses.

### **Demographics and Resilience**

To test the influence of age on resilience among school nurses a Pearson correlation was conducted comparing resilience scores ( $M = 76.98$ ;  $SD = 10.66$ ) on the

CD-RISC (Connor & Davidson, 2003) to school nurse age ( $M = 52$ ;  $SD = 9.68$ ). The result ( $r(78) = .220, p = .053$ ) indicates there was not a significant relationship between the two variables. School nurse age was not significantly related to resilience among school nurses.

To test the influence of the number of students in your assigned school on resilience among school nurses, a Pearson correlation was conducted comparing resilience scores ( $M = 76.98$ ;  $SD = 10.66$ ) on the CD-RISC (Connor & Davidson, 2003) to school nurse self report of number of students in your assigned school ( $M = 520$ ;  $SD = 318$ ). The result ( $r(78) = -.032, p = .781$ ) indicates there was not a significant relationship between the two variables. Number of students in your assigned school was not significantly related to resilience among school nurses.

### **Research Question 1, Resilience and Sources of Social Support**

To test the first hypotheses that there is a relationship between resilience as assessed by the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported use of personal, professional, and community social support, a Spearman correlation was conducted comparing resilience scores on the CD-RISC (Connor & Davidson, 2003) to school nurse self report of more than one close trust relationship in their personal support network. Results are presented in Table 5.

Table 5

#### *Spearman Correlations between Resilience and Social Support*

Variable	Spearman's rho	Significance
One close personal	.463**	.000
One close professional	.325**	.004

\* $p < .05$ ; \*\* $p < .01$

The resulting Spearman's rho ( $r_s(78) = .463, p = .001$ ) indicates there was a medium, positive, significant relationship between the two variables and the null hypothesis was rejected. A Spearman correlation was also conducted comparing resilience scores on the CD-RISC (Connor & Davidson, 2003) to school nurse self report of more than one close trusting relationship in their professional support network. The result ( $r_s(78) = .325, p = .004$ ) indicates there was a small; positive, significant relationship between the two variables and the null hypothesis was rejected. Identification of more than one close trusting relationship in both their personal and professional support networks accounts for 21% and 10% respectively of the variance of resilience among school nurses.

Additional analysis was conducted to illuminate the types and sources of social support employed by school nurses. A series of correlations were conducted comparing resilience scores on the CD-RISC (Connor & Davidson, 2003) to school nurse self-reported use of social support from professional sources. Results are presented in Table 6. A Spearman correlation was conducted comparing resilience scores on the CD-RISC (Connor & Davidson, 2003) to school nurse use of social support from secretaries and other school staff in your school building. The result ( $r_s(78) = .271, p = .016$ ) indicates there was a small positive significant relationship between the two variables. Social support derived from interaction with secretaries and other school staff in your school building accounts for 7% of the variance of resilience among school nurses.

Personal social support variables were explored next and correlations are presented in Table 6. No significant relationship was found between resilience scores on

the CD-RISC (Connor & Davidson, 2003) and school nurse self-reported use of social support from nurse friends outside of your school district, or non-nurse friends. However, a Spearman correlation was conducted comparing resilience scores on the CD-RISC (Connor & Davidson, 2003) to school nurse self-reported use of social support from your family members. The result ( $r_s(78) = .232, p = .041$ ) indicates there was a very small significant relationship between the two variables. Social support derived from interaction with your family members accounts for 5% of the variance of resilience among school nurses.

Table 6

*Spearman Correlations between Resilience and Sources of Social Support*

Variable	Spearman's rho	Significance
Teachers in your school building	.18	.116
School nurses in your school/district	.079	.490
Secretaries and other school staff in your school building	.271*	.016
Nurse friends outside of your school district	.015	.894
Parents or family members of students	.057	.621
Your family members	.232*	.041
Your non-nurse friends	.153	.182
Faith-based community members	.169	.138
Professional nurse association members	.108	.348

\*p < .05; \*\*p < .01

Finally, results for social support derived from community sources are presented in Table 6. No significant relationship was found between resilience scores on the CD-

RISC (Connor & Davidson, 2003) and school nurse self-reported use of social support from parents or family members of students; faith-based community members; or professional nurse association members.

### **Research Question 2, Resilience and Longevity**

To test the second hypothesis that there is a relationship between resilience as measured by scores on the CD-RISC (Connor & Davidson, 2003) and longevity as measured by school nurse demographics and resilience a Pearson correlation was conducted comparing resilience scores ( $M = 76.98$ ;  $SD = 10.66$ ) on the CD-RISC (Connor & Davidson, 2003) to school nurse longevity or years of experience as a school nurse score ( $M = 22$ ;  $SD 7.12$ ). The result ( $r(78) = .214$ ,  $p = .06$ ) indicates there was not a significant relationship between the two variables and the null hypothesis was not rejected. Longevity as a school nurse was not significantly related to resilience among school nurses.

### **Research Question 3, Resilience and Professional Activity**

To test the relationship between resilience as measured by scores on the CD-RISC (Connor & Davidson, 2003) and self-reported professional nurse association membership an independent sample t-test was conducted comparing resilience scores ( $M = 76.98$   $SD = 10.66$ ) on the CD-RISC (Connor & Davidson, 2003) for school nurses who were members of NJSSNA/NASN ( $M = 76.78$ ;  $SD 10.25$ ) and those who were not members of NJSSNA/NASN ( $M = 77.35$ ;  $SD = 11.56$ ). The result ( $t(76) = .228$ ,  $p = .83$ ) indicates there was not a significant relationship between the two variables. Membership in NJSSNA/NASN was not significantly related to resilience among school nurses.

To test the third hypothesis that there is a relationship between resilience as measured by scores on the CD-RISC (Connor & Davidson, 2003) and self-reported professional school nurse association activity a Spearman correlation was conducted comparing resilience scores on the CD-RISC (Connor & Davidson, 2003) to school nurse attendance at professional conferences. Results are presented in Table 7. The result ( $r_s(78) = .259, p = .02$ ) indicates there was very small significant relationship between the two variables. Attendance at professional conferences or workshops twice per school year accounts for 6% of the variance of resilience among school nurses and the null hypothesis was rejected. A second Spearman correlation was conducted comparing resilience scores on the CD-RISC (Connor & Davidson, 2003) to school nurse use of professional on-line resources. The result ( $r_s(78) = .207, p = .07$ ) indicates there was not a significant relationship between the two variables. Use of professional on-line resources twice per week during the school year was not significantly related to resilience among school nurses.

Table 7

*Spearman Correlations between Resilience and Professional Activity*

Variable	Spearman's rho	Significance
Attendance at professional nurse workshops or conferences	.259*	.022
Use of online professional nurse resources	.207	.069

\* $p < .05$ ; \*\* $p < .01$

#### **Research Question 4, Resilience and Perception of Funding**

To test the influence of funding on resilience among school nurses an independent sample t-test was conducted comparing the resilience scores on the CD-RISC (Connor & Davidson, 2003) for the well-funded group ( $M = 79.45$ ;  $SD = 9.82$ ) to the inadequately funded group ( $M = 77.18$ ;  $SD = 10.89$ ). The result ( $t(115) = 1.15$ ,  $p = .346$ ) indicates there was not a significant difference between the groups. School district funding was not related significantly to resilience among school nurses.

To test the fourth and final hypotheses that there is a relationship between resilience as measured by scores on the CD-RISC (Connor & Davidson, 2003) and school nurse perception of district funding a Spearman correlation was conducted comparing resilience scores on the Connor- Davidson Resilience Scale (Connor & Davidson, 2003) to school nurse perception of funding scores. The result ( $r_s(78) = .017$ ,  $p = .886$ ) indicates there was not a significant relationship between the two variables. I failed to reject the null hypothesis. Perception of funding was not significantly related to resilience among school nurses.

#### **Summary**

The focus of this study was to examine the relationship between social support and resilience among school nurses. This chapter opened with a brief overview of the data collection and the demographics of the sample. Preliminary results and detailed analyses were presented to answer the research questions that drove the study.

The results indicate that there was a relationship between social support, from both personal and professional sources, and resilience among school nurses. A deeper look at the sources of support indicated that school nurses are most likely to seek support

from school nurses, nurse friends, and secretaries and other school staff, and personal family members. Only secretaries and other school staff, and personal family members were significantly correlated with resilience among school nurses. There was no relationship between professional membership and resilience among school nurses, however there was a small significant relationship between resilience and professional activity, specifically twice-yearly attendance at conferences or workshops. No relationship was identified between longevity, and perception of funding and resilience among school nurse.

Insights gained from the analysis are explored in Chapter 5 along with an interpretation of the findings in relationship to the literature review, conclusions, limitations of the study, and recommendations for future research.



## Chapter 5: Conclusion and Discussion

### **Introduction**

The purpose of this quantitative study was to examine the relationship between social support and resilience among school nurses employed in a cross-section of New Jersey public school settings. School nurses are being called upon to provide care for an increasing number of students with chronic health conditions while at the same time coping with a reduction in the employment of school nurses (AAP, 2016; CDC, 2014; NASN, 2015). This challenge to meet the expectations and demands of the school nurse role can overwhelm to the point of burnout (Markowitz & Senn, 2016). The extant literature reveals that teachers and hospital-based nurses provided access to supportive peers were better at managing work-related stressors (Greenfield, 2015; Mc Allister & Mc Kinnon, 2009). Given the burden of responsibility on school nurses, and their limited access to peer support, there was a need for research illuminating the influence of social support on resilience.

The main findings from this study indicated that school nurse participants were slightly less resilient than the general United States population, but were slightly more resilient than hospital-based peers. School nurse resilience was positively correlated with identification of at least one close trusting relationship among both personal and professional social supports. Although school nurses reported the likelihood of seeking social support from a variety of sources across several domains, school nurse resilience was only significantly positively correlated with support derived from secretaries and school staff and personal family members. Maintaining membership in professional school nurse associations was not correlated with resilience however, professional

activity, specifically attendance at professional conferences or workshops at least twice per school year was correlated with resilience among school nurses.

### **Interpretation of the Findings**

The number of students in a given assigned school speaks directly to school nurse workload and ability to manage stressors. For hospital-based nurses, low staffing contributed to workplace stress (Dean, 2012). However, school nurses in this study did not differ significantly on student population reporting numbers well within the NASN guidelines (NASN, 2015). Number of students was not significantly correlated with resilience. Further research might explore the relationship between the number of nurses in the school building relative to the number of students, or the number of schools covered for transient nurses, and overall level of resilience.

Threats to funding for public schools and the associated risk of program cuts make headline news with some regularity causing a measure of concern for school staff including school nurses (Rizzo, 2017; Smith, 2016). Koppes et al., (2011) indicated a correlation between decreased funding and negative health outcomes or burnout among teachers. Contrary to my expectations and hypothesis, school nurse perception of funding, or lack of funding, within this study was not correlated with resilience. It may be that school nurses do not perceive budget cuts as a threat to their role within the school setting. As the number and acuity of student health needs increases it may be that school nurses consider their role integral to meeting student needs and not at risk. Another factor may be that overall job satisfaction plays a greater role in supporting resilience than perception of funding if provided access to resources to meet workplace demands/expectations.

I had hypothesized that school nurse age and longevity, or years of experience, might influence resilience yet, within this study neither school nurse age nor years of experience as a school nurse had an impact on resilience scores. These results expand upon those espoused by Hylton-Rushton et al. (2015) who found years of experience were not protective for workplace stress and resilience among nurses in high intensity settings. This may be an indication that school nurses come to the role well prepared by previous nursing experience, a plausible argument given the indicated age of the sample ( $\mu = 52$ ) is aligned with United States school nurse statistics indicating over 50% are between 40 and 50 years of age. Equally possible is the notion that school nurses may not be impacted by concerns that influence resilience for early career teachers and hospital-based nurses.

Numerous authors (Mc Cabe, 2016; Matthey, 2017; Papatraianou & Le Cornu, 2014; Turner, 2014; and Sanders, 2015) suggested that access to nurse peers in workplace and professional organizations was an important source of social support. Contrary to my hypothesis, this study found only a small correlation between professional activity, specifically attendance at school nurse conferences or workshops and no correlation between use of web-based school nurse resources and school nurse resilience. Professional membership in NJSSNA/NASN was also not significantly correlated with resilience. This raises the question of whether school nurses are accessing support from professional nurse resources as non-members or if perhaps they derive social support from active membership in other ways such as county or district level professional organizations. It also underscores the importance of access to professional development specific to the school nurse and ideally with school nurse colleagues. Future research

might explore the answer to these questions to determine what types of programs might be most useful to school nurses.

### **Resilience**

Results from this study indicated the school nurse mean for resilience on the CD-RISC (Connor & Davidson, 2003) was 77.6 which fell just short of the normed mean of 80.7 for the general United States population but was higher than the mean of 74.3 for hospital-based nurses (Hylton-Rushton et al., 2015). This suggests that the general population is more resilient than either hospital or school based nurses. It may be that work-related stressors inherent to health care providers, such as vicarious trauma, result in a reduced overall resilience. That school nurses are more resilient than hospital-based peers may be explained by the increased autonomy associated with an independent practice.

According to Gu (2014), teacher resilience was influenced by supportive relationships with colleagues in the workplace and could be developed and nurtured within such relationships. Congruent with social networks and social support theory, it may be that relational resilience is at play for school nurses. Or they may simply enjoy more collaborative and respectful interactions within the school community as the only health care provider on hand.

### **Social Supports**

The main hypothesis for this study was that there would be a relationship between resilience and social supports. According to Greenfield (2015) the knowledge that a network of support exists protects and fosters resilience. This is congruent with the results from this study in which school nurse perception of support across personal and

professional realms was significantly, positively correlated with resilience among school nurses. Papatraianou and Le Cornu (2014) challenged the notion that teachers derived support from single source and found evidence for both formal and informal sources of support within the school setting. Teachers derived formal support from other teachers and supervisors and informal support from contact with support staff. Support from less anticipated sources such as parents of students or social networks were equally represented. Results from this study support those findings. Overall, school nurses were most likely to seek support from school nurses, nurse friends, and secretaries and school staff; somewhat likely to seek support from personal family members, teachers, and non-nurse friends; and least likely to seek support from professional organizations, student parents and family, and faith based community members.

### **Theoretical Context**

A core tenant of the resilience framework is that network breadth and depth underscore the ability to maintain and sustain emotional balance when faced with work-induced stressors (Schmidt & Nourse, 2016). Breadth refers to the number of contacts and individual has while depth refers to how the individual knows the source of support or the strength of the relationship. The results from this study indicate that school nurses access social support from a variety of sources across personal, professional, and community domains.

Viewed through the theoretical lens of social networks and social support (Glanz et al., 2008) and the resilience framework (Schmidt & Nourse, 2016) network breadth was evident in school nurse reported use of social support across multiple dimensions. This suggests that school nurses establish and maintain supportive relationships both

within the professional setting but also from personal relationships and community sources outside of the workplace. Network depth was evident in the significant correlation between resilience and social support derived from interaction with secretaries and school staff. This suggests a measure of familiarity and a strong working relationship. It may be that these categories represented individuals whose roles within the school setting are most likely to interact or collaborate with the school nurse role. Although not significantly correlated, school nurses reported a strong likelihood of seeking support from school nurses and nurse friends. This suggests the possibility that while these individuals are members of the support network there may be a lack of depth to the relationship. In a similar fashion, school nurses were somewhat likely to seek support from personal family members, teachers, and non-nurse friends again suggesting breadth. Rather than lack of relationship depth, it may be that these individual are perceived as less knowledgeable regarding workplace stressors. So while they may not be primary sources of support in the professional realm, they may be valued as sources of personal supports. Finally, school nurses were least likely to seek support from faith based community members and student parents suggesting a lack of relationship depth.

That results from this study are congruent with those from research on use of social supports among teachers suggests that school nurses not only engage in multidisciplinary collaboration within the school setting, but they derive a measure of support from such interaction. This may be of interest at the institutional level. School nurses would benefit from inclusion in district level interventions to support resilience such as common planning and the use of professional learning communities to support staff development, despite the disparity in their job description and role.

### **Limitations**

There were a number of limitations associated with this study. Non-probability sampling from New Jersey public school districts impacts the generalizability of results to school nurses in other geographic areas or in private schools due to broad differences in staffing, education and certification requirements. While demographics suggest that New Jersey school nurses are a fairly homogeneous group with regard to age, gender and education, there may be racial, religious, or cultural differences that influenced responses. Additional differences may be related to marital status, family dynamics, and even person beliefs regarding self-agency.

Data collection of behavioral measures via self-report may be inaccurate as a result of social desirability bias. Given that participants spent only a brief amount of time completing the survey it is plausible that school nurses responded quickly without pause for reflection. It may be that school nurses who volunteered to participate in the study were more likely to be resilient than those who refused.

Responses to questions regarding access to social supports within the school may be inaccurate simply because for school nurses in single school districts there were no other nurses in the school or district. Or it may be that the school nurse office is not located in a high traffic or central area leaving the school nurse outside of the path of teachers and other school staff. School nurses who travel between schools may not have the time to develop social supports within multiple schools.

Data collection took place at the midpoint of the school year; it is possible that school nurse resilience might differ at other points based upon the timing of mandated tasks. School nurse tasks regarding registration and transfers both into and out of the

school district are more typical at the beginning and ending months of the school year. The need to manage acute health needs in addition to chronic health issues increases during influenza season, typically October through March most years.

### **Recommendations**

The understanding gleaned from this study might be expanded in future research in a number of ways. At minimum, a mixed methods study in which there was a quantitative follow up might illuminate the criteria school nurses employ when seeking social support in both personal and professional settings. The study might be conducted with a repeat measures design to test school nurse resilience at multiple points during the school year to determine the impact mandated tasks and if that influences use of social supports. The participant pool might be broadened to include school nurses from other states to evaluate resilience among school nurses with different staffing, educational and certification requirements. It would be valuable to explore access and use of social supports among transient school nurses such as those serving rural communities in which they travel a distance between school districts and spend only a limited time in one school.

### **Implications**

This study provides insight expanding our understanding of the relationship between resilience and social supports among school nurses. This information has the potential to impact positive social change at multiple levels including the individual, organizational and societal/policy. Unlike teachers or hospital bases nurses, school nursing is an autonomous and often isolating practice within the school setting that affords only limited opportunity for collaboration with peers (Camera, 2016; NASN,



2015). Health care workers are reportedly three times more likely to suffer from stress, depression, and anxiety (Dean, 2012). Results of this study suggest that school nurses are more resilient than their hospital-based peers, which may be a reflection of workplace environment. Among hospital-based nurses social support constitutes a secondary level of intervention in which strong peer support foster adaptation to work-related stressors (Turner & Kaylor, 2015). For the school nurse this knowledge may impact positive social change via informed personal choices with regard to planned interaction with trusted friends and family members and maintenance of connections to supportive colleagues as one measure of self care. At the system level this information may support intentional collaborative opportunities.

Van Breda (2011) suggested that the resilience of the individual school nurse likely influences and is influenced by the school climate and culture as a result of the bidirectional nature of resilience (Glanz et al., 2008). Similarly, Gu (2014) espoused relational resilience within the work setting as foundational to development of professional commitment and intrinsic motivation. These concepts are important because they suggest that school nurses may play a valuable role in positive social change by influencing the resilience of others with whom they interact. Interaction with a resilient school nurse may increase effective coping for the overall school community with the potential to impact commitment and motivation among teaching staff.

This effect may extend beyond just the immediate school staff. The responsibility of the school nurse includes interactions with students and student families. In addition to supporting positive health care measures, the resilience of the school nurse may impact how students and families cope with both acute and chronic illness, and may be

foundational to decision making on appropriate use of community healthcare resources thereby extending positive social change to the societal level.

Additionally, this study provides implications at the institutional level for school administrators specific to professional learning communities. Development of interventions to address the physical and mental health of school nurses impacts the well-being of the staff and students (Camera, 2016; Dean, 2012; NASN, 2015). At present, teachers are assigned to small groups that are generally comprised of educators from multiple grade levels. These small groups meet regularly with the overarching purpose of collaborative communication on a particular theme or common academic goal. Given that school nurses identified school secretaries and other school staff among those they are most likely to seek support from within the school setting, it seems likely that their inclusion in a multidisciplinary professional learning community would benefit the school nurses and the school community as a whole.

Fostering intentional collaborative relationships, such as use of school nurse mentors, may be salient to schools at the systemic level. Although not significantly correlated with resilience, school nurses indicated moderate to strong likelihood of seeking support from multiple stakeholders within the school setting suggesting that they possess a measure of confidence with interpersonal and interdisciplinary relationships. Nurse mentor relationships may support positive social change through social emotional learning with a potential influence on educator productivity, absenteeism, and attrition and decreased health care burden.

Professional school nurse associations, at the local, state, and national levels might employ the results of this study to promote a positive public perception of school

nurses and their value to the school community. Among school nurses, the ability to collaboratively anticipate community needs and resources was supportive of reduced stress and enhanced provision of care (Broussard & Myers, 2010). This suggests that professional associations might influence positive social change through advocacy at the state and district level for the development of school nurse mentor roles and inclusion within multidisciplinary learning communities.

### **Conclusion**

The relationship between resilience and use of social supports among school nurses had not been studied previously. The findings identified in this study suggest that school nurses are less resilient than the general population but more resilient than their hospital-based peers. School nurse resilience is correlated with the ability to identify trusting relationships among both personal and professional sources of social support. Within the school setting, collaborative and supportive relationships with school staff such as secretaries, school counselors, school psychologists, behaviorists, and therapists was found to be statistically significant to school nurse resilience.

An understanding of how school nurses access and use social supports is important for school administrators, and individuals and organizations involved in planning and providing professional development. Effective interventions to support school nurse resilience will include nurturing professional relationships and support networks. Within the school setting, school nurses are positioned to serve as positive role models for effective coping and are as yet an untapped resource.

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## Appendix A: Invitation to Participate

Dear School Nurse,

Hello, I am currently involved in a research project addressing issues related to school nurse resiliency. I am particularly interested in the relationship between social support and resilience among school nurses. The study is performed as a partial fulfillment for my PhD degree in health psychology at Walden University under the supervision of Dr. XX.

Your participation in this project will provide useful information on this topic. You qualify for participation if you are currently employed as a certified school nurse in New Jersey. You will be asked to complete a brief instrument and a background questionnaire that will take approximately 5-10 minutes.

Participation in this study is strictly voluntary. You may withdraw from the study at any point without penalty. All data from this project are confidential and will be used for research purposes only. Data from questionnaires and instruments are anonymous. Names of participants will not be collected. There are no expected risks to the participant.

If you are interested in participating in this study, please click on the link below which will take you to the Informed Consent page and access to the survey. Walden University's approval number for this study is 01-04-19-0413232 and it expires January 3, 2020.

Thank you for your consideration,

XX

## Appendix B: Demographic/Behavioral Questions

1. Please indicate your gender:

Male \_\_\_ Female \_\_\_ Non-Binary \_\_\_

2. Please indicate your age in years:

(drop down menu for reporting exact age)

3. Please indicate the number of years employed as a school nurse:

(drop down menu for reporting exact number of years)

4. Are you currently a member of NJSSNA/NASN?

Yes \_\_\_\_\_ No \_\_\_\_\_

5. Please indicate the total number of students in your assigned school:

(drop down menu for reporting in increments of 10 students)

6. Please indicate the school district in which you are employed:

(drop down menu of school districts for reporting)

7. Please indicate the degree to which you think your school district is underfunded:

(5 point Likert scale for reporting perception)

8. Please indicate your general overall level of stress:

(5 point Likert scale for reporting level of stress)

9. Social support means the helpful feedback received from others. Please indicate how likely you are to seek helpful feedback from the groups listed below using the following scale:

	Never	Rarely	Sometimes	Often	Always
Teachers in your school building					
School nurses in your school/district					

Secretaries and other school staff in your school building					
Nurse friends outside of your school district					
Parents or family members of students					
Your family members					
Your non-nurse friends					
Faith-based community members					
Professional nurse association members					

10. In my personal support network I have more than one close, trusting relationship where I can share fears and dreams:

Not true at all	Rarely true	Sometimes true	Often true	True nearly all the time
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11. In my professional support network I have more than one close, trusting relationship where I can share my fears and dreams:

Not true at all	Rarely true	Sometimes true	Often true	True nearly all the time
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12. I attend professional school nurse workshops or conferences (county/state/national) at least twice per school year:

Not true at all	Rarely true	Sometimes true	Often true	True nearly all the time
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13. I access on-line professional resources (state or national school nurse-net or website) at least twice per week during the school year:

Not true at all	Rarely true	Sometimes true	Often true	True nearly all the time
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